

**NEGATIVE DECLARATION/INITIAL STUDY (CEQA)  
FINDING OF NO SIGNIFICANT IMPACT/  
ENVIRONMENTAL ASSESSMENT (NEPA)**

**Southbound Interstate 680 Proposed Improvements**

**State of California  
Department of Transportation  
and  
U.S. Department of Transportation  
Federal Highway Administration**

**September 2000**





STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

SCH NO. 1999122004  
4-ALA-680-KP 0.0/31.1 (PM 0.0/19.3)  
4-SCL-680-KP 12.1/15.9 (PM 7.5/9.9)

## NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

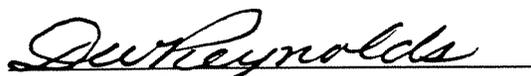
### Project Description:

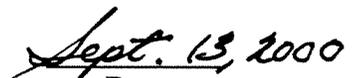
The project proposes to reduce traffic congestion along southbound I-680 from the Stoneridge Drive Interchange in Pleasanton to Route 237 in Milpitas through construction of a High Occupancy Vehicle (HOV) lane from Route 84 to Route 237; auxiliary lanes from Washington Boulevard to Auto Mall Parkway, Mission Blvd (SR 262) to Scott Creek Road, Scott Creek Road to Jacklin Road; and installation of ramp metering facilities on southbound on-ramps from Stoneridge Drive to Jacklin Road.

### Determination:

An Initial Study has been prepared by the California Department of Transportation (Caltrans). On the basis of this study it is determined that the proposed action will have:

- No impact on agricultural resources; cultural resources; air quality; hazardous materials; floodplain; geology and soils; land use and planning; population and housing; recreational facilities; utilities and public services; commerce, industry, and employment.
- Less than significant impact on aesthetics, scenic resources and topography; paleontological resources; biological resources; wetlands; hydrology and water quality; noise; and population growth.

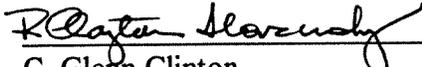
  
Darnall W. Reynolds  
District Division Chief, Planning

  
Date



**FEDERAL HIGHWAY ADMINISTRATION  
FINDING OF NO SIGNIFICANT IMPACT  
FOR  
the Proposed Interstate 680 Southbound HOV Lane Project  
from the Stoneridge Drive Interchange in Pleasanton (Alameda County)  
to State Route 237 in Milpitas (Santa Clara County)**

The Federal Highway Administration (FHWA) has determined that the proposed Interstate 680 HOV Lane Project will have no significant impact on the human environment. This Finding of No Significant Impact is based on the attached Environmental Assessment (EA) and incorporated technical reports, which have been independently evaluated by the FHWA and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. These documents provide sufficient evidence and analysis for determining that an Environmental Impact Statement (EIS) is not required. The FHWA assumes responsibility for the accuracy, scope, and content of the attached EA and incorporated technical reports.

  
\_\_\_\_\_  
C. Glenn Clinton  
Program Delivery Team Leader North

9/13/00  
\_\_\_\_\_  
Date



**INITIAL STUDY (CEQA)**

**Southbound Interstate 680 Proposed Improvements**

**State of California  
Department of Transportation**

**Pursuant to:**

**Division 13, Public Resources Code**



Darnall W. Reynolds  
District Division Chief, Planning  
California Department of Transportation

*Sept. 19, 2000*  
Date



## PREFACE

The *Proposed Negative Declaration (ND) Draft Initial Study (IS)/Draft Environmental Assessment (EA)* for southbound Interstate 680 Sunol Grade was approved for public review on November 17, 1999. The public comment period for this draft document was from November 23, 1999 to January 6, 2000. Two open house public hearings were held to inform the public about the project and provide an opportunity for the public to make comments on the Proposed ND and draft IS/EA. The first public hearing was held on December 8, 1999 in the City of Pleasanton and the second was held on December 15, 1999 in the City of Fremont. See Section 11 for a summary of the public review process.

The Draft IS/EA has been revised as a result of the public review process. New information added to the document is indicated in bold text while information that is no longer applicable is indicated in ~~striketrough~~ font. A section has been added to the document to summarize the public review process, to present comments received on the draft IS/EA and provide the Department's response to comments.

Based on the findings of the technical studies conducted for the Draft IS/EA and the comments received during the public review process, it is determined that the appropriate environmental determination for the proposed project is a California Environmental Quality Act (CEQA) Negative Declaration (ND) and a National Environmental Policy Act (NEPA) Finding of No Significant Impact (FONSI).



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## 1.0 PURPOSE OF AND NEED FOR PROJECT

Over the past few years there has been a dramatic increase in traffic congestion in the morning peak period commute on southbound Interstate 680 (I-680). The congestion spans about 24 kilometers (15 miles) between the cities of Pleasanton and Fremont (Exhibit 1). This length of I-680 is ranked as the most congested freeway in the Bay Area. The increased traffic in the corridor is largely due to the strong job market increase in the Silicon Valley coupled with the lack of affordable housing for the employees. Many of the Silicon Valley workers reside in southern and eastern Contra Costa County, eastern Alameda County and the San Joaquin Valley. The I-680 corridor is the only major route connecting the Silicon Valley to Contra Costa and Alameda counties and the San Joaquin Valley.

The purpose of the project is to reduce traffic congestion on southbound I-680 during the morning peak hour from the Stoneridge Drive interchange in Pleasanton to **State Route (SR) 237** in Milpitas. The project will implement the Metropolitan Transportation Commission (MTC) HOV Masterplan to maximize the efficiency of this portion of the highway by reducing congestion and related accidents caused by inadequate capacity during weekday morning commute periods, and encouraging the use of buses and carpools. This will be achieved by construction of a High Occupancy Vehicle (HOV) lane, auxiliary lanes, and Traffic Operations System (TOS)/ramp metering facilities, which will allow traffic to flow more freely.

~~The proposed project has independent need and utility. It is a useable and reasonable transportation improvement even if no additional transportation improvements in the area are made. It is not a necessary precedent for action on a larger project or a commitment to a larger project with significant environmental effects.~~



## 2.0 PROPOSED PROJECT

### 2.1 Existing Facility

Interstate 680 is one of the primary north-south transportation corridors for local and inter-regional traffic serving commuter, commercial and recreational traffic. I-680 from North Mission Boulevard (SR 238), in the City of Fremont, to Happy Valley Road, in the city of Pleasanton, was widened in 1990 from 2 to 3 lanes in each direction. The width of the existing lanes on I-680 are 3.7 meters (12 feet), the median varies from 6.7 to 13.3 meters (22 to 60 feet), the existing outside shoulder is 3 meters (10 feet), and the inside shoulder varies from 1.5 to 3 meters (5 to 10 feet).

Auxiliary lanes exist along I-680 in the City of Pleasanton. **Auxiliary lanes are additional lanes added to the outside traveled way of the highway to provide a merging area for traffic entering or exiting the highway. These lanes do not extend through the interchanges.** A northbound I-680 auxiliary lane exists between the Vargas Road Undercrossing (UC) and the Sheridan Road Overcrossing (OC). A southbound I-680 auxiliary lane exists between the Andrade Road OC and the Sheridan Road OC (see Exhibit 2 for locations of proposed auxiliary lanes). Both auxiliary lanes are heavily utilized by trucks to relieve congestion on uphill segments of I-680.

Interstate 680 has no parallel arterial through the Sunol Grade between Sheridan Road and North Mission Boulevard (SR 238). **That is to say, there is no other alternative route across the Sunol Grade.** Morning commute traffic traveling south from the Livermore and Pleasanton areas is almost entirely destined to employment centers located in Santa Clara County.

### 2.2 Proposed Project

The project proposes to reduce traffic congestion along southbound I-680 from the Stoneridge Drive Interchange in Pleasanton to SR 237 in Milpitas through construction of a High Occupancy Vehicle (HOV) lane, auxiliary lanes, and installation of TOS/ramp metering. The project is proposed to be constructed as follows (see Exhibits 2, and 3 for locations of the proposed improvements and typical cross-sections):

- Construction of an HOV lane in the southbound direction from SR 84 to SR 237.
- Installation of TOS/ramp metering facilities on southbound on-ramps from Stoneridge Drive to Jacklin Road. Construction of retaining walls. Widening of 7 structures: SR 237, Jacklin Road, South Department of Water Resources (DWR), North DWR, East Warren Street, North Mission Blvd (SR 238), and Vargas Road.
- Construction of southbound auxiliary lanes at the following locations (between interchanges):
  - from Washington to Auto Mall Parkway
  - from South Mission (SR 262) to Scott Creek Road
  - from Scott Creek Road to Jacklin Road
- Demolition of the I-680/Future SR 238 Overcrossings located between **Washington Boulevard and Auto Mall Parkway. These structures were constructed in the early 70's in anticipation of future connection to the contemplated SR 238**

freeway. However, this structure no longer serves the purpose of a future connector as there are no current or future plans to realign SR 238. The realignment has since been rescinded from the Route Adoption document. No existing traffic utilizes the structures and the structures do not tie into any roads. The structures need to be removed to accommodate five lanes of traffic including one HOV lane plus one auxiliary lane which will be added to the existing 3 mix flow lanes proposed under this project. Replacement of the structures is not necessary.

- **Consideration and Potential Construction of Proposed noise barriers at the following locations (see Exhibit 4, page 49):**

- (1) In the southbound direction:

Between the SR 237/I-680 interchange and Jacklin Road (SB-1)  
Between Jacklin Road and Scott Creek Road (SB-2)  
Between Scott Creek Road and South Mission Blvd (SB-3)  
Between Washington Blvd and Paseo Padre Parkway (SB-4)  
Between Paseo Padre Pkwy and Palm Avenue (SB-5)

- (2) In the northbound direction:

Between South Mission Blvd (SR 262) and Grimmer Blvd (NB-8)  
South of Washington Blvd and West of Castillejo Road (NB-11)  
South of Washington Blvd and east of Castillejo Road (NB-12)  
Between Palm Avenue and North Mission Blvd (SR 238) (NB-14)

All work for the proposed project will be conducted within the State Right-of Way **except for noise barrier, NB-12**, ~~either within the existing median or the shoulder. It is anticipated that temporary construction easements (TCEs) may will be acquired outside the State Right of Way, especially in the~~ **at this location to allow for construction work of the proposed noise barrier located south of Washington Blvd and east of Castillejo Road (NB-12). Right of way acquisitions will follow the standard right of way process. Following completion of construction, the wall will be owned and maintained by another party. TCEs may also be needed at other noise barrier locations if existing "developer" noise barriers need to be removed. This will be decided after meeting with the residents regarding the noise barriers. TCEs will not change or alter the level of impacts of the project. Construction of noise barriers is planned during the final phase of the project and will be specified as a first order of work where feasible within that construction contract.**

It is probable that the HOV lane restriction would be operational only during the morning peak period. The exact hours of HOV lane operation will be determined and adjusted accordingly based on factors including, but not limited to, the duration of congestion in the non-HOV lanes, the level of HOV lane utilization, and enforcement issues. Forecasts for year 2005 and 2025 show that the predicted demand for the 2+ HOV lane would result in an efficient utilization of the HOV lane by maximizing the person-per-hour throughput. It is also consistent with the HOV lanes in Santa Clara and Contra Costa Counties and on nearby sections of I-880 in Alameda County. Therefore, it is reasonable to conclude that the HOV lane will be designated as 2+ when the HOV lane is implemented. Designating the HOV lane for 3+ HOV usage would result in a much lower utilization rate and would reduce the HOV lane's person-per-hour throughput and efficiency. A

change to a 3+ occupancy would be considered when it is determined to be necessary to maintain free flow operation in the HOV lane.

Caltrans is implementing a plan initiated by the I-680 Sunol Grade Policy Advisory Committee (as identified in Section 2.3 of this report) to stage the construction of this project in order to provide needed congestion relief. The first stage will consist of construction of the southbound HOV lane, the next stage will include the remainder of the work as stated above.

### **2.3 Potential Impacts/Avoidance, Minimization and Mitigation of Impacts**

The following measures are incorporated into the project in order to avoid or minimize impacts to the effected environment and resources.

- A total of 157 trees will be removed within the State right-of-way from Alameda Creek southward to beyond Warren Avenue. To mitigate the visual effects of tree and shrub removal in areas that are currently landscaped, replacement planting will be provided. Retaining walls may be required where steep slopes exist in areas to be widened.
- Two species of migratory birds are using several of the overcrossings within the project boundary. Measures will be taken to insure that migratory birds will not use the overcrossings or bridges for nesting during the construction period.
- The project will require removal of 157 mature and sub-mature coast live oak, valley oak, northern California black walnut, California bay, and California buckeye trees. These trees will be replanted at a ratio to be determined during consultation with the California Department of Fish and Game.
- Trees that will not be removed but are in the areas of construction may be impacted by the project in locations where fill slopes get close to tree trunks. These trees will have drip line tree wells constructed so they are protected from further encroachment and potential harm.
- The project will impact a total of 0.04 acres of wetlands. Impacted wetlands will be mitigated at a ratio to be determined during consultation with the Army Corps of Engineers (ACOE). The project is expected to satisfy the requirements for a nationwide permit from ACOE.
- The proposed project will closely approach several known paleontological sites. Measures will be taken to avoid, minimize and mitigate any potential loss or disturbance of paleontological resources due to project related activities. The proposed measures will include pre-construction, on-site, and off-site phases. If necessary, these measures include obtaining a curation agreement with a repository institution; obtaining necessary collection permits for vertebrate fossils under statutory protection; monitoring construction activities; collecting and bulking of sediments for off-site screening, processing, and analysis; and documenting the findings.
- The project will comply with the conditions of the Statewide National Pollutant Discharge Elimination System (NPDES) Permit Order # 99-06-DWQ, CAS000003 (hereafter referred to as "Caltrans Permit") issued by the State Water Resources Control Board (SWRCB). The project will also comply with the NPDES General

Permit Order #99-08-DWQ, CAS000002 for Construction Activities. A Storm Water Pollution Prevention Plan (SWPPP) will be prepared and implemented by the construction contractor, in order to reduce the discharge of pollutants from the project site during construction.

- **Permanent Control Measures (PCMs) are being considered to reduce sediment transport levels in highway runoff conveyed to storm drain systems. Where practical, these measures may include PCMs of the following types: constructing unlined ditches and contouring the areas within the interchanges to detain storm water runoff.**
- **Noise abatement in the form of noise barriers are considered for locations where existing and future noise levels will approach or exceed the Caltrans and FHWA noise abatement criteria of 67 dBA, Leq(h) for residential areas.**
- **To minimize the temporary impacts of construction noise levels the following abatement measure will be incorporated where feasible: enforcement of Section 7-1.01I, "Sound Control Requirements" of the Standard Specifications; consideration of construction scheduling of noise barriers; use of stockpiled dirt as earthen berms to attenuate the impact of construction activities; avoiding construction activities during nighttime and weekends, when possible; establishment of field office to handle noise complaints and keep the community informed of upcoming noisy construction activities.**

## 2.4 Project History

Beginning in 1994, the California Department of Transportation (Caltrans) ~~became increasingly aware of~~ began to study a significant increase in congestion over the Sunol Grade. This segment of I-680 in Alameda and Santa Clara Counties is most heavily traveled in the southbound direction in the A.M. peak period. With heavy traffic beginning before 6 A.M., this bottleneck is the worst in the Bay Area. The reasons lie in the booming Silicon Valley economy, with thousands of workers traveling into the area every day from affordable housing origins in eastern Contra Costa and San Joaquin Counties.

In early 1997, Bay Area business consortiums joined together to press for resolution to the increasing congestion over the Sunol Grade. A coalition of the Contra Costa Council, the Tri-Valley Business Council, the Silicon Valley Manufacturing Group, the City of Fremont Chamber of Commerce, and the Bay Area Council created Solutions on Sunol (S.O.S.) to bring attention to the need to widen I-680 or otherwise improve transportation options over the Sunol Grade. Joining with Congresswoman Ellen Tauscher and Assemblywoman Liz Figueroa, S.O.S. has pressed Caltrans and the Alameda County, Santa Clara County and Contra Costa County Congestion Management Agencies (CMAs) to fund and expedite this project to widen southbound I-680 over the Sunol Grade.

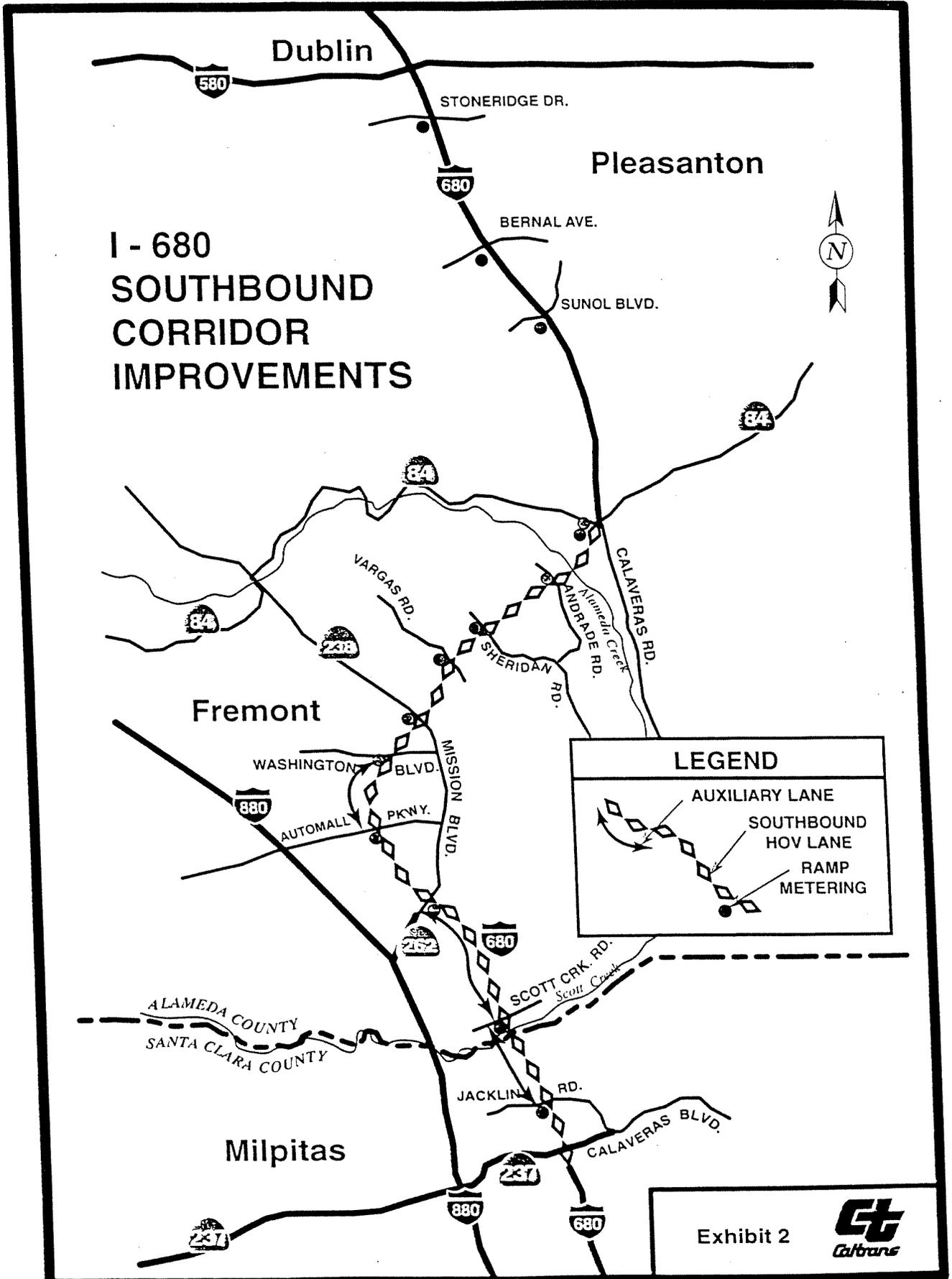
In addition, the I-680 Sunol Grade Policy Advisory Committee (PAC) was formed by the Alameda County CMA and is made up of local elected officials representing both the Alameda, Contra Costa and Santa Clara CMAs, State and Federal legislative representatives whose districts are impacted by the project, as well as representatives from the Metropolitan Transportation Commission (MTC) and Caltrans. The purpose of this group is to work in partnership with Federal and State agencies and other interested parties to facilitate and support the timely delivery of congestion relief improvements to I-680 along the Sunol Grade. ~~In conjunction with~~ The PAC ~~Caltrans~~ also evaluated interim alternatives including using moveable barriers in the northbound

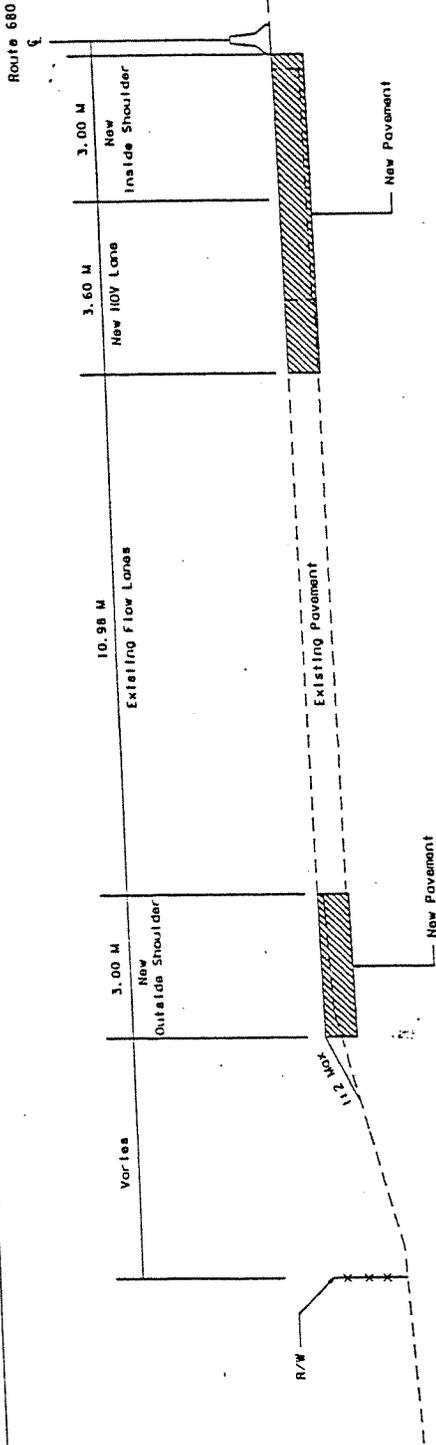
direction between SR-84 and South Mission Blvd (SR 262) during the morning to provide for southbound HOV lanes. On December 16, 1998, the I-680 Sunol Grade PAC recommended to Caltrans the moveable barrier option be eliminated due to negative impacts on the northbound morning traffic. Accordingly, Caltrans is not pursuing the moveable barrier option per that recommendation. **Based on input from PAC and Caltrans' professionals own professional judgement**, Caltrans is proceeding with a plan recommended by the local agencies to stage the construction of this project in order to provide more immediate congestion relief. Refer to Section 4.0 of this document for additional discussion of the moveable barrier option.

## **2.5 Project Funding/Programming**

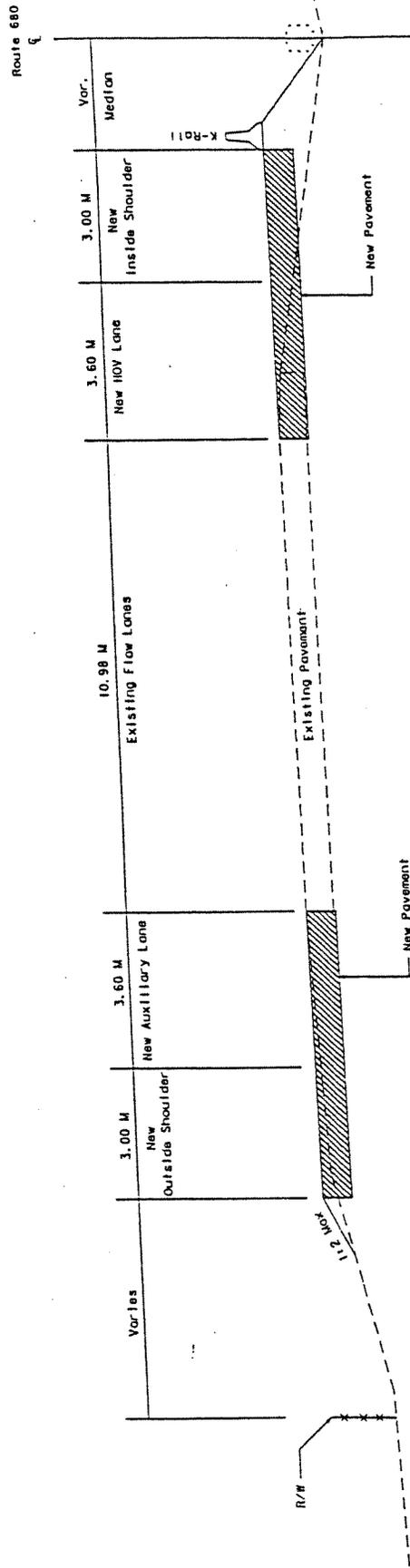
There are \$52.7 million currently programmed in the State Transportation Improvement Program (STIP) with additional \$9.75 million from the Federal Demonstration Program. A STIP amendment to program an additional \$19 million from Santa Clara County Regional Improvement Program (RIP) ~~is being processed~~ **has been approved. The programmed dollars in the STIP cover not only construction and right-of-way costs but support costs for planning, design, right-of-way and construction as well.** This project is contained in the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP). The total cost estimate for construction of this project is at \$60 million. ~~The additional funding covers design, construction, and right of way engineering support costs.~~

# Proposed Project





TYPICAL SECTION ALONG ROUTE 680  
FROM SOUTH OF WASHINGTON BLVD TO CALAVERAS RD (84)



TYPICAL SECTION ALONG ROUTE 680  
FROM CALAVERAS BLVD (237) TO SOUTH OF WASHINGTON BLVD

Exhibit 3

PROPOSED TYPICAL SECTIONS  
ROUTE 680 SOUTHBOUND HOV LANE PROJECT

NO SCALE

## 2.6 Traffic Operations without Project

### 2.6.1 Existing Conditions

Interstate 680 (I-680) is a six-lane facility between I-580 and State Route (SR) 237. The morning commute on southbound I-680 is heavily congested over the Sunol Grade area, caused by traffic demand exceeding the **1,950 to 2,200 vehicles per hour per lane** capacity of the freeway at several locations. The backup extends from the South Mission Boulevard (SR 262) interchange to the Sunol Boulevard interchange (Exhibits 2), a distance of 20.9 km (13 miles).

At one particularly congested area, the South Mission Boulevard (SR 262) interchange, existing southbound volumes are approximately 70,000 vehicles per day and 6,500 vehicles per hour (vph) during the morning peak hour. It should be noted that along this portion of I-680, demand greatly exceeds capacity, as a result, traffic congestion occurs within this corridor. The peak period delay is estimated at over 7,000 vehicle-hours. Within the Alameda County limits, the truck percentage ranges between 7% to 9% of daily traffic volumes.

On a typical weekday morning, the southbound commute starts by 5:30 AM. Heavy on-ramp demands from SR 84, Sheridan Road and Durham Road cause slowdowns at these interchanges. By 6:00 AM, two mainline bottlenecks develop: one at the freeway section between SR 84 and Koopmann/Sunol Road and the other at the section between South Mission Boulevard (SR 262) and Scott Creek Road.

Mainline traffic demands peak between 6:00 and 6:30 AM. By 6:30 AM, queues from the two bottlenecks generally merge into one, with congestion extending from South Mission Boulevard (SR-262) to Sunol Boulevard, a distance of approximately 20.9 km (13 miles). ~~The average speed through the entire length of congestion is approximately 16 mph, and~~ **The maximum individual delays through this section of I-680** are as high as 33 minutes. Significant queuing also occurs at several southbound on-ramps, including the ramps from SR 84, SR 262/ South Mission Boulevard, and Durham Road. The peak mainline demand rate is estimated to be nearly 8,600 vph while the peak mainline capacity for this section is approximately 6,100 vph.

By around 10:00 AM, the queue largely dissipates, although some minor slowdowns remain near the South Mission Boulevard (SR 262) interchange. To the south of the bottleneck, between the South Mission Boulevard (SR 262) and Calaveras Road (SR 237) interchanges, during the morning peak period the traffic moves at free-flow speed although the segment is operating near capacity.

### 2.6.2 ~~Year 2005~~ Predicted Conditions

Future traffic projections for the southbound I-680 HOV lane project were derived using the BAYCAST model developed and maintained by the Metropolitan Transportation Commission (MTC). **BAYCAST, which is the regional travel demand model for the Bay Area region, includes 1,099 regional travel analysis zones internal to the nine Bay Area counties and 21 external gateway zones. The 1,099 regional travel analysis zones are based on 1990 census geographic tracts, blocks, and block groups. Separate codes for mixed-flow, HOV 2+, HOV 3+ lanes, as well as functional class, area type, free-flow speed, per lane capacity and speed-flow relationship are built into the model's highway network, which consists of about 31,300 one way links. The model's transit network includes more than 700 transit lines for 25 transit operators. The projections are based on 1998 Association of Bay Area Government**

(ABAG) land use, population, and employment forecast that were reviewed and approved by local municipalities. In order to satisfy the 20-year design period requirement of the **Federal Highway Administration (FHWA)** and Caltrans, it was decided the proposed project would be analyzed for two future years: 2005 and 2025. Future forecasts were initially developed by MTC for the years 2005 and 2020, and then refined by Caltrans using base year traffic volumes and travel speed validations. The Year 2005 network reflects 1998/99 Transportation Improvement Program (TIP) and the Year 2020 network reflects 1998 Regional Transportation Plan (RTP). The TIP and RTP include planned regional transportation improvements. Traffic projections for the year 2025 were later extrapolated from the year 2020 forecasts by Caltrans using population and employment growth trends derived from 1998 ABAG Projections.

**Only a morning peak hour analysis was conducted for all scenarios of future traffic forecasting. As peak hour analyses do not account for congestion cumulated from previous hours, the calculated peak hour speeds, delays, and travel times reflect only the operations from a peak hour demand assuming free flow conditions during preceding hours. The traffic congestion over a cumulative multi-hour peak period would be higher than indicated by the peak-hour analyses. Thus, the results cannot be directly compared to the existing observed congestion. Nonetheless, the analyses serve to differentiate future traffic operations between the Build and No-Build alternatives.**

~~Only a morning peak hour analysis was conducted for all scenarios of future traffic forecasting. The cumulative traffic congestion over a multi-hour peak period would be higher than indicated by the single hour analyses that were performed. Thus, the calculated future peak hour speeds, delays, and travel times cannot be directly compared with the observed existing maximum peak period congestion levels. Nonetheless, the analyses serve to differentiate the future traffic operational effects between the Build and No-Build alternatives.~~

### 2.6.3 Year 2005 Predicted Conditions

If no improvements are made on this section of southbound I-680, significant congestion would continue to occur ~~on~~ **in** this corridor **and, in fact would get much worse.** The primary bottleneck would be the three-lane section between Scott Creek Road and Jacklin Road, resulting in a queue extending to about half a mile north of the Bernal Avenue off-ramp, a distance of about 27 km (16.8 miles). The section south of the SR 237 interchange would also be at capacity, resulting in minor delays approaching that location.

The mainline delay (representing the amount of congestion on the freeway) is estimated to be 1,140 vehicle-hours. The southbound ramp delay (representing the amount of congestion on freeway on-ramps) is estimated to be 370 vehicle-hours. This yields a total peak hour delay of 1,510 vehicle-hours. Maximum individual travel time from I-580 to SR 237 will be approximately 45 minutes. ~~The average speed on the mainline will be 34 mph.~~ All vehicles, ~~including HOVs,~~ would be affected equally by this congestion. Total travel within the study limits would be about 138,000 vehicle-miles traveled (VMT).

### 2.6.4 Year 2025 Predicted Conditions

Significant delays would continue to occur on southbound I-680, with the primary bottleneck between the Scott Creek and Jacklin Road interchanges. Congestion would extend to just south of the I-580 interchange, a distance of about 28.6 km (17.8 miles). The freeway sections south of Jacklin Road would also be operating near capacity.

Delay on the freeway, estimated to be about 1,260 vehicle hours, would be only slightly greater than in the year 2005 under the No-Build alternative. However, delays on on-ramps, estimated to be about 1,080 vehicle-hours, would be substantially greater than in the year 2005. The total peak hour delay would be about 2,340 vehicle-hours. ~~The average speed on the mainline will be 32 mph.~~ Maximum individual travel time from I-580 to SR 237 will be approximately 47 minutes. Total travel would be about 141,300 VMT.

## **2.7 Traffic Operations With the Proposed Project**

### **2.7.1 Year 2005 Predicted Conditions**

With the addition of an HOV lane between SR 84 and SR 237, southbound I-680 would be able to carry more vehicles than under the No-Build alternative. The increase in capacity would generally correspond to the number of vehicles using the carpool lane, which is expected to range from 700 to 1100 vph depending on location. The forecasting model is designed to recognize the added capacity and assigns more traffic demand to the Build alternative compared to the No-Build.

Under the Build alternative four separate bottlenecks in the mixed flow lanes would occur, which together would combine to form a queue stretching intermittently from the Jacklin Road interchange to just south of Bernal Avenue. Bottlenecks would occur at the section between the Jacklin Road off and on-ramps, between the Scott Creek Road off and on-ramps, between the North Mission Boulevard (SR-238)/ Washington Blvd interchanges, and between the Andrade Road and Sheridan Road interchanges.

Mainline delay and the ramp delay are estimated to be 650 and 540 vehicle-hours respectively, yielding a total peak hour delay of 1,190 vehicle-hours (about 21% less aggregate delay than in the No-Build alternative). ~~The average speed in the mixed flow lanes will be approximately 40 mph.~~ Maximum travel time is estimated to be 36 minutes. Total travel would be about 166,400 VMT (about 20% higher than the No-Build).

No congestion would occur within the HOV lane. ~~Individual travel time for the HOV lane segment is estimated to be 12 minutes, compared to 23 minutes for the same distance in the mixed flow lanes.~~ As no HOV lane exists north of SR-84, any HOVs originating north of that point would be caught in the same congestion and experience the same delays as non-HOVs.

### **2.7.2 Year 2025 Predicted Conditions**

Three separate bottlenecks in the mixed flow lanes would combine to form a queue starting from the Jacklin Road interchange and extending to just north of Stoneridge Drive. The bottlenecks would occur at between the Jacklin Road off and on-ramps, between the Scott Creek Road off and on-ramps, and at the section between the Andrade Road and Sheridan Road interchanges.

The mainline delay and the ramp delay are estimated to be 750 and 1,180 vehicle-hours yielding a total peak hour delay of 1,930 vehicle-hours. As with the No-Build alternative, freeway conditions would be only slightly worse than in the year 2005, but ramp delays would be much worse. ~~The average speed of the mixed flow traffic will be 37 mph.~~ Maximum individual travel time for mixed-flow traffic is approximately 38 minutes. Total travel would be about 173,500 VMT.

Use of the HOV lane would range from 900 to 1400 vph during the morning peak hour. No congestion would occur within the HOV lane. Individual travel time for the HOV lane segment is estimated to be 13 minutes as compared to 23 minutes for the same distance on the mixed-flow lanes. Until they reach the HOV lane, any HOVs originating on I-680 north of SR 84 would be caught in the same congestion and experience the same delays as non-HOVs in the mixed flow lanes.

## 2.8 Comparison of Traffic Operations Under Build and No-Build Conditions

The improvement project would provide benefits to commuters, especially HOV lane users, on southbound I-680 over the Sunol Grade. Although congestion will not be eliminated entirely, building the HOV lane will increase the freeway corridor's capacity within the project limits. There would be a noticeable net reduction in travel time for single occupant vehicles; as much as 9 minutes in comparison to the No-Build alternative based on the peak hour analysis. HOVs would experience an even greater time savings; as much as 10 minutes in comparison to vehicles in the non-HOV lanes and 19 minutes in comparison to vehicles in the No-Build alternative. As congestion will likely last several hours causing additional delays in the mixed flow lanes, the maximum HOV time savings would be expected to be even higher. Traffic projections for the year 2025 indicate that more than 1,400 vph would qualify to use the HOV lane if the occupancy requirement were two or more persons per vehicle. Thus, it is expected that the HOV lane will be well utilized and will not appear to be "empty" to motorists in the adjacent mixed-flow lanes but also will not be so well utilized that delays will occur in the lane.

Table 1

### Expected I-680 Southbound Traffic Conditions (Peak Hour Analysis) Between I-580 Interchange and State Route 237 Interchange (23 miles)

Year	Alternative	Mainline Delay (veh-hrs)	Ramp Delay (veh-hrs)	Total Delay (veh-hrs)	Average Speed (mph)	Maximum Travel Time	Vehicle Miles Traveled
2005	No-Build – all vehicles	1,140	370	1,510	34	45 min.	138,800
	Build: non-HOV	650	540	1,190	40	36 min.	153,500
	HOV	30*	50	80	48 <sup>^</sup> /68 <sup>▲</sup>	26 min.	12,900
2025	No-Build – all vehicles	1,260	1,080	2,340	32	47 min.	141,300
	Build: non-HOV	750	1,180	1,930	37	38 min.	156,300
	HOV	40*	150	190	41 <sup>^</sup> /66 <sup>▲</sup>	28 min.	17,200

\* Mainline delay experienced by HOVs in mix-flow lanes upstream of HOV lane segment.

<sup>^</sup> Average speeds of HOVs in mix-flow lanes upstream of HOV lane segment.

<sup>▲</sup> Average speeds of HOVs in HOV lane

## 2.9 Existing Public Transportation Services

Several public transportation services such as BART, Santa Clara Valley Transit Authority (VTA) buses, the Livermore-Amador Valley Transit Authority (LAVTA) buses, the Dumbarton Express shuttles, Amtrak Capitol Rail Corridor, and the Altamont Commuter Express (ACE) provide an alternative mode of transportation to commuters between the Livermore and Tri-Valley areas, Alameda County and Santa Clara Valley. However, as noted in the MTC's January 1999 Technical Memorandum to the Phase II Major Investment Study (MIS), transit traditionally cannot easily compete with private car use in low-density urban and suburban areas such as the Tri-Valley Area and most of San Jose and Santa Clara County. According to this study, both residential and employment densities that could be served by transit in the I-680 Corridor are below typical thresholds for significant use of transit. In the I-680 corridor during 1998, 200 out of the 14,000 (1.5%) person trips made during the peak period, were made by bus. With ACE service included, the percentage increased to 8%.

The Technical Memorandum also states that based on a survey conducted by the Alameda County Congestion Management Agency (CMA), door-to-door travel time by transit between any two points in the county typically is two to three times as long as travel by private automobile. **Public transportation services within the corridor, even with the proposed expansions, would still be limited in passenger capacity, areas served and frequency of service.** Therefore, based on current trends and data, it can be concluded that the following public transportation services, ~~even with their proposed expansions,~~ would not provide significant relief to the persistent traffic congestion on southbound I-680 within the limits of this proposed project.

### 2.9.1 BART

BART provides service as far south as the City of Fremont. The BART express bus service provides transportation between the East Dublin/Pleasanton BART station and Livermore. The Santa Clara Valley Transit Authority (VTA) buses serve trips between the Fremont BART station and San Jose. BART proposes to increase its service to Fremont by adding two stations, one in Irvington and the other in Warm Springs. Funding to extend BART to Warm Springs was identified in the 1998 Alameda County Measure B Authorization Expenditure Plan. However, funding has not been allocated for the proposed Irvington station. Due to remaining funding uncertainties, BART has not proposed a date for the completion and operation of either of these stations. According to the Alameda County CMA's Transportation Vision 2010 and Beyond, dated May 1994, a BART station is planned at Stoneridge Mall in Pleasanton, but funding for this project has not been designated. Furthermore, this station exceeds MTC's two-station limit placed on new extensions. BART's long-range expansion plan also includes extension of its fixed rail service to Livermore and San Jose, although funding has not been allocated for this extension and due to this uncertainty BART has not proposed a date for the completion and operation of these stations.

### 2.9.2 Bus Service

The Tri-Valley area is served by the Livermore-Amador Valley Transit Authority (LAVTA) with routes serving Livermore, Pleasanton and Dublin. LAVTA operates subscription bus service between Livermore/Pleasanton and the area encompassing Lockheed in Mountain View. There are currently two full buses with another four buses planned to start operations in the near future to other major employers. San Joaquin Regional Transit (SMART) operates four subscription buses between San Joaquin Valley and Mountain View. Though these are similar to LAVTA

subscription bus services, there are currently no intermediate stops. The Dumbarton Express shuttles passengers from the Union City BART station across the Bay to Palo Alto and the Southern Peninsula.

VTA is conducting a study on building either a light rail or commuter rail line between Union City BART Station, the Great Mall Shopping Center in Milpitas, and the Hill Station in San Jose. This rail service, offering 26 trains per day, is expected to be in operation in 2005.

### 2.9.3 Passenger Rail Services

The San Joaquin Regional Rail Commission provides the Altamont Commuter Express (ACE) rail service between Stockton and San Jose with stops in Lathrop/Manteca, Tracy, Vasco Rd, Livermore, Pleasanton, Fremont, Santa Clara and San Jose. The ACE rail services, which started on October 19, 1998, operates two morning and two afternoon trains each with a capacity of 550 people (a total of 1100 people in each direction) and is currently running at over 90% capacity. ~~ACE will be testing two leased cars within the month of October 1999 and if they meet performance criteria, they will be open to passengers increasing the ACE capacity to 1380.~~ ACE started service of the "Turnback Train" on February 21, 2000. The "Turnback Train" is the early morning train which after completing its run to San Jose turns back to Pleasanton and starts another run to San Jose. The purpose of the "Turnback Train" is to secure the schedule slots for a future third train. ~~ACE is in the process of procuring equipment for a third train which is scheduled to be in operation in Spring of 2001.~~ Equipment for the third train has been ordered, track access rights are currently being negotiated, and crewmembers are being recruited for an estimated October 2000 start date. Equipment for a fourth ACE train is also being ordered and is estimated to arrive in December 2000 or January 2001. The estimated operation date of this train is summer 2001.

Amtrak Capitol Rail Corridor currently operates three roundtrip trains per day between Sacramento and San Jose with stops at Oakland and Fremont. In the year 2000, Amtrak plans to add two additional daily roundtrip services between Sacramento and San Jose. This service is expected to expand to 14 roundtrip services per day by 2010.

### 2.9.4 Park and Ride Facilities

The Alameda County CMA has approved an I-580/I-680 Transit Enhancement Project consisting of five major elements including an HOV by-pass lane at the Stoneridge Drive/I-680 southbound on-ramp, a traffic signal prioritization on Stoneridge Drive, and a 95 vehicle/30 bicycle park-and-ride lot at the intersection of Stoneridge Drive and Johnson Drive in the City of Pleasanton. This park-and-ride lot is strategically located adjacent to the I-580/I-680 interchange and on two local bus routes which provide connections to the Pleasanton-Dublin BART station and the Dublin Timed Transit Center which provides connections to ten additional bus routes. In addition, there is direct access to the park-and-ride lot from both the local and regional bike networks.

~~The City of Pleasanton proposes to construct a Park and Ride facility at the southwest quadrant of the I-680/Bernal Avenue interchange. The City has also proposed a Park and Ride facility with transit features at the Las Positas crossover (between Stoneridge Drive and Bernal Avenue).~~ **has under study Park and Ride facilities at I-680 at West Las Positas and I-680 at Bernal Avenue.**

### 3.0 NO BUILD ALTERNATIVE

Under the No Build Alternative, the existing highway configuration would remain as is. Therefore, as population and traffic volumes continue to increase, traffic congestion is expected to worsen, leading to added commute time delays. These additional delays could lead to severe economic consequences by negatively impacting timely delivery of goods and services. The additional delays can jeopardize the response time for emergency services in the area as well. The increased traffic congestion will also deteriorate ambient air quality in the Bay Area. The No Build alternative, however, would not preclude spot improvements or routine maintenance as necessary. See Sections 2.0 (Traffic Operations) and 7.0 (Environmental Evaluation) of this document for comparisons of the proposed project with the No Build alternative.

#### 4.0 IMPROVEMENTS CONSIDERED BUT REJECTED

In May 1998, a ~~Phase I~~ Major Investment Study (MIS) for this project was prepared by the Alameda County CMA in partnership with the Metropolitan Transportation Commission (MTC), the Contra Costa Transit Authority (CCTA), the Santa Clara Valley Transit Authority (SCVTA), and Caltrans. The MIS discusses the purpose of and need for the improvements along I-680 and summarizes the findings of the previous technical analysis which resulted in the identification of improvements to address the existing and future traffic problems.

A list of ten conceptual improvement measures was generated for an initial evaluation based on ideas previously proposed for I-680, measures that seemed favorable based on analysis of existing conditions, as well as concepts borrowed from other traffic corridors. The list consisted of the following measures:

1. Install ramp metering at all southbound I-680 on-ramps from SR 84 to South Mission Blvd (SR 262) – 9 locations
2. Install ramp metering at all southbound I-680 on-ramps from Andrade Rd. to South Mission Blvd.(SR 262) – 7 locations
3. Install ramp metering at all southbound I-680 on-ramps from Stoneridge Dr. to Scott Creek Road – 13 locations
4. Construct southbound auxiliary lane at South Mission Blvd (SR 262)
5. Construct HOV lane on southbound I-680 from Sunol Rd to Washington Blvd
6. Construct HOV lane on southbound I-680 from Washington Blvd to Calaveras Rd
7. Construct HOV lane on southbound I-680 from SR 84 to south of South Mission Blvd (SR 262)
8. Install a contra flow barrier (moveable barrier) from Sunol Dr. to Scott Creek Rd. A moveable barrier would allow the creation of an additional lane in the southbound direction by using a lane from the northbound side of the freeway during the morning commute period.
9. Construct HOV lane on southbound I-680 from Scott Creek Rd to Calaveras Rd
10. Install contra-flow-barrier from SR 84 to south of South Mission Blvd

These alternatives were evaluated based on system-wide average speeds and total travel time delay. Following the initial evaluation, these measures were refined and recombined into more feasible roadway improvement measures. Each was considered with each of four ramp metering alternatives: metering proposed at either 13, 9, 7, or no locations along southbound I-680. The basic components of the improved measures included auxiliary lanes, ramp metering, HOV lanes, and the contra flow lanes.

During the final evaluation process, the measures were also analyzed based on construction costs and cost-benefit ratios. The final evaluation analysis focused on staging the most promising components on an improvement program in order to maximize benefits relative to expected cost constraints. The above analysis led to the selection of the ~~phased~~ project as described in Section 2.0 of this document.

An Express Lane or a High Occupancy Toll (HOT) Lane for southbound I-680 is a concept that has generated discussion in the transportation community. The concept proposes to utilize the additional lane for HOV 3+ occupants as well as tolled single occupancy and double occupancy vehicles. The concept is being studied as part of a system wide Major Investment Study (MIS) being conducted by MTC to address long-term improvements to the I-680 corridor and in more

detail as part of a Congestion Pricing Study being conducted by the Alameda County CMA which is anticipated to be completed by the end of year 2000. The concept is not being carried forward at this time, however, the current proposed project does not preclude the future development of this toll facility operation. If the HOT lane proves to be feasible in the Congestion Pricing Study, then a number of actions would need to take place prior to its implementation: MTC would need to amend the Regional Transportation Plan (RTP), legislation would need to be passed allowing operation of a toll lane, the public would need to accept the concept, and additional funding would be required. As studies pertaining to HOT lane are still underway and as support for this proposal appears to be limited, the HOT Lane concept is not being considered as an alternative at this time.

## 5.0 RELATED PROJECTS/STUDIES

In order to provide congestion relief on I-680 in the vicinity of South Mission Boulevard (SR 262), Caltrans is proposing to construct a southbound auxiliary lane from Automall Parkway to South Mission Boulevard (SR-262). Consequently, the Grimmer Road **undercrossing structure** will be widened to accommodate this auxiliary lane. Construction for this project is **underway** ~~scheduled to begin in the latter part of the year 2000~~ and is expected to be completed by late **2000** ~~2001~~. ~~Caltrans will prepare a~~ **A separate environmental document was approved** for this project. ~~This is a separate "stand alone" project that will provide a limited benefit even if no other improvements are undertaken.~~ Construction of this project will be administered by the Alameda County CMA.

The Alameda County Congestion Management Agency (CMA) has initiated a ~~Value~~ **Congestion Pricing Study** to determine the viability of Express Lanes (HOT Lanes) in the I-680 corridor. Express Lanes are a toll facility which would allow vehicles with 3 or more passengers to drive in the lane free of charge. Vehicles with fewer than three passengers would be tolled before entering the lane. The study is being funded with Federal funds and is expected to be completed by the end of year 2000.

As stated in Section 4.0, the Metropolitan Transportation Commission (MTC) is in the process of developing a ~~Phase II MIS which. The study~~ will focus on long term investment choices in the I-680/I-580 corridor including the functions of transit, carpooling and local streets between the Tri-Valley communities of Dublin, Livermore, Pleasanton and northern Alameda and Santa Clara Counties. The study assumes this proposed project is in place.

Caltrans has proposed an HOV lane project on southbound I-680 between the cities of Martinez and Walnut Creek. This project proposes an HOV lane between Marina Vista in Martinez and North Main Street in Walnut Creek. Additional proposed improvements include restriping and minor widening. A Draft Initial Study/Environmental Assessment for this project was approved in July 1999. The proposed dates for the commencement and completion of construction for this project are Spring 2002 and Summer 2003, respectively.

**Funding was set aside in the 1998 STIP for a study to determine the feasibility and potential alternatives for the I-680/I-880 Cross Connector. A direct connection is proposed between these two major freeways in order to provide relief to commuters currently using city streets to make this connection. This is a major movement for commuters from I-680 into Silicon Valley and the project is supported by the Santa Clara Valley Transportation Authority, the Silicon Valley Manufacturing Group, and the City of Milpitas. The following four alignment alternatives are being considered for the cross connector location:**

**Durham Rd/I-680 to Durham Rd (Auto Mall)/I-880  
Durham Rd/I-680 to Fremont Blvd/I-880  
Realigned South Mission Blvd (SR 262)  
Existing South Mission Blvd (SR 262)**

A northbound I-680 HOV lane project has been proposed similar in scope to this southbound I-680 HOV project. It is anticipated that the limits of the northbound project will be approximately the same as that of the southbound HOV lane project. Project funding, scope and schedule have not yet been determined.

## 6.0 AFFECTED ENVIRONMENT

The project area includes the extreme northeastern portion of the Santa Clara Valley, the San Francisco Bay structural depression, the rolling hills and mountainous uplands of the Diablo Range, the upland terraces between Livermore Valley and Sunol Valley, and the intermountain valleys of Livermore, Amador, and Sunol.

The elevation of the Santa Clara Valley floor varies from 30 to 120 meters (98 to 394 feet). All the valley drainage north of Morgan Hill flows into San Francisco Bay. The San Francisco Bay structural depression has an elevation range of just above sea level to 12 m (39 ft) with Coyote Creek as its most significant drainage in this area.

The Diablo Range consists of fairly rugged mountains ranging in elevation from about 30 to 1300 meters (98 to 4,265 ft). The project crosses the Diablo Range at Mission Pass, at an elevation of 210 m (684 ft) before dropping into Sunol Valley. Sunol Valley has an elevation of approximately 100 m (328 ft) to 75 m (246 ft) within the project location. It reaches its lowest elevation where Alameda Creek leaves the valley through Niles Canyon. The Sunol upland consists of gently rolling hills that border the northern portion of Sunol Valley reaching a maximum elevation of approximately 320 m (1,050 ft). The elevation within the project limits is only 120 m (394 ft).

The Livermore and Amador Valleys, which are adjacent to each other, are the largest of the coastal valleys within the project area. The drainage for Livermore and Amador Valley converge about two kilometers west of Pleasanton and form the Arroyo de la Laguna. This in turn converges with Alameda Creek near the intersection of SR 84 and I-680 and drains to the San Francisco Bay through Niles Canyon.

### 6.1 Aesthetics

The regional landscape traversed by I-680 features a variety of visual conditions characteristic of the San Francisco East Bay and South Bay areas including burgeoning, suburban communities interspersed among undeveloped hillsides and rural valleys. These elements are set within the topographic relief of the Coast Ranges and the broad and gently sloping plain extending from the south shores of San Francisco Bay. Dense development is widespread into places of various sizes. Development has increased considerably within the region over the last 25 years.

The project area encompasses two distinct landscape units traversed by the highway corridor. Hilly topography and sparse development characterize the northern portion, approximately 9.5 kilometers (6 miles) in length. In the southern portion, an area approximately 14.5 kilometers (9 miles) long is characterized by a combination of light industrial and residential development among rolling hills to the east of the highway. Along the 24-kilometer (15-mile) project area, varying landscape conditions provide a range of viewing experiences. For several miles through the northern part of the project views include picturesque, natural appearing hills, rural valleys, and low-density development of various types. South of Mission, views along a short segment of Interstate 680 where the roadway is depressed through suburban development are confined to the immediate highway corridor. In another area, the highway provides travelers with mid-range views extending for approximately 1 to 5 kilometers (0.6 to 3.1 miles) and long-range views as far as 25 kilometers (15.5 miles) to the City of San Jose skyline including portions of San Francisco Bay backed by the hills of the San Francisco Peninsula. Conversely, in another area,

close-range views of dense development directly adjacent to the highway extend for several kilometers.

Much of the highway from the Contra Costa County line southward, including the northern part of the Sunol Grade project area, is officially designated as a State Scenic Highway. The designation currently ends at Washington Boulevard. The portion extending southward from Washington Boulevard to the Santa Clara County line is eligible for designation.

Approximately 11.8 kilometers (7.3 miles) of Route 680 including nearly the entire segment from North Mission Boulevard (SR-238) southward to Calaveras Boulevard (SR-237) are classified as Landscaped Freeways. The classification is given to areas meeting certain criteria where ornamental vegetation has been planted in the highway right-of-way. Landscaped Freeway status places controls on outdoor advertising, i.e., billboards, prohibiting their placement within 660 feet of the edge of the right-of-way.

In general, the highway right-of-way throughout the 24-kilometer (14.9-mile) project area is not densely vegetated. In several areas of the northern portion of the project area, only occasional trees and large shrubs are found within the highway right-of-way. Other areas feature a cover of relatively low, non-ornamental brush. Greater numbers of trees and large shrubs occur within the right-of-way between North Mission Boulevard (SR-238) and Calaveras Boulevard (SR 237) in areas that have been landscaped. A number of very old olive trees exist in an area adjacent to the northbound lanes. Larger numbers of trees and shrubs are also found in pockets of naturally occurring vegetation between South Mission Boulevard (SR 262) and Warren Avenue and in an area south of Warren Avenue.

## **6.2 Air Quality**

Caltrans addresses the impact of highway projects on air quality in accordance with the following legislation: The Clean Air Act and its amendments, the EPA final Regulations (August 1997), NEPA and CEQA. The Project is located in the San Francisco Bay Area Air Basin, which is an attainment/ maintenance area for carbon monoxide (CO). The proposed project would result in a facility that will be equivalent in size (8 lanes) and less congested than a comparable facility (SR 101 between Tully Rd and Story Rd) in existence within the same air district. The air quality analysis utilizes the Project-Level CO Analysis Protocol developed jointly by Caltrans and the Institute of Transportation Studies, University of California at Davis and approved by the EPA for use in the Bay Area on September 1, 1998 as submitted based on 40 CFR 93.123(a)(1) for use in the Bay Area in combination with the provisions of the Transportation Conformity Procedures adopted in the Bay Area and approved by EPA in the Federal Register on October 21, 1997. The protocol is based on the fact that the Bay Area meets the air quality standards for carbon monoxide and permits a qualitative approach to determine air quality impacts. All other criteria pollutants, including ozone are addressed as part of the TIP analysis.

## **6.3 Biological Resources**

### **6.3.1 Fish and Wildlife**

A list of the Species of Concern was obtained from U.S. Fish and Wildlife Services (USFWS) for the Dublin, La Costa Valley, Milpitas and Niles U.S. Geological Survey (USGS) quadrangle maps in which the project lies (**Appendix A, Letter to USFWS, April 28, 2000**). In addition,

the California Natural Diversity Database (CNDDDB) for the same four USGS quadrangles was obtained for the purpose of identifying California-listed species.

Initially, both lists were analyzed to eliminate species that were unlikely to exist within the project area due to the lack of necessary macrohabitats and microhabitats. This elimination process was continued until those species that had a reasonable potential for existing within the project boundary were identified. A representative from USFWS provided assistance in the determination of the presence or absence of the listed species.

Due to their potential presence within the project boundary, the listed species of special concern for this project are the California red-legged frog (*Rana aurora draytonii*) (Federal Threatened) and the callippe silverspot butterfly (*Speyeria callippe callippe*) (Federal Endangered). The species of special concern (species not yet listed but which face listing if special precautions are not taken for their protection) include various non-listed species, including the Congdon's tarplant (*Hemizonia parryi ssp. congdonii*).

Field surveys were made for swifts, swallows, and bats that may potentially use bridges or overcrossings within the project area as nesting or roosting sites. Swifts and swallows are not endangered or threatened species but are protected by the Migratory Bird Treaty Act. These surveys confirmed that White-throated swifts (*Aeronautes saxatalis*) and Northern Rough-winged Swallows (*Stelgidopteryx serripennis*) are using several of the overcrossings within the project boundaries. Droppings indicated that bats (species undetermined) were also found to be using the Alameda Creek Bridge.

The following trees exist within the project area: coast live oak, California black walnut, valley oak, California bay laurel, toyon, buckeye, fremontia, elderberry, black oak, and Monterey pine.

### **6.3.2 Wetlands**

Jurisdictional Waters of the United States (including wetlands) were identified, measured, and evaluated, and were confirmed by the US Army Corps of Engineers. Primarily, these areas are products of the original I-680 construction, and have resulted from efforts to provide drainage of runoff from the highway surface. However, some of these areas result from hillside seeps and/or from undetermined water sources.

## **6.4 Cultural Resources**

### **6.4.1 Archaeology**

An archaeological survey of the project corridor was undertaken by Caltrans staff archaeologists in Spring 1999. Investigations included pre-field review of Caltrans cultural resource files, Caltrans historic photos and as-built documents, information available at the Northwest Information Center (NWIC) of the California Historic Resource Inventory System at Sonoma State University, research at the UC Berkeley Bancroft library, and review of archaeological collections and notes from earlier investigations conducted in the project corridor housed at the San Francisco State University Native American Graves Repatriation Act (NAGPRA) facility. Interviews were also conducted with archaeologists who had worked at nearby sites, as well as adjacent landowners and members of the Native American community.

Prefield research and walkover surveys identified five sites within or immediately adjacent to the project area. Of these, three sites were subjected to further archaeological testing to determine the presence/ absence and limits of archaeological deposits within the Area of Potential Effect (APE).

The sites identified include:

CA-ALA-576: This site complex (previously recorded as CA-ALA-342 and CA-ALA-509) is partially within the limits of the South Mission Blvd (SR-262)/ I-680 interchange with intact deposits. The site is a well stratified multi-component site which also includes human remains. Test excavations have established the limits and depth of soils sensitive for encountering cultural materials.

CA-ALA- 02: This is the site of the Ohlone Cemetery near the Washington Blvd./I-680 interchange. Portions of the site are likely to extend beyond the cemetery walls towards the interchange.

CA-ALA- 391: This is a prehistoric site recorded near the current highway along Vargas Rd. in the vicinity of the Vargas Rd. /I-680 interchange.

CA-ALA-575: This is a newly recorded site adjacent to the highway south of the Andrade Rd./I-680 interchange. It was recorded based on information about a burial find from an adjacent landowner and evidence of archaeological materials along the right of way fenceline. Test excavations established that archaeological materials within the Caltrans right of way are exceptionally sparse and lacking in significance. They appear to represent the disturbed edge of the archaeological deposit originally located on adjacent private lands.

CA-ALA-574: Test excavations established the presence of a significant archaeological deposit, including human remains within the limits of the Bernal Avenue/ I-680 interchange. These deposits merge with other deposits previously noted adjacent to the right of way. The site is buried under a shallow cap of historic silts and highway fills.

Results of the archaeological investigations including survey and test excavation results have been documented in the project Archaeological Survey Report (ASR). The report is being provided to the State Historic Preservation Office (SHPO) pursuant to obligations under 36 CFR 800, regulations implementing Section 106 of the National Historic Preservation Act. Consultation with SHPO under these regulations was initiated on September 20, 1999. ~~Concurrence with these findings is anticipated after the public has had an opportunity to comment on this draft Initial Study/Environmental Assessment.~~ **The Final ASR was submitted to SHPO on November 19, 1999. SHPO granted concurrence with the findings of the ASR on December 27, 1999. See Appendix B for a copy of these letters.**

#### 6.4.2 Historic Architecture

A Historic Architecture Survey Report (HASR) has been prepared to document the survey of historic properties conducted for the proposed project. The purpose of the report is to identify any buildings or structures which are historically significant and which could be affected by the proposed project.

The project's Area of Potential Effect (APE) for buildings and structures includes one property beyond the state right-of-way along the side of the freeway where widening or sound wall installation will occur. The APE consists of three non-contiguous portions along Interstate 680 from just south of Calaveras Boulevard/ State Route 237 to Stoneridge Drive in Pleasanton.

Several inventories and their most recent available supplements were consulted to determine whether previously identified historic properties were located in or adjacent to the APE. No property or district within the APE is currently listed on or has been previously determined eligible for the National Register of Historic Places.

No resources within the APE appear to meet the criteria for listing in the National Register of Historic Places as they lack either the requisite degree of integrity, architectural significance, or associations with persons or events important in history on the local, state or national levels.

The José Higuera Adobe Park, located along northbound I-680 between Wessex Place and Baron Place, is comprised of surviving buildings and landscape features and was considered for the National Register of Historic Places eligibility. However, it does not appear to be eligible due to a substantial loss of integrity. Caltrans has evaluated this property in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, and has determined that it is a historical resource for the purposes of CEQA, because it is designated as a protected historic property under the City of Milpitas's Cultural Resources Preservation Ordinance. The boundary of the property is limited to the city park.

A Draft Historic Architecture Survey Report (DHASR) was prepared in July 1999 and was circulated on August 25, 1999 to the planning departments of the County of Alameda; City of Fremont; City of Pleasanton; and to the City of Milpitas Parks, Recreation & Cultural Resources Commission. A letter announcing the findings and the availability of the DHASR was sent to 15 local and regional history and preservation organizations on September 3, 1999. The draft report identified the John F. and Maria Souza Farm at 42354-42410 Palm Avenue in Fremont, as appearing eligible for the National Register of Historic Places. However, the primary building on the property was moved to a site in the Mission San Jose district of Fremont by a private party shortly after the DHASR was completed. Therefore, the Souza Farm was re-evaluated and found to no longer appear eligible for the National Register due to a loss of integrity. In the Final Historic Architecture Survey Report, November 1999, this change is noted and the findings have been revised accordingly. The Final HASR was provided to SHPO pursuant to 36 CFR 800 regulations implementing Section 106 of the National Historic Preservation Act. Consultation with SHPO under these regulations was initiated on September 20, 1999. ~~Concurrence with the HASR findings is anticipated after the public has had an opportunity to comment on this draft Initial Study/Environmental Assessment.~~ **The Final HASR was submitted to SHPO on November 19, 1999. SHPO granted concurrence with the findings of the HASR on December 27, 1999. See Appendix B for a copy of these letters.**

#### **6.4.3 Paleontology**

The proposed improvements on I-680 near SR 238 in the Irvington District closely approach several known paleontological sites collectively identified in the 1950's as the Irvington sites. These sites have yielded specimens of several species of fossil mammals, and the large fossil fauna from this area collectively constitutes a standard of reference historically used throughout North America in the determination of the ages of sedimentary rocks elsewhere. The collective fossils at the Irvington sites has been used as a standard of reference for a period of time called

the Irvington North American Land Mammal Age (NALMA). The Irvington NALMA extends from about 1.9 million years before present (m.y.b.p.) to about 0.5-0.3 m.y.b.p. The geologic formation (Irvington Gravel) which yielded these fossils is limited in geographic extent to about two square miles, and the previously known fossil-bearing localities were removed during the construction of the I-680 freeway in the early 1970's.

## 6.5 Geology, Seismicity, and Soils

### 6.5.1 Geology

The project is located within the California Coast Ranges. The mountain ranges, as well as the principal faults, trend in a generally north-northwest direction. Sedimentary rocks predominate; however, many igneous and metamorphic rocks are present as well.

The principal geologic features of the region are the San Francisco structural depression and the Diablo Range with several large intermontane valleys; among them are the Amador, Livermore, and Sunol Valleys.

### 6.5.2 Seismicity

The San Francisco Bay area is a well known region of continuing seismic activity. The Calaveras and Hayward faults are within the project limits and the San Andreas fault is located within approximately 18 miles of the project location. All of these faults are a part of the San Andreas Fault system and have produced major earthquakes in historic time. The San Andreas Fault system is a complex belt of major fault zones extending roughly northwestward from northwestern Mexico through western California. Many of these faults have produced major earthquakes in historic time. Following is a table listing the distance from the project to nearby active faults, the estimated maximum credible events, and the maximum credible rock acceleration anticipated within the project location:

Table 2

Predicted Maximum Credible Earthquake and Acceleration

FAULT	Distance from Project	Maximum Credible Earthquake*	Peak Acceleration
San Andreas	18.6 miles	8	0.32g
Hayward	0 miles	7.5	0.72g
Calaveras	0 miles	7.5	0.72g

\* Magnitude in Moment Magnitude ( $M_w$ ) scale to the nearest quarter unit.

There are numerous other faults in the project vicinity which are not considered active with no displacement in the last 11,000 years. It is believed that the most active faults have been identified and mapped, however, there is the possibility that unmapped active faults do exist within the project area.

### **6.5.3 Expansive Soil**

Some areas within the project are located on expansive soil units. These sites will need to be investigated during the design phase of the project. The soils in the vicinity of Stoneridge Drive consist of Clear Lake clay which has been classified as having a High shrink-swell potential. A small section of the project between Andrade Road and Sheridan Road crosses the Azure clay loam which has also been classified as having a High shrink-swell potential. The exact locations and the extent of these soils with High shrink-swell potential will not be known until borings, lab tests and field studies are completed during the design phase of this project.

### **6.5.4 Landslide, Liquefaction, and Slope Stability**

The project transverses several geologic units which have the potential for landsliding and liquefaction. The liquefaction potential for the majority of this project is rated as negligible to generally low. The area between SR 238/I-680 interchange and Auto Mall Parkway has been rated as moderate for liquefaction potential (U.S.G.S. Professional Paper 941-A, Studies for Seismic Zonation of the San Francisco Bay Region).

### **6.6 Hazardous Waste**

An Initial Site Assessment (ISA) was conducted for the area within the project limits. The ISA did not indicate the presence of any toxic contaminants. However, the preliminary aerially deposited lead (ADL) investigation indicated the presence of non-hazardous levels of lead. In order to verify the uniformity of the non-hazardous ADL concentrations, a comprehensive soil investigation is scheduled during the PS&E stage for each phase of work..

### **6.7 Hydrology and Water Quality**

Within the project limits, I-680 crosses a number of creeks and flood control channels: Mission Creek, Calera Creek, Alameda Creek, Mission Creek and tributaries, Vallecitos Creek, Torogas Creek, Alameda County Flood Control District (ACFCD) Line K (Zone 6) Channel, Canada Del Aliso Creek, Tularcitos Creek, Scott Creek, Agua Fria Creek, Arroyo Del Agua Caliente Creek, Arroyo De Laguna Creek. These facilities are under the jurisdiction of either the Alameda County Flood Control and Water Conservation District (ACFC&WCD) or the Santa Clara Valley Water District (SCVWD) with respect to flood control. The Federal Emergency Management Agency (FEMA) flood insurance rate maps for the City of Milpitas indicate a narrow isolated segment of the base floodplain (100 year flood) along northbound I-680 from Jacklin Road to south of Canterbury Place. In addition, the maps suggest that I-680 and a majority of the City of Fremont lie within Zone X. Zone X is defined by FEMA as areas outside the 500-year floodplain, areas within the 500 year-floodplain, areas of 100-year flooding where average depths are less than 1 foot, areas of 100-year flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 100 year flood by levees. Zone X represents shallow sheet flow during the 100-year flood as storm drainage system capacities are exceeded.

There are discrepancies between the base floodplain limits defined by FEMA and the Santa Clara Valley Water District (SCVWD) Floodplain Maps. SCVWD maps indicate an additional narrow longitudinal segment of the base floodplain along northbound I-680 from Calaveras Blvd to Jacklin Road. At Jacklin Road, the SCVWD map indicates that the base flood inundates the northbound off-ramp, on-ramp, and Jacklin Road where it passes under I-680. FEMA mapping

suggests that ponding may occur along northbound I-680 from Jacklin Road to Canterbury Place, but the SCVWD maps indicate that the base flood encroaches onto portions of the northbound lanes of I-680 from the northbound on-ramp to the Calera Creek crossing. With the exception of the locations noted above, FEMA floodplain maps do not indicate any overtopping of the roadway for the base floodplains.

Groundwater within the project limits can be divided into three basic sections: the Livermore Valley basin, the Sunol Valley basin, and the Bay Plain Depression.

Groundwater movement within the Livermore Valley Basin is generally in the westerly and southerly directions and eventually flows into the Sunol groundwater basin. Boring records indicate that groundwater levels in this region vary from 2 to 4 meters (6.6 to 13.1 ft) below ground surface.

Groundwater movement within the Sunol Valley Basin is generally westerly and northerly, following Alameda Creek through Niles Canyon into San Francisco Bay. Depth to groundwater in this region varies from 1 to 3 meters (3.3 to 9.8 ft). Within the Bay Plain Depression, groundwater flows into the San Francisco Bay. Depth to groundwater in this area varies from 3 to 30 meters (9.8 to 98.0 ft) below ground surface.

The project is located within the jurisdictional boundaries of the San Francisco Bay Regional Water Quality Control Board. Caltrans has conducted monitoring of highway storm water runoff at several locations throughout the Bay Area, as well as various locations throughout the State. This information indicates that motor vehicles and other traffic related sources are the major sources of storm water pollution in the vicinity of this project site.

## 6.8 Land Use and Planning

City General Plans were obtained from the cities of Pleasanton, Fremont, and Milpitas. In the City of Pleasanton, the land along I-680 has been zoned for planned residential development. Land along I-680 in the City of Fremont has been designated as open space, residential, industrial, and public facility. The City of Milpitas has zoned the land along I-680 for residential, heavy industrial, administrative and professional offices, and general and neighborhood commercial development.

## 6.9 Noise

Traffic noise impacts occur when future predicted noise levels increase, as the result of the project, by 12 decibels or approach or exceed the noise abatement criteria (NAC) of 67 decibels (dBA), equivalent average level [Leq(h)] for activity category "B". Activity category B refers to picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals. The term "approach" is defined by Caltrans as one dBA below the criterion.

Existing noise levels were determined through field measurements and adjusted to reflect the noisiest hour of the day. Measurements were conducted at exterior areas such as yards or frontages of residences facing the freeway. **The Caltrans Traffic Noise Analysis Protocol (TNAP) states that if existing noise levels are less than 5 dBA below the applicable NAC (67 dBA), a detailed analysis would be required. Therefore,** where noise levels were found to be at or below 62 dBA, Leq(h), no further studies were conducted.

In general, existing noise levels approached or exceeded the noise abatement criteria of 67 dBA, Leq (h) for activity category 'B' and noise abatement has been considered for those sites. Existing noise barriers ranging in height from 1 meter (3 ft) to 4.9 meters (16 ft) shield six of twenty-one sites analyzed for traffic noise impacts.

## 6.10 Socioeconomic Conditions and Growth

Information on population and housing for the cities of Pleasanton, Fremont and Milpitas as well as Alameda and Santa Clara Counties were obtained from 1990 U.S Census data. The cities of Pleasanton, Fremont and Milpitas have a population of 50,553; 173,339; and 50,686 respectively. The majority of the residents in the above areas are white, between the ages of 24 and 44. Milpitas, however, has a relatively larger percentage of Asians compared to the other cities. The median household income for the cities of Pleasanton, Fremont and Milpitas is between \$51,000 and \$59,000. The median household income for the counties of Alameda and Santa Clara is between \$37,000 and \$48,000. In the cities of Pleasanton, Fremont and Milpitas, the percentage of persons below poverty level is 2%, 4%, and 5%, respectively. In the counties of Alameda and Santa Clara this percentage is 9% and 8%, respectively.

Of the three cities, Fremont has the highest number of dwelling units (60,198), followed by Pleasanton (18,484) and Milpitas (14,099). The median price of homes in these cities ranges from \$372,400 in Pleasanton, to \$341,300 in Fremont, and \$321,600 in Milpitas. The percentage of owner occupied homes in these cities ranges from 65% to 70%.

As part of the I-680 Corridor Major Investment Study (MIS) by the Metropolitan Transportation Commission in May 1998, an origin-destination analysis was performed in order to determine characteristics of the motorists using the southbound Sunol Grade portion of I-680 in the AM peak period (6:00 AM to 9:00 AM). License plates were videotaped from the Sheridan Road overpass and questionnaires were mailed out to the 11,614 vehicle registration addresses obtained. A total of 2,197 questionnaires were returned. Although the rate is only 18.9%, **it gives some indication regarding the commute patterns of the Sunol Grade commuters.** ~~the number of respondents for the purposes of this analysis is assumed to fairly represent the entire population of Sunol Grade commuters.~~ Results of the survey were used to represent the commute patterns for the I-680 Sunol Grade corridor.

The results of this survey showed that 46% of the trips originated from eastern Alameda County, 33% from central and eastern Contra Costa County, and 11% from San Joaquin County. 24% of the destinations were to southern Alameda County and 65% to Santa Clara County.

Projected socioeconomic data for these same locations is presented for future years 2005 and 2020. These are approved regional agency projections that are required by the Governor's Office of Planning and Research. The projections are based on current land use and development policies of the local governments.

**Table 3**

**Predicted Population Increase Per Origin**

Origin	1995 Employed Residents	2005 Employed Residents (% Increase)	2020 Employed Residents (% Increase)
Eastern Alameda County	74,600	105,700 (41.7%)	152,500 (104.4%)
Central & Eastern Contra Costa County	324,900	394,900 (21.3%)	470,300 (44.8%)
San Joaquin County	242,769	299,090 (23.2%)	392,861 (61.8%)
Total	642,269	799,690 (24.5%)	1,015,661 (51.8%)

**Table 4**

**Predicted Job Increases Per Destination**

Destination	1995 Jobs	2005 Jobs (% Increase)	2020 Jobs (% Increase)
Southern Alameda County	86,120	112,100 (30.2%)	142,180 (65.1%)
Santa Clara County	827,350	1,072,440 (29.6%)	1,230,760 (48.8%)
Total	913,470	1,184,540 (29.7%)	1,372,940 (50.3%)

The increases based on predictions of planned growth in the area demonstrate that residential and employment growth in the region is expected to continue and will lead to corresponding growth in automobile traffic on the Sunol Grade. The parameters for high growth are already in place for both the origins and destinations for Sunol Grade commuters. Between 1995 and 2020, Alameda and Contra Costa counties are projected to absorb 37% of the Bay Area's 1.4 million new residents and Santa Clara County will account for 30% of the 1.36 million new jobs. Beyond the nine Bay Area counties, by the year 2020 the city of Tracy's population is projected to increase from 48,000 to 183,000. This increase is a major component of the projected population increase in San Joaquin County which will contribute to increased automobile traffic on the Sunol Grade.

**6.11 Utilities and Service Systems**

Utility facilities or services affected by the proposed projects are:

- PG&E
- Pacific Bell
- Department of Water Resources
- Alameda County Flood Control and Water Conservation District
- San Francisco Water District
- Union Sanitary District
- MCI Telecommunications
- City of Fremont, Department of Public Works

A minimum of 10 joint utility poles appear to be in conflict with the project.

## **6.12 Railroad**

The Union Pacific Railroad owns single-tracked lines that cross I-680 north of Sunol Boulevard and run parallel to the west side of I-680 to Route 84. The scope of this proposed project, however, will not affect the railroad structures.

## **7.0 ENVIRONMENTAL EVALUATION**

One of the basic purposes of the California Environmental Quality Act (CEQA) is to inform State, Regional and local governmental decision makers and the public of impacts of proposed activities, and in particular, those impacts that are either significant or potentially significant.

Determining and documenting whether an activity may have a significant effect on the environment plays a critical role in the CEQA process. The following CEQA Environmental Significance Checklist is a device that was used to identify and evaluate any potential impacts from the proposed activity on physical, biological, social and economic resources. This checklist is not a National Environmental Policy Act (NEPA) requirement.

Differences do exist in the way impacts are addressed in CEQA environmental documents as compared to NEPA environmental documents. While CEQA requires that environmental documents state a determination of significant or potentially significant impacts, as has been done in Table 6 (Cumulative Impacts) and the CEQA checklist, NEPA does not. It can be seen that having to address significant or potentially significant impacts in joint CEQA and NEPA environmental documents can be confusing especially in those instances where the two laws and implementing regulations have different thresholds of significance.

Under NEPA, the degree to which a resource is impacted is only used to determine whether a NEPA Environmental Impacts Statement (EIS) or some lower level of NEPA documentation would be required. Under NEPA, once the Federal agency has determined the magnitude of the project's impacts and the level of environmental documentation required, it is the magnitude of the impact that is evaluated in the environmental document and no judgment of its degree of significance is deemed important in the document text. For the purpose of the impact discussion in this document, determination of significant or potentially significant impacts is made only in the context of CEQA. Although not explicitly identified in this document, impacts in the context of NEPA can be assumed to be minimal or non-existent.

Based on the results of the technical studies, it has been determined that the appropriate level of CEQA environmental documentation for this project is an Initial Study/Negative Declaration. By the same reasoning, FHWA has determined that the appropriate level of NEPA environmental documentation is an Environmental Assessment/FONSI.

### **7.1 CEQA Environmental Significance Checklist**

The following environmental technical studies were prepared by Caltrans for this project. The reports contain detailed information on the study area, assessment of potential impacts of the proposed project and recommended mitigation or abatement measures to minimize or avoid impacts. The studies are available for review at the California Department of Transportation (Caltrans, District 4), 111 Grand Avenue, Oakland, California. The technical studies include the following:

- Air Quality Impact Report, August 1999
- Floodplain Assessment, July 1999
- Historic Property Survey Report, October 1999
- Geotechnical Report, October 1999
- Initial Site Assessment (Hazardous Waste), October 1999
- Natural Environment Report, November 1999

Operational Analysis, September 1999  
Paleontological Resources Assessment, November 1999  
Socioeconomic Conditions and Growth Assessment, August 1999  
Traffic Noise Impact Report, August 1999  
Visual Resources Technical Report, October 1999  
Water Quality Memorandum, August 1999

The environmental evaluation studies indicate that in most cases, the proposed project will clearly have no impact or less than significant impact on these resources. However, in some instances, mitigation measures will need to be incorporated to minimize any potentially significant impacts of the project on the environment or other resources. A discussion of these mitigation measure is presented in Section 7.2 following the checklist. The project does not pose any potentially significant impacts.

## CEQA Environmental Significance Checklist

	Potentially Significant Impact (CEQA Definition Only)	Less Than Significant With Mitigation Incorporation (CEQA Definition Only)	Less Than Significant Impact (CEQA Definition Only)	No Impact
<b>I. AESTHETICS</b> -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and Historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>II. AGRICULTURE RESOURCES:</b> In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>III. AIR QUALITY</b> -- Where available, the Significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact (CEQA Definition Only)	Less Than Significant With Mitigation Incorporation (CEQA Definition Only)	Less Than Significant Impact (CEQA Definition Only)	No Impact
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**IV. BIOLOGICAL RESOURCES --** Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact (CEQA Definition Only)	Less Than Significant With Mitigation Incorporation (CEQA Definition Only)	Less Than Significant Impact (CEQA Definition Only)	No Impact
<b>V. CULTURAL RESOURCES -- Would the project:</b>				
a) Cause a substantial adverse change in the significance of a historical resource as defined in $\times$ 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to $\times$ 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**VI. GEOLOGY AND SOILS -- Would the project:**

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<b>Potentially Significant Impact</b> (CEQA Definition Only)	<b>Less Than Significant With Mitigation Incorporation</b> (CEQA Definition Only)	<b>Less Than Significant Impact</b> (CEQA Definition Only)	<b>No Impact</b>
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**VII. HAZARDS AND HAZARDOUS MATERIALS --**

Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**VIII. HYDROLOGY AND WATER QUALITY --**

Would the project:

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

	Potentially Significant Impact (CEQA Definition Only)	Less Than Significant With Mitigation Incorporation (CEQA Definition Only)	Less Than Significant Impact (CEQA Definition Only)	No Impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**IX. LAND USE AND PLANNING** - Would the project:

a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact (CEQA Definition Only)	Less Than Significant With Mitigation Incorporation (CEQA Definition Only)	Less Than Significant Impact (CEQA Definition Only)	No Impact
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**X. MINERAL RESOURCES -- Would the project:**

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XI. NOISE --Would the project result in:**

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XII. POPULATION AND HOUSING -- Would the project:**

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Potentially Significant Impact (CEQA Definition Only)	Less Than Significant With Mitigation Incorporation (CEQA Definition Only)	Less Than Significant Impact (CEQA Definition Only)	No Impact
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XIII. PUBLIC SERVICES**

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XIV. RECREATION --**

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XV. TRANSPORTATION/TRAFFIC --** Would the project:

a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact (CEQA Definition Only)	Less Than Significant With Mitigation Incorporation (CEQA Definition Only)	Less Than Significant Impact (CEQA Definition Only)	No Impact
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XVI. UTILITIES AND SERVICE SYSTEMS --**

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Potentially Significant Impact (CEQA Definition Only)	Less Than Significant With Mitigation Incorporation (CEQA Definition Only)	Less Than Significant Impact (CEQA Definition Only)	No Impact
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**XVII. MANDATORY FINDINGS OF SIGNIFICANCE --**

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

## 7.2 Discussion of Environmental Evaluation and Mitigation Measures

### 7.2.1 Aesthetics

#### Impacts

The methods used to assess the visual impacts of the project are in accordance with applicable Federal Highway Administration guidelines. Existing visual conditions were analyzed throughout the corridor. Views from the roadway, as well as views of the roadway from adjacent locations, were examined from various viewpoints. The viewpoints represent the full range of visual resource conditions within the corridor and include numerous points along I-680, especially in the southbound direction, and locations within developed areas adjacent to the right-of-way. Visual impacts were assessed in terms of anticipated changes in visual resources as a result of the project and the expected responses of affected viewers to the changes. The assessment is supported with photographs showing pre-project conditions and computer-generated visual simulations depicting several of the same views with the project fully implemented.

The existing 6-lane highway is among the main features of the visual environment within the project area. Implementation of the project would cause changes to the existing visual environment. The change, depending on its type and extent, would be more evident in some areas than in others. Overall, the magnitude of change would be relatively small. The nature of change would be consistent with the prevailing visual character of the highway corridor.

Inside widening (widening into the median) would have little in the way of visual effects since the existing median contains either grasses with very few shrubs or no grasses or shrubs and the existing concrete barrier and metal beam guardrails would be retained. In conjunction with outside widening of the southbound lanes and noise barrier construction on either side of the highway, trees and shrubs located within the project's limits of disturbance would be removed.

Most of the trees seen from the highway are located outside the State right-of-way. Within the right-of-way, a total of 157 trees will be removed during project construction. Approximately half (71) of these trees are relatively small with trunks less than 25 centimeters (10 inches) in diameter. Ten of the trees proposed to be removed have trunks 63.5 centimeters (25 inches) in diameter or greater. The trees that will be removed are scattered along the highway over a distance of 14.5 kilometers (9 miles) from Alameds Creek southward to just beyond Warren Avenue. The largest diameter trees affected by the project are located near the Andrade Road and Vargas Road interchanges. None of the affected trees constitute a scenic resource **as defined in Section 15301 (c) of the State CEQA Guidelines**, and therefore, will not impact the present or proposed future scenic resource designation of I-680.

Construction of noise barriers are proposed in some locations as indicated in Section 6.9 of this document. In most of these locations, walls or solid fences from about 1.5 meters to 3.5 meters high already exist along the property line adjacent to the highway. Many are privately built. Noise barriers greater than 3.5 meters high built by Caltrans exist in two locations.

New, more effective noise barriers built as replacements for existing ones would not block scenic vistas or substantially reduce views, as compared to existing conditions. An example is the stretch of highway between Jacklin Road and Calaveras Boulevard (Route 237) where existing noise barriers stand on both sides of I-680 between private development and the highway.

Candidate locations for new noise barriers also include areas where walls or solid fences do not currently exist, such as the west side of I-680 from Palm Avenue southward past Washington Boulevard. In such cases, new noise barriers could potentially affect visual resources in two ways. First, their visual presence would constitute new, human-made features in the landscape. Second, they could block or reduce existing views to varying degrees, depending on site-specific conditions and the viewers' position relative to the wall. **Nevertheless, the noise barriers will not represent a significant visual impact.** In many instances, a border of shrubs or trees separates the property from the highway right-of-way and occupies the lower portion of the view. When looking toward the highway from nearby private residential property or local public streets, the effect could range from a reduction in views (including views of highway traffic in some cases) to complete view blockage if standing close to the wall. For persons traveling on the highway, slopes that rise from the outside shoulders as well as roadside vegetation already confine views along these stretches. They would be essentially unchanged by the addition of new noise barriers. **There are no overall significant impacts, as defined under CEQA, to the aesthetic quality of the area due to the proposed project.**

### **Mitigation**

To minimize the visual effects of tree and shrub removal in areas that are currently landscaped, replacement planting will be provided. In areas not currently landscaped, disturbed areas will be revegetated according to Caltrans standards.

Retaining walls may be required where steep slopes exist in areas to be widened. In these instances, poured-in-place concrete retaining walls ranging from approximately 1.5 to 3 meters (4.9 to 9.8 ft) high and up to approximately 100 meters (328 ft) long may be constructed to contain either cut or fill. Walls built to contain cut slopes adjacent to the outside shoulder would be within the motorist's field of view. Those built to hold fill slopes would not be visible from the highway, but could be visible from adjacent areas. To reduce the visual impacts of retaining walls, they would be given aesthetic treatment consisting of surface texturing by means of form liners, sandblasting, or mechanical chipping. Cut and fill slopes would be contour graded to provide a more natural, rounded appearance. Standard erosion control measures would be applied.

To soften the appearance of new noise barriers and help integrate them with the surrounding landscape, as much of the existing vegetation as possible would be retained where walls are to be built. Also, where setback requirements for safety and maintenance permit, additional landscaping would be established in front of sound walls to help soften their appearance. Vines would be planted and allowed to grow on sound walls to help visually integrate them with the overall landscape and to reduce the incidence of graffiti.

### **7.2.2 Air Quality**

The air quality analysis utilizes the Project-Level CO Analysis Protocol approved by the EPA for use in the Bay Area. The project is contained in the 1998/99 Regional Transportation Plan (RTP) and the 1998 Regional Transportation Improvement Program (RTIP). The Federal Highway Administration (FHWA) determined that both RTP and RTIP conform to the Transportation Conformity Rule as amended by the EPA on August 15, 1997. Furthermore, the State Implementation Plan (SIP) contains transportation Control Measure (TCMs) adopted to further air quality improvement. This project implements TCM 8 (Construct Carpool/Express Bus Lanes

on Freeways), one of twenty TCMs in the Bay Area Air Quality Management District's (BAAQMD) 1997 Clean Air Plan.

The project does not violate any air quality standards and will not cause cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment. The project is located in the San Francisco Bay Area Air Basin, which is an attainment/ maintenance area for carbon monoxide (CO). The proposed project would result in a facility that will be equivalent in size (8 lanes) and less congested than a comparable facility (SR 101 between Tully Rd and Story Rd) in existence within the same air district. As the comparable facilities are in an area that meets CO standards, this project will also meet CO microscale air quality requirements and therefore have no significant impact on air quality and will not result in exceedances of state or federal CO standards. This project will not conflict with or obstruct implementation of the applicable air quality plan for the Bay Area.

The EPA designated the San Francisco Bay Area a non-attainment area for the national 1-hr ozone standard on August 1998. The Bay Area is designated a non-attainment area under state standards as well. The Bay Area is unclassified by the EPA for PM<sub>10</sub> and is designated a non-attainment area under state standards.

This project is included in the latest approved 1998 RTP and 1999 TIP, and has been found to conform to the currently approved State Implementation Plan (SIP). The design concept and scope of the proposed project has not changed from the design scope and concept in the RTP and TIP listings. This project implements TCM8, "Construct Carpool/Express Bus lanes on Freeways" as part of the regional HOV master plan. The project therefore meets the regional test for conformity with the SIP. **There are no overall significant impacts, as defined under CEQA and NEPA, to air quality in the area due to the proposed project.**

### 7.2.3 Biological Resources

#### Fish and Wildlife

##### Impacts

**A list of the Species of Concern was obtained from U.S. Fish and Wildlife Services (USFWS) for the Dublin, La Costa Valley, Milpitas and Niles U.S. Geological Survey (USGS) quadrangle maps in which the project lies (Appendix A, Letter to USFWS, April 28, 2000).** Based on the studies performed by Caltrans, the U. S. Fish and Wildlife Service (USFWS) has determined that the area within the project boundary does not provide suitable habitat for the listed species or species of special concern as identified in section 6.3 of this document. Furthermore, Congdon's tar plant was not observed during field visits. Field observation confirmed that suitable habitat for the tarplant does not exist within the project boundary.

White-throated swifts (*Aeronautes saxatalis*) and Northern Rough-winged Swallows (*Stelgidopteryx serripennis*) are using several of the overcrossings within the project boundaries. Both species of birds are protected by the Migratory Bird Protection Act. Exclusionary measures will need to be taken to insure that individuals of either of these species of the birds listed above can not use the bridges or overcrossings during the construction period. Droppings indicated that bats (species undetermined) were found to be using the Alameda Creek Bridge. However, there are no plans to make any structural changes to this bridge. Therefore, no impacts to the bats will result from this project.

The project will require the removal of 157 mature and sub-mature coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), northern California black walnut (*Juglans hindsii*), California bay (*Umbellularia californica*), and California buckeye (*Aesculus californicus*) trees.

### Mitigation

**Removal of these trees does not constitute a significant impact under CEQA to the natural environment of the corridor.** However, as the removal of the trees listed above will constitute an upland habitat reduction, their removal will require mitigation at a ratio to be determined during consultation with the California Department of Fish and Game ~~under the authority of the California Environmental Quality Act.~~ Trees that may be impacted to a substantial degree but not removed by the project will need to have drip line tree wells constructed so they are protected from further encroachment and potential harm. These wells will allow the trees to receive sufficient water and oxygen to maintain and prosper.

### **Wetlands**

#### Impacts

Jurisdictional Waters of the United States (including wetlands) were identified, measured, and evaluated, and were confirmed by the Army Corps of Engineers. Primarily, these areas are products of the original Interstate 680 construction, and have resulted from efforts to provide drainage of runoff from the highway surface. However, some of these areas result from hillside seeps and/or from undetermined water sources. The impacted areas total 0.04 acres. **This is not considered to be a significant impact under CEQA.**

#### Mitigation

The acreage of impacted wetlands will require mitigation at a ratio to be determined during consultation with the Army Corps of Engineers and will be dependent on the values and functions of the individual waters and wetlands areas. Although the impact of the proposed project on wetlands is negligible, **it is anticipated that a Nationwide Permit will be required from the Army Corps of Engineers. An Individual Permit will not be required as the impacts to waters and wetlands are less than 0.5 acres.**

### **7.2.4 Cultural Resources**

#### **Historic Architecture**

As indicated in Section 6.7.2, no resources within the APE appear to meet the criteria for listing in the National Register of Historic Places as they lack either the requisite degree of integrity, architectural significance, or associations with persons or events important in history on the local, state or national levels. The José Higuera Adobe Park, located along northbound I-680 between Wessex Place and Baron Place, does not appear to be eligible for the National Register but it has been determined to be a historical resource under Section 15064.5(a)(2)-(3) of the CEQA Guidelines because it is designated as a protected historic property under the City of Milpitas' Cultural Resources Preservation Ordinance. The boundary of the property is limited to the city park. The proposed project will not have an impact on this property. Noise barriers currently exist along this segment of northbound I-680. New noise barriers are not proposed at this

location. The proposed project will have no impacts on this property. **The Final HASR was submitted to FHWA on November 16, 1999 and FHWA transmitted the document to SHPO on November 19, 1999. SHPO granted concurrence with the findings of the HASR on December 27, 1999. See Appendix B for a copy of these letters.**

### **Archaeology**

Five archaeologically sensitive sites were identified within or immediately adjacent to the project area. Review of the survey and testing results in conjunction with project engineering plans resulted in a determination that no significant archaeological deposits will be affected by the proposed project. Project activities will not be taking place in areas with archaeological deposits. Protection of known deposits will be insured by mapping the limits of the nearby sites as Environmentally Sensitive Areas where construction activity will be restricted. Protection will be insured through ongoing review of project plans and design specifications and incorporation of monitoring provisions into the project Plans, Specification and Estimates (PS&E) for work undertaken in the vicinity of known sites. Specific information on the five site is as follows:

CA-ALA-576: Project activities will not take place in areas with archaeological deposits. Most of the work in this vicinity will be taking place within recent construction fills away from the site. It will be mapped as an Environmentally Sensitive Area (ESA).

CA-ALA- 02: No work is planned for the side of the highway adjacent to the site. It will be mapped as an ESA.

CA-ALA- 391: No project work will take place near the recorded site. All project work will occur on fill soils on the opposite side of the highway.

CA-ALA-575: Project activities will not disturb any significant archaeological deposits, and will be limited to minimal grading on existing fills. Project plans will establish an ESA.

CA-ALA-574: Project activity in this vicinity will be limited to minor work to complete a ramp metering system. Engineering of the system will be designed to avoid affecting archaeological deposits through use of existing conduits; and limiting trenching to existing structural sections, fill, or shallow enough depths to avoid encountering culturally sensitive soil horizons. The site will be mapped as an ESA and monitoring provisions will be placed in the Plans, Specifications and Estimates (PS&E).

Results of the archaeological investigations including survey and test excavation results have been documented in the project Archaeological Survey Report (ASR). The report ~~is being~~ was provided to the State Historic Preservation Office (SHPO) pursuant to obligations under 36 CFR 800, regulations implementing Section 106 of the National Historic Preservation Act. Consultation with SHPO under these regulations was initiated on September 20, 1999. ~~Concurrence with these findings is anticipated after the public has had an opportunity to comment on this draft Initial Study/Environmental Assessment.~~ **The Final ASR was submitted to FHWA on November 16, 1999 and FHWA transmitted the document to SHPO on November 19, 1999. SHPO granted concurrence with the findings of the ASR on December 27, 1999. See Appendix B for a copy of these letters.**

## **Paleontology**

### **Impacts**

The majority of material to be excavated in conjunction with the project consists of engineering fill emplaced during construction of the overpass abutments, the northbound lanes of I-680 and the southbound lanes south and west of the overpass. Although this material could contain identifiable fossils, it is not regarded as a significant paleontologic resource because its place of origin, geologic context, and temporal relationship to established localities are unknown.

Paleontological impacts of activities related to the proposed I-680 improvements and demolition of the SR 238 overpass are expected to be restricted to a narrow zone along the northwest margin of the construction area. This zone extends from the base of the northern abutment of the abandoned SR 238 overpass north and northeastward to the vicinity of the Washington Blvd overpass. This area is less than six meters wide and one meter in depth along the northwestern flank of the southbound lanes.

### **Mitigation**

Caltrans will comply with relevant environmental laws and regulation to avoid or minimize any potential loss or disturbance of paleontological resources due to project related activities. **If necessary**, the proposed mitigation measures will include pre-construction, on-site, and off-site phases. Pre-construction mitigation will ~~may~~ include obtaining a curation agreement with a repository institution, necessary collection permits for vertebrate fossils under statutory protection, and a qualified vertebrate paleontologist to monitor construction and conduct mitigation.

On-site mitigation measures during the construction activities may include: (1) close visual monitoring of excavation activities taking place near or within the Irvington Gravel; (2) collection of visible specimens; (3) bulking of sediment samples for off-site screening; (4) collection and documentation of oriented sediment samples for paleomagnetic analysis; and (5) documentation of stratigraphic section.

Off-site preparation and curation measures may include: (1) cleaning, hardening and repairing of megafossil specimens; (2) processing of bulk sediment samples; (3) identification, labeling and cataloging of specimens; (3) analysis of paleomagnetic samples; and (4) preparation of locality data sheets, file maps, photos, and relevant documents.

## **7.2.5 Geology and Soils**

### **Impacts**

**The project will not have significant impact, in the context of CEQA, on geology or soil within the project area.** The project does not cause, in excess to current conditions, exposure of people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides. The roadway alignment crosses two major active faults, the Hayward and the Calaveras, which have the potential for fault rupture. Flexible systems such as

embankments or mechanically stabilized embankments will be used in order to mitigate the effects of a fault rupture. All structures will be designed and built to current seismic standards.

The project will not cause an increase in soil erosion or loss of topsoil. Some areas of the project are located in areas mapped as having expansive soil units. The exact locations and the extent of these soils will not be known until borings are collected and analyzed and further field studies are completed during the design phase of the project. Depending on the soils and the activity planned at a specific location several things may be done in order to avoid or mitigate risk of construction on expansive soils. For shallow depths, the expansive soil layer may be excavated and replacement with more suitable soil. For deeper soils, the upper layers of soil may be mixed with lime or cement to inhibit expansion.

The project transverses several geologic units which have the potential for landsliding and liquefaction. The liquefaction potential for the majority of this project is rated as negligible to generally low. The existing fills and cuts are in relatively stable condition. However, a cut slope on southbound I-680 approximately 0.4 miles south of Sheridan Road and several other embankment fills on southbound I-680 between South Mission Boulevard (SR 262) and Scott Creek Road have had failures in the past and will be carefully studied and analyzed. Retaining structures may be built at these locations as a possible mitigation measure.

Specially designed foundations for structures or ground improvement such as stone columns, dynamic compaction or removing liquefiable materials are possible mitigation alternatives for areas subject to potential landslide. The foundations of the proposed noise barriers under consideration in the vicinity of Jacklin Road to South Mission Boulevard (SR-262) will be carefully analyzed for swelling-soft soil conditions. Specially designed foundations or foundations on piles are possible mitigation methods. Field and subsurface exploration, laboratory tests and analyses will be performed during the detailed design phase to evaluate slope ratios and address landslide and rock-fall potential and mitigation alternatives.

#### **7.2.6 Hazards and Hazardous Materials**

The proposed project will not involve routine transport, use, or disposal of hazardous materials. It will not cause a release of hazardous materials to the environment as no hazardous materials, substances, or waste are expected to be handled or used in the project. The preliminary aerially deposited lead (ADL) investigation in the project limits indicate non-hazardous levels. In order to verify the uniformity of the non-hazardous ADL concentrations, a comprehensive soil investigation is scheduled during the PS&E stage for each phase of work. If the investigation indicates lead contamination, soils will be handled according to regulatory requirements and the aerially deposited lead disposal, handling and reuse variance dated June 7, 1995 obtained from the Department of Toxic Substances Control.

The project is not located on a listed hazardous materials site and there are no facilities along the project limits that could be sources of hazardous contaminants, therefore, construction activities will not create significant hazard to the public or the environment.

#### **Impacts**

**A site investigation was conducted for this project and a Site Investigation Report was prepared on January 7, 2000. The results of the investigation indicate that lead contaminated soil due to aerially deposited lead (ADL) exists in subsurface depths from 0.0**

to 0.3 meters throughout much of the project limits. Additionally, soil from a depth of 0.3 meters to 0.61 meters at several locations from Milpitas to Fremont also contain elevated lead concentrations. Caltrans has received from the California Department of Toxic Substances Control (DTSC) a variance regarding the use of soils contaminated with ADL. This project is subject to the conditions of the variance and any supplemental amendments. Under the variance, the ADL contaminated soil may be placed under 0.6 m of cover material or under a pavement (e.g., asphalt roadway) within the highway right-of-way.

The site investigation also included an asbestos survey of the I-680/SR-238 Future Separation and Grimmer Overcrossing Structures. Based on the investigation, asbestos-containing material were found on both structures. The gasket material beneath the guardrail on the Grimmer Overcrossing Structures contain 50% chrysotile (a common type of asbestos). Cementitious drainage pipes on the I-680/SR-238 Future Separation Structures contain 15% chrysotile. Additionally, similar gasket material was also found beneath several guardrail posts on this structure. The gasket material on this structure was not tested but it can be assumed that it contains asbestos (i.e. 50% chrysotile). Asbestos removal will be conducted in accordance with all applicable regulations and conducted by a CAL/OSHA registered asbestos abatement contractor.

Stockpiles of soil located at the ends of the I-680/SR-238 structure were also tested to determine disposal options. Based on the laboratory results, a portion of the stockpiles at this location is considered a Resource Conservation and Recovery Act (RCRA) hazardous waste, and another portion is considered California hazardous waste. The stockpiles will require disposal at a Class I landfill facility. All other stockpiles tested were non hazardous. Stockpiles consisting of excess unused asphalt mix may be reused for the new construction.

## 7.2.7 Hydrology and Water Quality

### Impacts

Pollutant deposition is directly proportional to the traffic volumes and the level of service. Pollutants deposited from motor vehicle sources include metals, petroleum hydrocarbons, fuel byproducts and particulate matter. Studies have shown that "stop-and-go" traffic patterns have the potential to produce more pollutants than free flowing traffic. As the improvements proposed in this project will reduce periodic congestion and improve traffic operation, the potential for discharge of pollutants onto the roadway will be considerably reduced. ~~Furthermore, the Preliminary Drainage Review for this project suggests that the proposed improvements will not cause a significant increase in storm water runoff.~~ **Although the volume of runoff will increase with the expansion of surface area, the increase is not significant and an elevation in pollutant loading is unlikely with the proposed facility improvements.**

The project is not located within nor will it cause placement of housing or structures within a 100-year flood hazard area or in areas that would impede or redirect flood flows. It will not expose people or structures to a significant risk of loss, injury or death involving flooding.

As stated in Section 6.7, FEMA flood insurance rate maps for the City of Milpitas indicate a narrow isolated segment of the base floodplain along northbound I-680 from Jacklin Road to south of Canterbury Place. In addition, the maps suggest that I-680 and a majority of the City of Fremont lie within Zone X. Santa Clara Valley Water District (SCVWD) Floodplain Maps indicate an additional narrow longitudinal segment of the base floodplain along northbound I-680

from Calaveras Blvd to Jacklin Road. At Jacklin Road, the SCVWD map indicates that the base flood inundates the northbound off-ramp, on-ramp, and Jacklin Road where it passes under I-680. FEMA mapping suggests ponding may occur along northbound I-680 from Jacklin Road to Canterbury Place, but the SCVWD maps indicate that the base flood encroaches onto portions of the northbound lanes of I-680 from the northbound on-ramp to the Calera Creek crossing. Placement of proposed noise barriers within these limits may impact the base floodplain. With the exception of the issues noted above, FEMA floodplain maps do not indicate any overtopping of the roadway for the base floodplains.

The proposed action does not represent a significant base floodplain encroachment as defined in 23 CFR, Section 650.105(q) because it will not result in a:

- Significant potential for interruption or termination of the transportation facility,
- Significant risk for property loss and hazard to life,
- Significant adverse impact on natural and beneficial floodplain values, and
- Support of incompatible base floodplain development.

### **Mitigation**

As the construction activities for the proposed project involve soil disturbance of an area greater than 5 acres including some wetland areas, the project shall comply with the conditions of the Statewide National Pollutant Discharge Elimination System (NPDES) Permit Order # 99-06-DWQ, CAS000003 (Caltrans Permit hereafter) issued by the State Water Resources Control Board (SWRCB). Compliance with the NPDES General Permit Order #99-08-DWQ, CAS000002 for Construction Activities is also required, excluding the requirement to file a Notice of Intent (NOI). A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and implemented by the contractor, in order to reduce the discharge of pollutants from the project site during construction. Based on available monitoring data, purview of the improvements on southbound I-680, and proper implementation of a SWPPP it is concluded that there will be no significant impact.

The Initial Site Assessment (ISA) conducted for this project indicates the potential presence of aerially deposited Lead (ADL). The Statewide Caltrans NPDES Permit requires that for projects where soils contaminated with ADL will be reused and the project is subject to the Department of Toxic Substances Control's (DTSC) Lead Variance, the Regional Water Quality Control Board (RWQCB) shall be notified at least 30 days prior to the date of advertisement for bid. The RWQCB may then require compliance with additional waste discharge requirements (WDRs).

As indicated in Section 7.2.3, due to impact to wetlands, a Nationwide Permit will be required from the Army Corps of Engineers. As a result, an application for a 401 certification or waiver is required to be submitted to the RWQCB. This application shall include the Army Corps of Engineers Permit/Permit Application as an attachment for the RWQCB's reference.

The Caltrans Permit requires incorporation of Permanent Control Measures (PCMs) following completion of construction activities in order to improve water quality or reduce the discharge of pollutants. If there are any planned storm water drainage improvements, PCMs including Outlet Protection/Velocity Dissipation Devices may be considered for placement at outlets of pipes and channels to reduce the velocity and/or energy of existing water as a means of controlling erosion and scour. Unlined ditches may also be considered to convey storm water runoff, as the

vegetated, low velocity slopes associated with these ditches will retain suspended solids which may include heavy metals and nutrients that are absorbed by most plants.

### **7.2.8 Land Use and Planning**

The project proposes to make improvements to an existing facility. Work for the project will take place within the State right-of-way and most of the widening will occur in the median. Therefore, the project will not physically divide an established community. It does not conflict with any local land use plans, policies or regulations or any habitat conservation plans.

### **7.2.9 Noise**

#### **Impacts**

Future predicted noise levels with and without noise abatement were calculated through computer modeling. Modeling considered traffic speeds, roadway grade, terrain configuration, type of groundcover, vegetation, natural and man-made shielding as well as existing noise barriers. When feasible, field readings were compared with computed values for model validation. Due to changes in terrain, natural and man-made shielding and distance to the highway, noise levels will vary in a given neighborhood. Noise abatement will vary as well.

Once a site has been identified as eligible for abatement, the cost effectiveness of the abatement is determined as outlined in the Caltrans publication entitled "Traffic Noise Analysis Protocol" (TNAP) for new highway construction and reconstruction projects, dated October 1998. For each noise abatement facility, the base allowance of \$15,000 (1998) per benefited residence is adjusted upwards based on increments of noise level increases and acoustical effectiveness of the proposed noise barrier. Noise abatement can not exceed \$45,000 per residence or, collectively, 50% of the total project construction cost. The base allowance is further increased for residences constructed before January 1, 1978.

During the preliminary noise analysis the maximum allowable cost for each noise barrier based on the above criteria is established and compared to the cost of a typical noise barrier of the same dimensions. If the allowable cost is below the cost of a typical barrier, the proposed barrier is assumed to be cost-effective. Conversely, if the allowable cost exceeds the typical barrier cost, then the barrier is likely to be not cost-effective. Final cost-effectiveness for noise barriers will be determined during detailed design, when actual costs can be determined and public input has been received and incorporated into the design of the barrier. Where feasible, the barrier should break the line of sight between a receptor 1.5 meters (5 ft) above ground and a truck stack, assumed to be 3.5 meters (11.5 ft) above the pavement. In general, the minimum height of noise barriers is 1.8 meters (6 ft); the maximum height is 4.3 meters (14 ft) at the edge of shoulder and 4.9 meters (16 ft) at the right-of-way line.

Although the proposed project will only result in a minimal increase in noise levels, existing and future noise levels will approach or exceed the Caltrans and FHWA noise abatement criteria of 67 dBA, Leq(h) for residential areas at certain locations within the project limits. As a result, noise abatement in the form of noise barriers has been considered for those locations (Table 5, Exhibit 4).

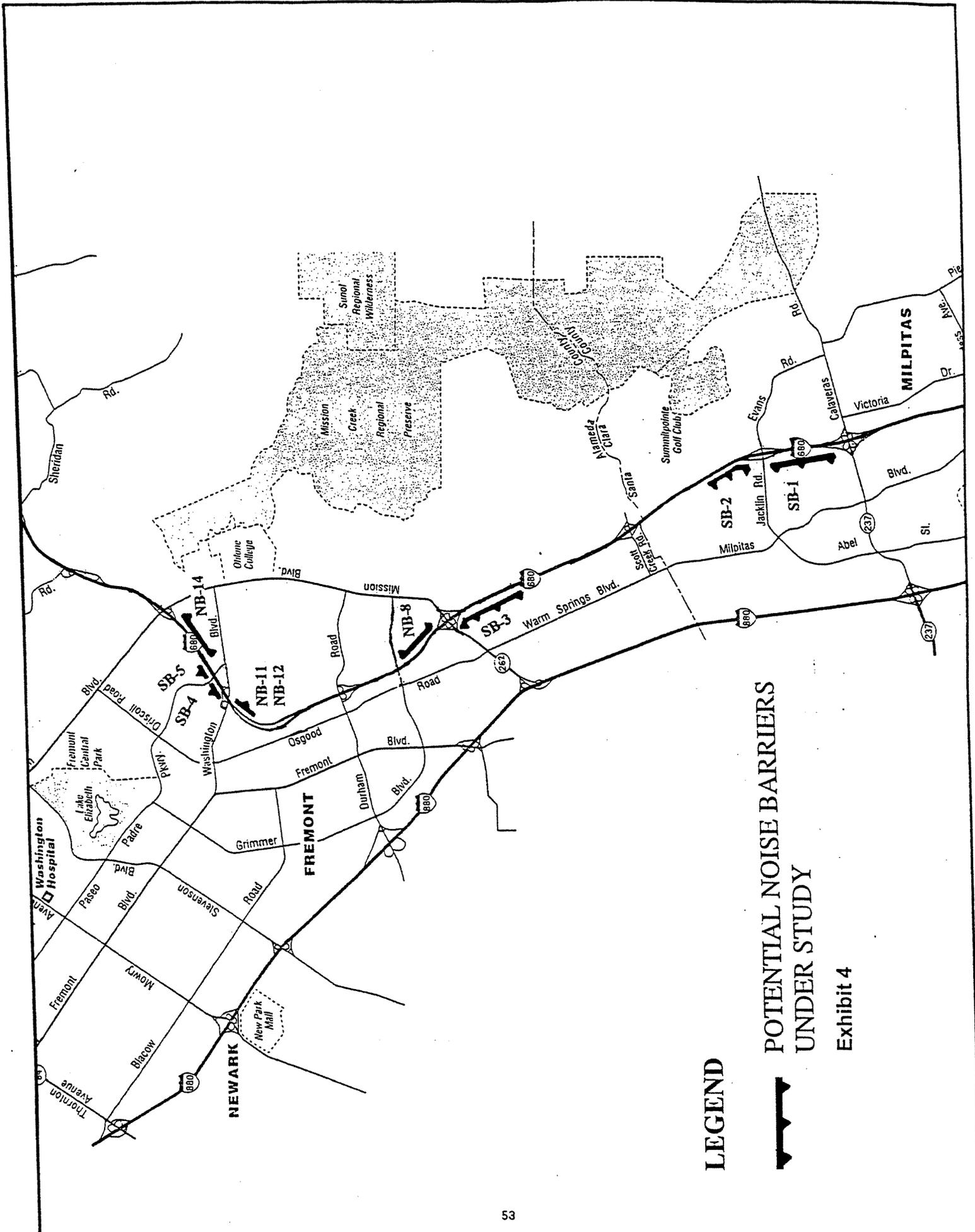
**Table 5  
Noise Barrier  
Data Summary**

Sound Wall ID	NAC	Exist (Max)	Future (Max)	Future With Barrier	Max Height (m)	Approx Length (m)	Study Location
SB-1	B (67)	73	75	69	4.9	895	Betw the Rte 237/680 IC and Jacklin Road
SB-2	B (67)	68	69	64	4.9	603	Betw Jacklin Road and Scott Creek at Hillview Drive
SB-3	B (67)	68	72	65	4.3	700	Betw Scott Creek Rd & Mission Blvd at Crawford
SB-4	B (67)	76	78	65	4.9	450	Bet Wash Blvd and Paseo Padre Blvd
SB-5	B (67)	77	79	67	3.0	360	Betw Paseo Padre Pkway and Palm Ave
NB-8	B (67)	77	78	65	4.3	1100	Betw Mission Blvd (Rte 262) and Grimmer Road
NB-11	B (67)	73	74	68	3.0	335	So of Washington Blvd and west of Castillejo Rd
NB-12	B (67)	68	69	62	3.0	170	So of Washington Blvd and east of Castillejo Rd
NB-14	B (67)	78	79	70	3.7	950	Betw Palm Ave and Mission Blvd (Rte 238)

NAC: Noise Abatement Criteria

SB: South Bound

NB: North Bound



**LEGEND**



**POTENTIAL NOISE BARRIERS  
UNDER STUDY**

**Exhibit 4**

Noise levels from construction activities will be higher at times than currently existing noise levels. Incorporating the following measures in the plans and specifications can minimize the temporary impacts of construction noise levels:

- The enforcement of Section 7-1.01I, “Sound Control Requirements” of the Standard Specifications.
- The consideration of constructing noise barriers as first item of work, where feasible.
- Use of stock piled dirt as earthen berms to attenuate the impact of construction activities.
- Avoid construction activities during nighttime and weekends, when possible.
- Establishment of field office to handle noise complaints and keep the community informed of upcoming noisy construction activities.

#### **7.2.10 Population and Housing**

The project proposes to make improvements to an existing facility. Work for the project will take place within the State right-of-way and most of the widening will occur in the median. Therefore, the project will not displace any existing housing, people, or businesses.

#### **7.2.11 Public Services**

The project will not alter or impact any governmental facilities and will not impact the performance objectives of any public services such as police, fire, emergency services, etc. In fact, by reducing traffic congestion on southbound I-680 along the project limits, it may potentially have a positive impact on these services.

#### **7.2.12 Socioeconomic Conditions and Growth**

The increases based on predictions of planned growth in the area demonstrate that residential and employment growth in the region is expected to continue and will lead to corresponding growth in automobile traffic on the Sunol Grade. The parameters for high growth are already in place for both the origins and destinations for Sunol Grade commuters. Between 1995 and 2020, Alameda and Contra Costa counties are projected to absorb 37% of the Bay Area’s 1.4 million new residents and Santa Clara County will account for 30% of the 1.36 million new jobs. Beyond the nine Bay Area counties, by the year 2020 the city of Tracy’s population is projected to increase from 48,000 to 183,000. The projected growth rates for the areas that contribute to the Sunol Grade traffic are so high that it is unlikely that the HOV lane on I-680 could significantly induce growth beyond these rates. The No-Build Alternative is unlikely to limit or delay growth in the area, and by the same token, the Build Alternative is unlikely to generate significant additional development. **The growth in population and traffic within the corridor is occurring as a result of the region’s strong economy and the shortage of affordable housing and is not related to congestion or congestion relief.**

#### **7.2.13 Transportation/Traffic**

The proposed improvements on southbound I-680 will reduce traffic congestion along the project limits. The proposed HOV lane will increase the freeway corridor’s capacity along the project limits resulting in a net reduction of travel time for both single occupant and high occupant vehicles. For single occupant vehicles, the reduction in travel time will be as much as 9 minutes

in comparison to the No-Build Alternative. For HOVs, the reduction in travel time will be as much as 10 minutes in comparison to single occupant vehicles in the Build alternative and 19 minutes in comparison to vehicles in the No-Build Alternative.

#### **7.2.14 Utilities and Service Systems**

As stated in Section 7.2.7, the project may cause a minor increase in the volume of storm water run off but the proposed improvements are expected to reduce traffic congestion, which in turn will reduce the discharge of pollutants to storm water runoff. Therefore, the project will not exceed wastewater treatment requirements of the Regional Water Quality Control Board. Nor will it result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. The project will not result in the construction of new storm water drainage facilities or expansion of existing facilities. Permanent control measures and design features are being considered to reduce sediment transport to storm drain systems.

Sufficient water supplies from existing entitlements and resources are available to serve the project. The projected demand for wastewater treatment facilities are not expected to increase significantly due to this project. The project will not have an impact on landfill capacity for solid waste disposal and will comply with federal, state, and local statutes and regulations related to solid waste.

Various utility manholes and valve covers may require grade adjustments. Two aerial electric lines may need to be de-energized during construction. More investigation will be conducted during the PS&E stage of the project in order to obtain more detailed information on the location or possible relocation of any utility lines.

#### **7.2.15 Section 4(f)**

Section 4(f) of the Federal Department of Transportation Act of 1966, as amended and codified at 23 U.S.C. 138, applies to Federal transportation projects and serves to protect certain resources from potential impacts of these transportation projects. Protected Section 4(f) resources include publicly owned parks; recreation areas; wildlife or waterfowl refuges of national, state, or local significance; and any land from a historic site of national, state or local significance. Use of a Section 4(f) resource occurs when there is permanent incorporation of land into a transportation facility, an adverse temporary occupancy of land, or constructive use of land. Constructive use occurs when a transportation project does not incorporate land from a Section 4(f) resource, but the project's proximity impacts are so severe that they substantially impair the activities, features, or attributes that qualify a resource for protection under Section 4(f).

Some elements of the proposed project will take place in the vicinity of the John F. and Maria Souza Farm at 42354-42410 Palm Avenue in Fremont adjacent to southbound I-680. As stated in Section 6.7.2 of this document, this property was previously eligible for the National Register of Historic Places. However, a primary building on the property was moved to another site and, as a result, the site is no longer eligible for the National Register due to a loss of integrity. The City of Fremont currently owns this 20 acre property and proposes to develop the property as a public park with active and passive recreational facilities. The City has not yet designated a date for the park's development and will not do so until the City Council's consideration of the next Capital Improvement Program Plan, currently scheduled for 2001.

FHWA has determined that the proposed project or any work associated with the project does not constitute a use, as defined above, of this potential Section 4(f) resource. The City of Fremont has concurred with this determination (Appendix C).

## 8.0 CUMULATIVE IMPACTS

Cumulative impacts are defined as the effects on the environment resulting from the incremental contribution of projects when added to environmental effects of past, present and reasonably foreseeable future actions regardless of whether the lead agency proposes the action. The purpose of this cumulative impacts section is to document that the consequences of the proposed project have been duly considered together with those of other projects.

Other transportation improvement projects in the vicinity of this project include the following current projects:

- I-680 HOV Lane Project (between the cities of Walnut Creek and Martinez)

This project proposes an HOV lane between North Main Street in Walnut Creek and Marina Vista in Martinez. Additional proposed improvements include restriping and minor widening.

- I-580/I-680 Interchange Improvement Project

Improvements proposed under this project include replacement of the southbound-to-eastbound existing loop connector with a direct branch connector; modification of freeway-to-Hopyard Road off-ramp connections; construction of an auxiliary lane on southbound I-680 from Alcosta Boulevard to the proposed south-to-east direct branch connector; construction of ramps in the northeast and northwest quadrants of the interchange; and minor modifications to existing freeway-to-freeway connections and ramp nose locations.

- Route 237/I-880 Interchange Improvement Project

This project proposes to upgrade the existing interchange by realignment of westbound I-880 north of Route 237; construction of a direct flyover from eastbound Route 237 to northbound I-880; construction of an eastbound off-ramp from Route 237 to McCarthy Boulevard; extension of a local road from McCarthy Boulevard to east Calaveras Boulevard; construction of a direct connection between southbound I-880 to westbound Route 237; extension of westbound Calaveras Boulevard to the McCarthy Boulevard intersection; construction of an on-ramp from McCarthy Boulevard to westbound Route 237; conversion of the existing cloverleaf interchange to a partial cloverleaf while retaining the northwest and southeast quadrant loop ramps.

The following future projects are also proposed in the vicinity of this project:

- I-880 Dixon Landing Interchange Improvements

The proposed improvements include construction of a widened replacement overcrossing parallel to and north of the existing overcrossing; replacement of Penitencia Creek bridge and a variety of ramp modifications; addition of a hook on-ramp between northbound I-880 and California Circle, where a hook off-ramp currently exists, construction of diagonal on-ramps to I-880 southbound and northbound; construction of cloverleaf loop ramps to and from Dixon Landing Road.

- I-880/ South Mission Blvd (SR 262) Interchange Improvements

This project proposes to widen I-880 from 500 meters (1640 feet) south of Fremont Boulevard to Dixon Landing Road to accommodate northbound and southbound HOV and auxiliary lanes; restripe the section of I-880 between Dixon Landing Road and Route 237 to allow for the opening of an HOV lane in each direction; reconstruct the I-880/Mision Boulevard interchange to accommodate the wider freeway; and improvement of local access roads.

Table 6 summarizes the cumulative impacts of these projects together with the proposed I-680 Sunol Grade improvement project.

**Table 6**  
**Cumulative Impacts**  
(See footnote on bottom of page 60)

Resources	I-680 Sunol Grade	I-580/680 Interchange	237/ 880 Interchange	I-880 Dixon Landing	I-880/262 Interchange	I-680 HOV Martinez	Cumulative Impact*
<b>Physical Environment</b>							
Geology	No increase in risk of injury/death to humans or damage to facilities	No increase in risk of injury/death to humans or damage to facilities	No increase in risk of injury/death to humans or damage to facilities	No increase in risk of injury/death to humans or damage to facilities	No increase in risk of injury/death to humans or damage to facilities	No increase in risk of injury/death to humans or damage to facilities	No Impact
Hydrology/Water Quality	Increase in paved area; less than significant increase in volume of stormwater runoff. Mitigation measure will be implemented to	Project would disturb 5 acres of land, therefore SWPPP required	Increase in paved area; less than significant increase in volume of stormwater runoff. Mitigation measure will be implemented to	Increase in paved area; less than significant increase in volume of stormwater runoff. Mitigation measure will be implemented to	Increase in paved area; less than significant increase in volume of stormwater runoff. Mitigation measure will be implemented to	Increase in paved area; less than significant increase in volume of stormwater runoff. Mitigation measure will be implemented to	Less than significant impact with mitigation incorporated
Air Quality	No increase in CO standards; expected to improve air quality	No increase in CO standards; expected to improve air quality	No increase in CO standards; expected to improve air quality	No increase in CO standards; expected to improve air quality	No increase in CO standards; expected to improve air quality	No increase in CO standards; expected to improve air quality	No Impact
<b>Natural Environment</b>							
Vegetation	Removal of 154 trees which will be replace at a ratio to be determined through consultation with CA Dept of Fish and Game	Temporary loss of landscaped vegetation, however, vegetation will be replanted upon completion of project	No impacts on vegetation	Less than significant impacts on vegetation	No impacts on vegetation	No impacts on vegetation	Less than significant impact with mitigation incorporated
Fish and Wildlife	Removal of overcrossings used by birds. Mitigation measures will be taken to minimize affects	Less than significant impact to fish and wildlife	Poptential impact to one species of concern. Mitigation measures taken to minimize impacts	Potential impact to 2 species of concern. Mitigation measure will be implemented to minimize impacts	No impact to fish and wildlife	Potential impacts to 3 species of concern. Mitigation measures will be implemented to minimize impacts	Less than significant impact with mitigation incorporated
Wetlands	0.04 acres of wetlands impacted; the impact will be mitigated at a ratio to be determined through consultation with the Army Corps	Less than significant impact to wetlands	No wetlands affected	15.8 acres of wetlands will be impacted of which 0.9 acres are mitigable on-site. The remaining 14.9 acres will be restored off-site.	0.94 acres of wetlands will be impacted. Mitigation measures will be implemented to restore/minimize impacts.	2.5 acres of wetlands and 0.46 acres of water of U.S. will be temporarily affected. 0.46 acres of wetlands will be permanently	Less than significant impact with mitigation incorporated
<b>Social Environment</b>							
Land use	No impact on land use	No impact on land use	No impact on land use	No impact on land use	No impact on land use	No impact on land use	No impact
Socioecon/Growth Inducement	No socioeconomic impact; less than significant growth inducement	No significant impacts on growth. One of the project Alternatives causes displacement of a commercial building and partial takes of vacant land, landscaped land, and parking spaces	No impacts on socioeconomic or growth	No impacts on socioeconomic or growth	No impacts on socioeconomic or growth	No impacts on socioeconomic or growth	Less than significant impact
Community Facilities/Services	No community facilities/services impacted	Less than significant impacts to facilities/services	No community facilities/services impacted	No community facilities/services impacted	No community facilities/services impacted	No community facilities/services impacted	No Impact

**Table 6**  
**Cumulative Impacts**  
(See footnote on bottom of page 60)

Resources	I-680 Sunol Grade	I-580/680 Interchange	2377 880 Interchange	I-880 Dixon Landing	I-880/262 Interchange	I-680 HOV Martinez	Cumulative Impact*
Transportation Ops	Improves operation, reduces congestion, promotes use of public transportation and carpooling	Improves traffic operations and reduces congestion	Less than significant impact to transportation operations	Improves traffic operations and reduces congestion	Improves traffic operations and reduces congestion	Improves traffic operations and reduces congestion	No Impact
Visual Resources	Construction of noise barriers and removal of trees will have minimal effect on the scenic environment. Mitigation measures will be taken to minimize these impacts.	Temporary visual impacts due to loss of vegetation. Vegetation will be replanted upon completion of project.	Slight visual intrusion and glare. Mitigation measures will be taken to minimize affects.	No impacts on visual resources	No impacts on visual resources	Construction of noise barriers and removal of trees will have minimal effect on the scenic environment. Mitigation measures will be taken to minimize these impacts.	Less than significant impact with mitigation incorporated
Noise	Noise levels at some locations will slightly exceed the noise abatement criteria. These increases will be abated through construction of noise barriers.	Less than significant increase in noise levels.	Slight increase in noise levels. Noise barriers were not proposed.	Less than significant increase in noise levels.	Less than significant increase in noise levels.	Noise levels at some locations will slightly exceed the noise abatement criteria. These increases will be abated through construction of noise barriers.	Less than significant impact
Cultural Resources	No cultural resources will be affected	Potential archaeological site in the vicinity of project location. Monitoring and mitigation measures will be implemented to avoid/minimize impact.	Archeologically sensitive site exists in the vicinity of project. Mitigation measures and monitoring incorporated to avoid/minimize impacts.	Potential for presence of an archaeological site within project limits. Mitigation measure and monitoring will be implemented to avoid/minimize impacts.	No cultural resources will be affected	No cultural resources will be affected	Less than significant impact with mitigation incorporated
Hazardous Material	Preliminary investigation indicate no hazardous materials expected to be encountered; low levels of aerially deposited lead	Preliminary investigation indicate no hazardous materials expected to be encountered; low levels of aerially deposited lead	Potential soil contamination due to low levels of aerially deposited lead and past and present business operations. Mitigation measures implemented to minimize impacts	Potential for presence of aerially deposited lead in soil. Construction mitigation measure will be implemented to minimize impacts.	Potential for presence of aerially deposited lead in soil. Construction mitigation measure will be implemented to minimize impacts.	Potential for presence of aerially deposited lead and other contaminants (hydrocarbons, metals, and VOCs) in soil. Construction mitigation measure will be implemented to minimize impacts.	Less than significant impact with mitigation incorporated
Section 4(f)	No Section 4(f) properties affected	No Section 4(f) properties affected	No Section 4(f) properties affected	193 sq m take of a national wildlife refuge, 585 sq m of perm easement, 2074 sq m of temp easement	No Section 4(f) properties affected	No Section 4(f) properties affected	No Impact

\* Use of the terms "significant," "potentially significant," or "less than significant" in this table are terms related to CEQA only. See Section 7, Environmental Evaluation, for a discussion of these terms and the differences in the way impacts are addressed in CEQA environmental documents as opposed to NEPA documents.

## **9.0 CONSULTATION AND COORDINATION**

Consultation and coordination was conducted with the following agencies in preparation of this document:

United States Fish and Wildlife Service  
California Department of Fish and Game  
United States Army Corp of Engineers  
State Office of Historic Preservation  
Metropolitan Transportation Commission  
Alameda County Congestion Management Agency  
Santa Clara Valley Transportation Authority  
Contra Costa Transportation Authority  
City of Pleasanton  
City of Dublin  
City of Fremont  
City of Milpitas  
City of Livermore

## 10.0 LIST OF PREPARERS

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**Paleontological Resources:**

C. Bruce Hansen, Paleontological Resource Specialist



## **11.0 PUBLIC REVIEW PROCESS**

The Proposed Negative Declaration Draft Initial Study/Environmental Assessment for the project was approved for circulation on November 17, 1999. A public notice of intent to adopt the Negative Declaration with information on the public comment period, the availability of the document for review and the time and location of the public hearings was printed in seven newspapers (Alameda Times Star, Fremont Argus, Tri-Valley Herald, Contra Costa Times, San Ramon Valley Times, San Jose Mercury News, and San Francisco Chronicle) on November 23 and November 30, 1999. In addition to the newspaper advertisements, five thousand private citizens in the vicinity of the project were informed of the project, public comment period, and public hearings by fliers that were hand delivered to their mail boxes.

The public comment period for the draft document was from November 23, 1999 to January 6, 2000. During this period, two open house public hearings were held to inform the public about the project and provide an opportunity for the public to ask questions and make comments regarding the proposed project. The first public hearing was held on December 8, 1999 in the City of Pleasanton and the second was held on December 15, 1999 in the City of Fremont. Officials from Caltrans were present at both public hearings and were available for inquiries from the public. See Appendix E for Comments Requiring Comments and Appendix F for Comments Not Requiring Responses.

### **11.1 Summary of Public Hearings**

Approximately ten citizens attended the public hearing on December 8, 1999 at the Pleasanton Middle School and about thirty citizens attended the public hearing on December 15, 1999 at the Fremont Library. At each hearing, exhibits were displayed at several stations providing information on the various aspects of the proposed project such as: project overview and design; Caltrans right of way designations; aerial photographs; traffic analysis of current and predicted future conditions; proposed sound barriers and their locations; environmental analyses and studies conducted for the project. Caltrans staff were available at each station to answer questions and provide more information on the project. Stations were also set up where the public could submit written comments regarding the proposed project. In addition, a court reporter was present at both hearings to formally record comments from the public.

### **11.2 Public Notice Distribution List**

A copy of the Draft IS/EA, a letter providing information on the public comment period, the availability of the document for review, the time and location of the public hearings, as well as a copy of the newspaper advertisement were sent to the following elected officials, government agencies and interested parties:

The Honorable Diane Feinstein, U.S. Senate  
The Honorable Barbara Boxer, U.S. Senate  
The Honorable Liz Figueroa, CA Senate  
The Honorable John Dutra, CA Assembly  
The Honorable Lynne Leach, CA Assembly  
The Honorable Richard Rainey, CA Senate  
The Honorable Ellen Tauscher, U.S. Congress

**The Honorable Pete Stark, U.S. Congress**  
**Lawrence D. Dahms, Executive Director, Metropolitan Transportation Commission**  
**Jim Beall, Supervisor, Metropolitan Transportation Commission**  
**Joe Caciarella, Chairperson, Contra Costa County Board of Supervisors**  
**Wilma Chan, President, Alameda County board of Supervisors**  
**Pete McHugh, Chairperson, Santa Clara County Board of Supervisors**  
**The Honorable Guy S. Houston, Mayor, City of Dublin**  
**The Honorable Henry Manayan, Mayor, City of Milpitas**  
**The Honorable Ben Tarver, Mayor, City of Pleasanton**  
**The Honorable Byron Athan, Mayor City of San Ramon**  
**Charlotte Powers, Chair Santa Clara Valley Transportation Authority**  
**Michael Evanhoe, Executive Director, Santa Clara Valley Transportation Authority**  
**Robert McCleary, Executive Director, Alameda County Transportation Authority**  
**Eugene Y. Leong, Executive Director, Association of Bay Area Governments (ABAG)**  
**Dennis R. Fay, Executive Director, Alameda County congestion Management Agency**  
**Scott Haggerty, Supervisor, Alameda County Board of Supervisors**  
**Tom Pico, Councilmember, City of Pleasanton**  
**The Honorable Nora Davis, Vice-Mayor, City of Emeryville**  
**Jim Lawson, Councilmember, Santa Clara Valley Transportation Authority**  
**Bill Van Gelder, City of Pleasanton**  
**Brian Connolly, Alameda County Public Works**  
**Martin Boyle, City of Fremont**  
**EIS Coordinator, Environmental Protection Agency, Region 9**  
**Office of Policy and Plans, Federal Railroad Administration**  
**Regulatory Branch, U.S. Army Corps of Engineers**  
**Regional Director, Federal Emergency Management Agency**  
**Air Pollution Control Officer, Bay Area Air Quality Management District**  
**Commander, California Highway Patrol**  
**Executive Director, Public Utilities Commission**  
**Executive Secretary, Native American Heritage Commission**  
**Scenic Highway Program Coordinator**  
**General Manager, Bay Area Rapid Transit District**  
**Director of Roads and Airports, Santa Clara County**  
**Greenbelt Alliance**  
**Federal Transit Administration**

**A copy of the newspaper advertisement only was mailed to the following public officials, government agencies or interested parties:**

**Vic Sood, LAVTA**  
**Russ Hancock, Bay Area Council**  
**William Gray, William Gray & Company**  
**Will Kempton, Smith & Kempton**  
**Bill Reed, Barrier Systems**  
**Mike Mcneely, City of Milpitas**  
**Tony Fisher, NUMMI**  
**June Catalano, City of Milpitas**  
**Jan Perkins, City Manager, City of Fremont**  
**Deborah Acosta, City Manager, City of Pleasanton**  
**Christo Artusio, Environmental Defense Fund (EDF)**

**Kathleen Kelly, AC Transit**  
**Carl Guardino, Silicon Valley Manufacturers Group**  
**Mark Lewis, City Manager, City of Union City**  
**Tom Reitter, Chair, Tri-Valley Transportation Council**  
**Stacey Mortenson, San Joaquin Regional Rail Commission**  
**Tom O'Malley, Tri-Valley Business Council**  
**Mike Miller, Public Services Director, City of Livermore**  
**Dennis Jones, Director of Public Works, City of Newark**  
**Gerlaf M. Peeler, City Manager, City of Livermore**  
**Larry D. Cheeves, Director of Public Works, City of Union City**  
**Susan Muranishi, County Administrator, Alameda County**  
**Randall A. Lum, Director of Public Works, City of Pleasanton**  
**Alberto Huezo, City Manager, City of Newark**  
**Lee S. Thompson, Director of Public Works, City of Dublin**  
**Charles Lawson, Acting City Manager, City of Milpitas**  
**Donald J. Labelle, Director of Public Works, Alameda County Public Works**  
**Jack Rogers, Maintenance & Recreation Services, City of Fremont**  
**Wesley D. Smith, Director of Public Works, City of Milpitas**  
**Tom Mooers, Greenbelt Alliance**  
**Mimi Wong, California Alliance for Jobs**  
**Daniel Kirshner, Environmental Defense Fund**  
**David Choy, City of Union City**  
**Jack Burgess, City of Newark**  
**Dan Smith, City of Livermore**  
**Ethan Van Klasen, Fremont Chamber of Commerce**  
**Fred Del Rosario, City of Dublin**  
**Amin Surani, Santa Clara Valley Transportation Authority**  
**Theodore R. Weller, Sr., Milpitas**  
**Steve Clark, Fremont**  
**Jan Gau, California Department of Fish and Game**



**APPENDIX A**





## United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office  
3310 El Camino Avenue, Suite 130  
Sacramento, California 95821-6340

IN REPLY REFER TO:

1-1-99-I-1412

June 14, 1999

Mr. Kirby D. McClellan  
Biologist  
Department of Transportation  
P.O. Box 23660  
Oakland, California 94623-0660

Subject: Proposed Interstate 680 Sunol Grade Improvement Alameda and Santa Clara Counties, California

Dear Mr. McClellan:

This is in response to your correspondence dated June 1, 1999, requesting concurrence that the proposed widening of Interstate 680 along the Sunol Grade in Alameda and Contra Costa Counties will not adversely affect federally endangered or threatened species. At issue are impacts to the California red-legged frog (*Rana aurora draytonii*) (red-legged frogs) and the callippe silverspot butterfly (*Speyeria callippe callippe*); both are federally listed threatened species pursuant to the Endangered Species Act of 1973, as amended (Act). Based upon information provided and a site visit by Curt McCasland of my staff, the U.S. Fish and Wildlife Service (Service) has determined the proposed activities are not likely to result in take of red-legged frogs or callippe silverspot butterflies. Therefore, the project as proposed is in compliance with the Act, with the understanding take is not authorized under this letter. No further action pursuant to the Act is necessary by the Service, unless: (1) new information reveals effects of the proposed action may affect listed species in a manner or to an extent not considered, or (2) a new species or critical habitat is designated that may be affected by the proposed action.

If you have any questions or concerns, please contact Curt McCasland or Ken Sanchez at (916) 979-2752.

Sincerely,

Karen J. Miller  
Chief, Endangered Species Division



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office  
2800 Cottage Way, Room W-2605  
Sacramento, California 95825-1846

IN REPLY REFER TO:

1-1-00-SP-1619

April 28, 2000

Mr. Chuck Morton  
Office of Environmental Planning North  
Biology Branch  
Department of Transportation  
P.O. Box 23660  
Oakland, California 94623-0660

Subject: Species List for Proposed Project on Route 680, Alameda and Santa Clara Counties, California

Dear Mr. Morton:

We are sending the enclosed list in response to your April 26, 2000, request for information about endangered and threatened species (Enclosure A). These lists fulfill the requirement of the Fish and Wildlife Service (Service) to provide species lists under section 7(c) of the Endangered Species Act of 1973, as amended (Act).

The animal species on the Enclosure A quad list are those species we believe may occur within, *or be affected by projects within*, the following USGS quads, where your project is planned: Dublin, Niles and La Costa Valley Quads.

Any plants on the quad list are ones *that have actually been observed* in the project quad(s). Plants may occur in a quad without having been observed there. Therefore we have included a species list for the whole county in which your project occurs. We recommend that you survey for any relevant plants shown on this list.

Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.

If a species has been listed as threatened or endangered by the State of California, but not by us nor by the National Marine Fisheries Service, it will appear on your list as a Species of Concern. *However you must contact the California Department of Fish and Game for official information about these species.* Call (916) 322-2493 or write Marketing Manager, California Department of Fish and Game, Natural Diversity Data Base, 1416 Ninth Street, Sacramento, California 95814.

Some of the species listed in Enclosure A may not be affected by the proposed action. A trained biologist or botanist, familiar with the habitat requirements of the listed species, should determine whether these species or habitats suitable for them may be affected. For plants, we recommend using the enclosed Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Species (Enclosure C).

Some pertinent information concerning the distribution, life history, habitat requirements, and published references for the listed species is available upon request. This information may be helpful in preparing the biological assessment for this project, if one is required. Please see Enclosure B for a discussion of the responsibilities Federal agencies have under section 7(c) of the Act and the conditions under which a biological assessment must be prepared by the lead Federal agency or its designated non-Federal representative.

Formal consultation, under 50 CFR § 402.14, should be initiated if you determine that a listed species may be affected by the proposed project. If you determine that a proposed species may be adversely affected, you should consider requesting a conference with our office under 50 CFR § 402.10. Informal consultation may be utilized prior to a written request for formal consultation to exchange information and resolve conflicts with respect to a listed species. If a biological assessment is required, and it is not initiated within 90 days of your receipt of this letter, you should informally verify the accuracy of this list with our office.

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as *critical habitat*. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal. Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, this will be noted on the species list. Maps and boundary descriptions of the critical habitat may be found in the *Federal Register*. The information is also reprinted in the *Code of Federal Regulations* (50 CFR 17.95).

*Candidate species* are being reviewed for possible listing. Contact our office if your biological assessment reveals any candidate species that might be adversely affected. Although they currently have no protection under the Endangered Species Act, one or more of them could be proposed and listed before your project is completed. By considering them from the beginning, you could avoid problems later.

Your list may contain a section called *Species of Concern*. This term includes former *category 2 candidate species* and other plants and animals of concern to the Service and other Federal, State and private conservation agencies and organizations. Some of these species may become candidate species in the future.

Mr. Chuck Morton

3

If the proposed project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by the U.S. Army Corps of Engineers (Corps), a Corps permit will be required, under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act. Impacts to wetland habitats require site specific mitigation and monitoring. You may request a copy of the Service's General Mitigation and Monitoring Guidelines or submit a detailed description of the proposed impacts for specific comments and recommendations. If you have any questions regarding wetlands, contact Mark Littlefield at (916) 414-6580.

Please contact Harry Mossman, Biological Technician, at (916) 414-6650, if you have any questions about the attached list or your responsibilities under the Endangered Species Act. For the fastest response to species list requests, address them to the attention of Mr. Mossman at this address. You may fax requests to him at 414-6710 or 6711.

Sincerely,

  
For Karen J. Miller  
Chief, Endangered Species Division

Enclosures

ENCLOSURE A

Endangered and Threatened Species that May Occur in or be Affected by  
Projects in the Area of the Following California Counties

Reference File No. 1-1-00-SP-1619

April 28, 2000

ALAMEDA COUNTY

*Listed Species*

Mammals

- salt marsh harvest mouse, *Reithrodontomys raviventris* (E)
- San Joaquin kit fox, *Vulpes macrotis mutica* (E)
- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*
- riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

Birds

- California brown pelican, *Pelecanus occidentalis californicus* (E)
- California clapper rail, *Rallus longirostris obsoletus* (E)
- California least tern, *Sterna antillarum (=albifrons) browni* (E)
- Aleutian Canada goose, *Branta canadensis leucopareia* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

- Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)
- giant garter snake, *Thamnophis gigas* (T)

Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

Fish

- tidewater goby, *Eucyclogobius newberryi* (E)
- Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
- winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
- delta smelt, *Hypomesus transpacificus* (T)
- Central California steelhead, *Oncorhynchus mykiss* (T)
- Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

- longhorn fairy shrimp, *Branchinecta longiantenna* (E)
- vernal pool tadpole shrimp, *Lepidurus packardi* (E)
- callippe silverspot butterfly, *Speyeria callippe callippe* (E)
- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- bay checkerspot butterfly, *Euphydryas editha bayensis* (T)

Plants

- large-flowered fiddleneck, *Amsinckia grandiflora* (E)
- Presidio clarkia, *Clarkia franciscana* (E)

palmate-bracted bird's-beak, *Cordylanthus palmatus* (E)  
 pallid manzanita (Alameda manzanita), *Arctostaphylos pallida* (T)  
 robust spineflower, *Chorizanthe robusta* (E) \*  
 Contra Costa goldfields, *Lasthenia conjugens* (E) \*  
 California sea blite, *Suaeda californica* (E) \*  
 showy Indian clover, *Trifolium amoenum* (E) \*  
 Santa Cruz tarplant, *Holocarpha macradenia* (T) \*

**Proposed Species**

## Birds

mountain plover, *Charadrius montanus* (PT)

## Fish

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (PX)

**Candidate Species**

## Amphibians

California tiger salamander, *Ambystoma californiense* (C)

## Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern**

## Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)  
 greater western mastiff-bat, *Eumops perotis californicus* (SC)  
 small-footed myotis bat, *Myotis ciliolabrum* (SC)  
 long-eared myotis bat, *Myotis evotis* (SC)  
 fringed myotis bat, *Myotis thysanodes* (SC)  
 long-legged myotis bat, *Myotis volans* (SC)  
 Yuma myotis bat, *Myotis yumanensis* (SC)  
 San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)  
 San Joaquin pocket mouse, *Perognathus inornatus* (SC)  
 Alameda Island mole, *Scapanus latimanus parvus* (SC)  
 salt marsh vagrant shrew, *Sorex vagrans halicoetes* (SC)  
 Berkeley kangaroo rat, *Dipodomys heermanni berkeleyensis* (SC) \*

## Birds

little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
 black rail, *Laterallus jamaicensis coturniculus* (CA)  
 bank swallow, *Riparia riparia* (CA)  
 American peregrine falcon, *Falco peregrinus anatum* (D)  
 tricolored blackbird, *Agelaius tricolor* (SC)  
 grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)  
 short-eared owl, *Asio flammeus* (SC)  
 western burrowing owl, *Athene cunicularia hypugea* (SC)  
 American bittern, *Botaurus lentiginosus* (SC)  
 ferruginous hawk, *Buteo regalis* (SC)  
 Costa's hummingbird, *Calypte costae* (SC)  
 Lawrence's goldfinch, *Carduelis lawrencei* (SC)  
 Vaux's swift, *Chaetura vauxi* (SC)  
 lark sparrow, *Chondestes grammacus* (SC)  
 olive-sided flycatcher, *Contopus cooperi* (SC)  
 hermit warbler, *Dendroica occidentalis* (SC)  
 white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)  
 Pacific-slope flycatcher, *Empidonax difficilis* (SC)  
 common loon, *Gavia immer* (SC)  
 saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)  
 loggerhead shrike, *Lanius ludovicianus* (SC)  
 Lewis' woodpecker, *Melanerpes lewis* (SC)  
 Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)  
 long-billed curlew, *Numenius americanus* (SC)  
 white-faced ibis, *Plegadis chihi* (SC)  
 rufous hummingbird, *Selasphorus rufus* (SC)  
 Allen's hummingbird, *Selasphorus sasin* (SC)  
 red-breasted sapsucker, *Sphyrapicus ruber* (SC)  
 Bewick's wren, *Thryomanes bewickii* (SC)  
 California Thrasher, *Toxostoma redivivum* (SC)

#### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
 northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
 southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
 San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
 California horned lizard, *Phrynosoma coronatum frontale* (SC)

#### Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)  
 western spadefoot toad, *Scaphiopus hammondii* (SC)

#### Fish

green sturgeon, *Acipenser medirostris* (SC)  
 river lamprey, *Lampetra ayresi* (SC)  
 Pacific lamprey, *Lampetra tridentata* (SC)  
 longfin smelt, *Spirinchus thaleichthys* (SC)

## Invertebrates

- Opler's longhorn moth, *Adela oplerella* (SC)  
 Bridges' Coast Range shoulderband snail, *Helminthoglypta nickliniana bridgesi* (SC)  
 Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)  
 curved-foot hygrotus diving beetle, *Hygrotus curvipes* (SC)  
 California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
 San Francisco lacewing, *Nothochrysa californica* (SC)

## Plants

- heartscale, *Atriplex cordulata* (SC)  
 brittlescale, *Atriplex depressa* (SC)  
 valley spearscale, *Atriplex joaquiniana* (SC)  
 Mt. Hamilton thistle, *Cirsium fontinale* var. *campylon* (SC)  
 South Bay clarkia, *Clarkia concinna* ssp. *automixa* (SC)  
 hispid bird's-beak, *Cordylanthus mollis* ssp. *hispidus* (SC)  
 interior California larkspur, *Delphinium californicum* ssp. *interius* (SC)  
 recurved larkspur, *Delphinium recurvatum* (SC)  
 diamond-petaled poppy, *Eschscholzia rhombipetala* (SC)  
 talus fritillary, *Fritillaria falcata* (SC)  
 fragrant fritillary, *Fritillaria liliacea* (SC)  
 Diablo helianthella (=rock-rose), *Helianthella castanea* (SC)  
 pappose spikeweed, *Hemizonia parryi* ssp. *congdonii* (SC)  
 delta tule-pea, *Lathyrus jepsonii* var. *jepsonii* (SC)  
 Mason's lilaeopsis, *Lilaeopsis masonii* (SC)  
 little mousetail, *Myosurus minimus* ssp. *apus* (SC)  
 most beautiful (uncommon) jewelflower, *Streptanthus albidus* ssp. *peramoenus* (SC)  
 alkali milk-vetch, *Astragalus tener* var. *tener* (SC) \*  
 San Francisco Bay spineflower, *Chorizanthe cuspidata* var. *cuspidata* (SC) \*  
 northcoast bird's-beak, *Cordylanthus maritimus* ssp. *palustris* (SC) \*  
 Kellogg's (wedge-leaved) horkelia, *Horkelia cuneata* ssp. *sericea* (SC) \*  
 adobe sanicle, *Sanicula maritima* (SC) \*  
 caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) \*\*  
 Mt. Diablo phacelia, *Phacelia phacelioides* (SC)

## SANTA CLARA COUNTY

## Listed Species

## Mammals

- salt marsh harvest mouse, *Reithrodontomys raviventris* (E)  
 San Joaquin kit fox, *Vulpes macrotis mutica* (E)  
 riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

## Birds

- California brown pelican, *Pelecanus occidentalis californicus* (E)
- California clapper rail, *Rallus longirostris obsoletus* (E)
- California least tern, *Sterna antillarum (=albifrons) browni* (E)
- marbled murrelet, *Brachyramphus marmoratus* (T)
- western snowy plover, *Charadrius alexandrinus nivosus* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)

## Reptiles

- San Francisco garter snake, *Thamnophis sirtalis tetrataenia* (E)
- Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)
- giant garter snake, *Thamnophis gigas* (T)

## Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

## Fish

- tidewater goby, *Eucyclogobius newberryi* (E)
- winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
- delta smelt, *Hypomesus transpacificus* (T)
- Central California steelhead, *Oncorhynchus mykiss* (T)
- South Central California steelhead, *Oncorhynchus mykiss* (T)
- Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

## Invertebrates

- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- bay checkerspot butterfly, *Euphydryas editha bayensis* (T)

## Plants

- Tiburon paintbrush, *Castilleja affinis ssp. neglecta* (E)
- Coyote ceanothus, *Ceanothus ferrisiae* (E)
- Santa Clara Valley dudleya, *Dudleya setchellii* (E)
- Metcalf Canyon jewelflower, *Streptanthus albidus ssp. albidus* (E)
- robust spineflower, *Chorizanthe robusta* (E) \*
- Contra Costa goldfields, *Lasthenia conjugens* (E) \*
- California sea blite, *Suaeda californica* (E) \*
- showy Indian clover, *Trifolium amoenum* (E) \*

**Proposed Species**

## Birds

- mountain plover, *Charadrius montanus* (PT)

## Fish

- Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (PX)

**Candidate Species**

## Amphibians

California tiger salamander, *Ambystoma californiense* (C)

## Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern**

## Mammals

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

salt marsh vagrant shrew, *Sorex vagrans halicoetes* (SC)

## Birds

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

black rail, *Laterallus jamaicensis coturniculus* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

American bittern, *Botaurus lentiginosus* (SC)

ferruginous hawk, *Buteo regalis* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

lark sparrow, *Chondestes grammacus* (SC)

olive-sided flycatcher, *Contopus cooperi* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Pacific-slope flycatcher, *Empidonax difficilis* (SC)

common loon, *Gavia immer* (SC)

saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)

least bittern, western, *Ixobrychus exilis hesperis* (SC)

loggerhead shrike, *Lanius ludovicianus* (SC)  
 Lewis' woodpecker, *Melanerpes lewis* (SC)  
 Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)  
 long-billed curlew, *Numenius americanus* (SC)  
 rufous hummingbird, *Selasphorus rufus* (SC)  
 Allen's hummingbird, *Selasphorus sasin* (SC)  
 red-breasted sapsucker, *Sphyrapicus ruber* (SC)  
 Bewick's wren, *Thryomanes bewickii* (SC)  
 California Thrasher, *Toxostoma redivivum* (SC)

#### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
 northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
 southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
 San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
 California horned lizard, *Phrynosoma coronatum frontale* (SC)

#### Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)  
 western spadefoot toad, *Scaphiopus hammondii* (SC)

#### Fish

green sturgeon, *Acipenser medirostris* (SC)  
 longfin smelt, *Spirinchus thaleichthys* (SC)

#### Invertebrates

Opler's longhorn moth, *Adela oplerella* (SC)  
 Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)  
 California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
 unsilvered fritillary butterfly, *Speyeria adiastra adiastra* (SC)

#### Plants

Mt. Hamilton harebell, *Campanula sharsmithiae* (SC)  
 Mt. Hamilton thistle, *Cirsium fontinale* var. *campylon* (SC)  
 South Bay clarkia, *Clarkia concinna* ssp. *automixa* (SC)  
 Mt. Hamilton coreopsis, *Coreopsis hamiltonii* (SC)  
 clustered lady's-slipper, *Cypripedium fasciculatum* (SC)  
 interior California larkspur, *Delphinium californicum* ssp. *interius* (SC)  
 Brandegee's woolly-star, *Eriastrum brandegeae* (SC)  
 Hoover's button-celery, *Eryngium aristulatum* var. *hooveri* (SC)  
 San Francisco wallflower, *Erysimum franciscanum* (SC)  
 talus fritillary, *Fritillaria falcata* (SC)  
 fragrant fritillary, *Fritillaria liliacea* (SC)  
 delta tule-pea, *Lathyrus jepsonii* var. *jepsonii* (SC)

smooth lessingia, *Lessingia micradenia* var. *glabrata* (SC)  
 Gairdner's yampah, *Perideridia gairdneri* ssp. *gairdneri* (SC)  
 Mt. Diablo phacelia, *Phacelia phacelioides* (SC)  
 Salinas Valley popcornflower, *Plagiobothrys uncinatus* (SC)  
 rock sanicle, *Sanicula saxatilis* (SC)  
 most beautiful (uncommon) jewelflower, *Streptanthus albidus* ssp. *peramoenus* (SC)  
 Mt. Hamilton jewelflower, *Streptanthus callistus* (SC)  
 alkali milk-vetch, *Astragalus tener* var. *tener* (SC) \*  
 valley spearscale, *Atriplex joaquiniana* (SC) \*  
 northcoast bird's-beak, *Cordylanthus maritimus* ssp. *palustris* (SC) \*  
 caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) \*\*  
 pappose spikeweed, *Hemizonia parryi* ssp. *congdonii* (SC) \*  
 San Francisco Bay spineflower, *Chorizanthe cuspidata* var. *cuspidata* (SC)

## KEY:

(E) <i>Endangered</i>	Listed (in the Federal Register) as being in danger of extinction.
(T) <i>Threatened</i>	Listed as likely to become endangered within the foreseeable future.
(P) <i>Proposed</i>	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX) <i>Proposed</i> <i>Critical Habitat</i>	Proposed as an area essential to the conservation of the species.
(C) <i>Candidate</i>	Candidate to become a <i>proposed</i> species.
(SC) <i>Species of</i> <i>Concern</i>	Other species of concern to the Service.
(D) <i>Delisted</i>	Delisted. Status to be monitored for 5 years.
(CA) <i>State-Listed</i>	Listed as threatened or endangered by the State of California.
* <i>Extirpated</i>	Possibly extirpated from the area.
** <i>Extinct</i>	Possibly extinct
<i>Critical Habitat</i>	Area essential to the conservation of a species.

ENCLOSURE A

Endangered and Threatened Species that May Occur in  
or be Affected by Projects in the Selected Quads Listed Below

Reference File No. 1-1-00-SP-1619

April 28, 2000

QUAD : 446B DUBLIN

**Listed Species**

Mammals

- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*
- salt marsh harvest mouse, *Reithrodontomys raviventris* (E)
- riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*
- San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

- bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

- Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

Fish

- delta smelt, *Hypomesus transpacificus* (T)
- Central California steelhead, *Oncorhynchus mykiss* (T)
- winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
- Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

- longhorn fairy shrimp, *Branchinecta longiantenna* (E)
- vernal pool fairy shrimp, *Branchinecta lynchi* (T)

**Candidate Species**

Amphibians

- California tiger salamander, *Ambystoma californiense* (C)

Fish

- Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern**

Mammals

- Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
- greater western mastiff-bat, *Eumops perotis californicus* (SC)

- small-footed myotis bat, *Myotis ciliolabrum* (SC)
- long-eared myotis bat, *Myotis evotis* (SC)
- fringed myotis bat, *Myotis thysanodes* (SC)
- long-legged myotis bat, *Myotis volans* (SC)
- Yuma myotis bat, *Myotis yumanensis* (SC)
- San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

## Birds

- tricolored blackbird, *Agelaius tricolor* (SC)
- Bell's sage sparrow, *Amphispiza belli belli* (SC)
- western burrowing owl, *Athene cunicularia hypugea* (SC)
- ferruginous hawk, *Buteo regalis* (SC)
- little willow flycatcher, *Empidonax traillii brewsteri* (CA)
- American peregrine falcon, *Falco peregrinus anatum* (D)

## Reptiles

- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
- southwestern pond turtle, *Clemmys marmorata pallida* (SC)
- California horned lizard, *Phrynosoma coronatum frontale* (SC)

## Amphibians

- foothill yellow-legged frog, *Rana boylei* (SC)

## Fish

- longfin smelt, *Spirinchus thaleichthys* (SC)

## Invertebrates

- Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)
- curved-foot hygrotus diving beetle, *Hygrotus curvipes* (SC)
- California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

## Plants

- pappose spikeweed, *Hemizonia parryi ssp. congdonii* (SC)

QUAD : 446C NILES

**Listed Species**

## Mammals

- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*
- salt marsh harvest mouse, *Reithrodontomys raviventris* (E)
- riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central California steelhead, *Oncorhynchus mykiss* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

bay checkerspot butterfly, *Euphydryas editha bayensis* (T)

**Candidate Species**

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

**Species of Concern**

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)

Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)

#### Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

#### Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)

#### Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

#### Invertebrates

Opler's longhorn moth, *Adela oplerella* (SC)

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

#### Plants

South Bay clarkia, *Clarkia concinna* ssp. *automixa* (SC)

pappose spikeweed, *Hemizonia parryi* ssp. *congdonii* (SC)

delta tule-pea, *Lathyrus jepsonii* var. *jepsonii* (SC)

most beautiful (uncommon) jewelflower, *Streptanthus albidus* ssp. *peramoenus* (SC)

### QUAD : 446D LA COSTA VALLEY

#### Listed Species

##### Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*

riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

##### Birds

bald eagle, *Haliaeetus leucocephalus* (T)

##### Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

##### Fish

delta smelt, *Hypomesus transpacificus* (T)

Central California steelhead, *Oncorhynchus mykiss* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

#### Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

bay checkerspot butterfly, *Euphydryas editha bayensis* (T)

#### Candidate Species

##### Amphibians

California tiger salamander, *Ambystoma californiense* (C)

##### Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

#### Species of Concern

##### Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

##### Birds

tricolored blackbird, *Agelaius tricolor* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

##### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

## Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)

## Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

## Invertebrates

Opler's longhorn moth, *Adela oplerella* (SC)

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

## KEY:

(E) <i>Endangered</i>	Listed (in the Federal Register) as being in danger of extinction.
(T) <i>Threatened</i>	Listed as likely to become endangered within the foreseeable future.
(P) <i>Proposed</i>	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX) <i>Proposed</i> <i>Critical Habitat</i>	Proposed as an area essential to the conservation of the species.
(C) <i>Candidate</i>	Candidate to become a <i>proposed</i> species.
(SC) <i>Species of</i> <i>Concern</i>	May be endangered or threatened. Not enough biological information has been gathered to support listing at this time.
(D) <i>Delisted</i>	Delisted. Status to be monitored for 5 years.
(CA) <i>State-Listed</i>	Listed as threatened or endangered by the State of California.
(*) <i>Extirpated</i>	Possibly extirpated from this quad.
(**) <i>Extinct</i> <i>Critical Habitat</i>	Possibly extinct. Area essential to the conservation of a species.

## Enclosure B

### FEDERAL AGENCIES' RESPONSIBILITIES UNDER SECTIONS 7(a) and (c) OF THE ENDANGERED SPECIES ACT

#### SECTION 7(a) Consultation/Conference

Requires: (1) Federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species; (2) Consultation with FWS when a Federal action may affect a listed endangered or threatened species to insure that any action authorized, funded, or carried out by a Federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The process is initiated by the Federal agency after determining the action may affect a listed species; and (3) Conference with FWS when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat.

#### SECTION 7(c) Biological Assessment-Major Construction Activity<sup>1</sup>

Requires Federal agencies or their designees to prepare a Biological Assessment (BA) for major construction activities. The BA analyzes the effects of the action<sup>2</sup> on listed and proposed species. The process begins with a Federal agency requesting from FWS a list of proposed and listed threatened and endangered species. The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the list, the accuracy of the species list should be informally verified with our Service. No irreversible commitment of resources is to be made during the BA process which would foreclose reasonable and prudent alternatives to protect endangered species. Planning, design, and administrative actions may proceed; however, no construction may begin.

We recommend the following for inclusion in the BA: an on-site inspection of the area affected by the proposal which may include a detailed survey of the area to determine if the species or suitable habitat is present; a review of literature and scientific data to determine species' distribution, habitat needs, and other biological requirements; interviews with experts, including those within FWS, State conservation departments, universities and others who may have data not yet published in scientific literature; an analysis of the effects of the proposal on the species in terms of individuals and populations, including consideration of indirect effects of the proposal on the species and its habitat; an analysis of alternative actions considered. The BA should document the results, including a discussion of study methods used, and problems encountered, and other relevant information. The BA should conclude whether or not a listed or proposed species will be affected. Upon completion, the BA should be forwarded to our office.

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<sup>1</sup>A construction project (or other undertaking having similar physical impacts) which is a major federal action significantly affecting the quality of the human environment as referred to in NEPA (42 U.S.C. 4332(2)C).

<sup>2</sup>"Effects of the action" refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action.

## Enclosure C

### GUIDELINES FOR CONDUCTING AND REPORTING BOTANICAL INVENTORIES FOR FEDERALLY LISTED, PROPOSED AND CANDIDATE PLANTS

(September 23, 1996)

These guidelines describe protocols for conducting botanical inventories for federally listed, proposed and candidate plants, and describe minimum standards for reporting results. The Service will use, in part, the information outlined below in determining whether the project under consideration may affect any listed, proposed or candidate plants, and in determining the direct, indirect, and cumulative effects.

Field inventories should be conducted in a manner that will locate listed, proposed, or candidate species (target species) that may be present. The entire project area requires a botanical inventory, except developed agricultural lands. The field investigator(s) should:

1. Conduct inventories at the appropriate times of year when target species are present and identifiable. Inventories will include all potential habitats. Multiple site visits during a field season may be necessary to make observations during the appropriate phenological stage of all target species.
2. If available, use a regional or local reference population to obtain a visual image of the target species and associated habitat(s). If access to reference populations(s) is not available, investigators should study specimens from local herbaria.
3. List every species observed and compile a comprehensive list of vascular plants for the entire project site. Vascular plants need to be identified to a taxonomic level which allows rarity to be determined.
4. Report results of botanical field inventories that include:
  - a. a description of the biological setting, including plant community, topography, soils, potential habitat of target species, and an evaluation of environmental conditions, such as timing or quantity of rainfall, which may influence the performance and expression of target species.
  - b. a map of project location showing scale, orientation, project boundaries, parcel size, and map quadrangle name.
  - c. survey dates and survey methodology(ies).
  - d. if a reference population is available, provide a written narrative describing the target species reference population(s) used, and date(s) when observations were made.
  - e. a comprehensive list of all vascular plants occurring on the project site for each habitat type.
  - f. current and historic land uses of the habitat(s) and degree of site alteration.

- g. presence of target species off-site on adjacent parcels, if known.
  - h. an assessment of the biological significance or ecological quality of the project site in a local and regional context.
5. If target species is(are) found, report results that additionally include:
- a. a map showing federally listed, proposed and candidate species distribution as they relate to the proposed project.
  - b. if target species is (are) associated with wetlands, a description of the direction and integrity of flow of surface hydrology. If target species is (are) affected by adjacent off-site hydrological influences, describe these factors.
  - c. the target species phenology and microhabitat, an estimate of the number of individuals of each target species per unit area; identify areas of high, medium and low density of target species over the project site, and provide acres of occupied habitat of target species. Investigators could provide color slides, photos or color copies of photos of target species or representative habitats to support information or descriptions contained in reports.
  - d. the degree of impact(s), if any, of the proposed project as it relates to the potential unoccupied habitat of target habitat.
6. Document findings of target species by completing California Native Species Field Survey Form(s) and submit form(s) to the Natural Diversity Data Base. Documentation of determinations and/or voucher specimens may be useful in cases of taxonomic ambiguities, habitat or range extensions.
7. Report as an addendum to the original survey, any change in abundance and distribution of target plants in subsequent years. Project sites with inventories older than 3 years from the current date of project proposal submission will likely need additional survey. Investigators need to assess whether an additional survey(s) is (are) needed.
8. Adverse conditions may prevent investigator(s) from determining presence or identifying some target species in potential habitat(s) of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any year. An additional botanical inventory(ies) in a subsequent year(s) may be required if adverse conditions occur in a potential habitat(s). Investigator(s) may need to discuss such conditions.
9. Guidance from California Department of Fish and Game (CDFG) regarding plant and plant community surveys can be found in Guidelines for Assessing the Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities, 1984. Please contact the CDFG Regional Office for questions regarding the CDFG guidelines and for assistance in determining any applicable State regulatory requirements.



## APPENDIX B





OFFICE OF HISTORIC PRESERVATION  
DEPARTMENT OF PARKS AND RECREATION  
P.O. BOX 942896  
SACRAMENTO, CA 94296-0001  
(916) 653-6624 Fax: (916) 653-9824  
caishpo@ohp.parks.ca.gov

December 27, 1999

Reply to: FHWA991122A

Jeffrey A. Lindley, Division Administrator  
Federal Highway Administration, California Division  
980 Ninth Street, Suite 400  
SACRAMENTO CA 95814-2724

Subject: I-680 Sunol Grade Southbound Improvement Project, Alameda County

Dear Mr. Lindley:

Thank you for the opportunity to comment on the Federal Highway Administration's (FHWA) submittal, intended to evidence satisfactory compliance with Section 106 of the Historic Preservation Act (NHPA). Consultation was initiated in accordance with 36 CFR 800 (revised June 1999).

The FHWA has requested that I provide comments by January 21, 2000. The FHWA requested specifically that I concur with the following determinations:

- None of the buildings or other identified features located within the project APE are eligible for inclusion in the National Register of Historic Places.
- Archeological sites CA-ALA-576 and CA-ALA-574 are eligible for inclusion in the National Register under Criterion D.
- No historic properties will be affected by the undertaking.
- The FHWA has fulfilled the requirements under 36 CFR 800.3(a) through (e) and 800.4(a) through (d)(1).

I do not object to any of the foregoing FHWA determinations. With this concurrence, the FHWA has satisfied its responsibility to comply with Section 106 of the NHPA. Be advised that certain circumstances could require the FHWA to reconsider its findings and determinations made in accordance with 36 CFR 800.

If you have questions, please do not hesitate to contact Steven Grantham at (916) 653-8920 or at [sgran@ohp.parks.ca.gov](mailto:sgran@ohp.parks.ca.gov).

Sincerely,

Daniel Abeyta, Acting  
State Historic Preservation Officer

JAN 10 2000  
FHWA-Sacramento



**APPENDIX C**





## DEPARTMENT OF TRANSPORTATION

BOX 23660  
OAKLAND, CA 94623-0660  
(415) 286-4444  
DD (510) 286-4454

September 23, 1999

Mr. Dennis Sparasino  
Deputy Director, Recreation Services  
City of Fremont, Parks and Recreation Services  
P.O. Box 5006  
Fremont, California 94537

Dear Mr. Sparasino,

Caltrans is proposing improvements to Interstate 680 that would reduce traffic congestion in the southbound direction from Stoneridge Drive in Pleasanton to Route 237 in Fremont. The proposed improvements include construction of an High Occupancy Vehicle (HOV) lane, auxiliary lanes, and installation of ramp metering. Some of the improvements will take place in the vicinity of the John F. and Maria Souza Farm but will have no direct impact on this site. The Souza Farm, located near Palm Avenue along southbound I-680, was previously eligible for the National Register of Historic Places. In late August 1999, a private party moved the house on this farm to a site in the Mission San Jose area. As a result, this site is no longer eligible for the National Register of Historic Places, however, the City of Fremont is planning to purchase the 20-acre farm for development as a city park. In several phone conversations, Ms. Amy Rakely of the City of Fremont Parks and Recreation Services, indicated that as of this date, the City of Fremont has not designated a date for the purchase, construction, development, or operation of the proposed park and will not do so until approximately 2001. The specific use and purpose of this park will also not be determined until that date.

We request your written concurrence with respect to our analysis of potential impacts under Section 4(f) of the Federal Department of Transportation Act of 1966, as amended and codified at 23 U.S.C. 138. Resources protected under Section 4(f) include publicly owned parks; recreation areas; wildlife or waterfowl refuges of national, State, or local significance; or a historic site of national, State, or local significance. Use of a Section 4(f) resource occurs when land is permanently incorporated into a transportation facility, when there is an adverse temporary occupancy of land, and when there is a constructive use of land. Constructive use occurs when a transportation project does not incorporate land from a Section 4(f) resource, but the project's proximity impacts are so severe that they substantially impair the activities, features, or attributes that qualify a resource for protection under Section 4(f).

As part of the proposed improvements to southbound I-680, an HOV lane will be constructed in the vicinity of the Souza Farm. Work for the construction of the HOV lane will take place within the State highway right-of-way and most of the widening will occur in the median. Consequently, Caltrans has determined that the proposed project will cause:

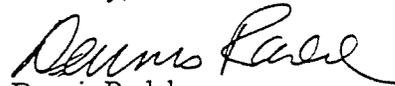
- (a) No permanent incorporation of land from a park, recreation area, wildlife or waterfowl refuge, or land from an historic site;
- (b) No temporary occupation of such land; and
- (c) No constructive use of such land.

As a result, Caltrans has determined that Section 4(f) will not apply to this proposed project.

We need your written concurrence in our determination that, for the reasons stated above, Section 4(f) does not apply to this project. Your concurrence is needed in order for us to proceed with the environmental and engineering processes and will be reflected in the draft environmental document. Your timely response would be appreciated, as we anticipate to circulate a draft Environmental Assessment/Initial Study for the proposed project in October 1999, and must receive authorization to circulate the document from the Federal Highway Administration prior to circulation.

If you have any questions please contact Moujan Mostaghimi at (510) 286-6454 or myself at (510) 286-6214.

Sincerely,



Dennis Radel

District Branch Chief

Office of Environmental Planning, South



**CITY OF FREMONT**  
MAINTENANCE AND RECREATION SERVICES DEPARTMENT

October 8, 1999

Mr. Dennis Radel  
District Branch Chief  
Office of Environmental Planning, South  
State of California, Department of Transportation  
Box 23660  
Oakland, CA 94623-0660

Dear Mr. Radel:

I am writing in response to your September 23, 1999 letter to Mr. Dennis Sparacino, concerning the project to construct a High Occupancy Vehicle lane on Interstate 680 and its potential for impacts on the property known as the Souza Farm. This property is located on Palm Avenue and Interstate 680 in Fremont.

I would like to clarify that the City of Fremont closed escrow on the Souza Farm on June 30, 1999. The property was purchased for public park purposes, and will be designed and improved according to the City's development standards for citywide parks. Citywide parks are meant to provide active and passive recreation facilities, such as sports fields, picnic areas, grassy areas, and play equipment. Your letter is correct in noting that the City has not yet designated a date for the park's development, and will not do so until the City Council's consideration of the next Capital Improvement Program Plan, currently scheduled for 2001.

You have asked for the City's concurrence with your determination that Section 4(f) of the Federal Department of Transportation Act of 1966 does not apply to this project. Based on our understanding that the HOV lane project will not involve a take of any of the City's land, and that the HOV lane will be constructed in the freeway's median, I am sending this letter as an expression of the City's concurrence that Section 4(f) does not apply to this project.

We will look forward to receiving the draft environmental document and providing any additional comments at that time. Feel free to contact me at (510) 494-4363 if you have any questions.

Sincerely,

Amy N. Rakley, AICP  
Park Planning Manager

c: Len Banda, Senior Planner  
RECREATION SERVICES DIVISION  
ADMINISTRATION - 3350 CASTLE AVENUE  
P.O. Box 5006  
FREMONT, CALIFORNIA 94537-5006  
(510) 494-4333 • (510) 494-4753

MAINTENANCE SERVICES DIVISION  
CORPORATION YARD - 37350 SEQUOIA  
P.O. Box 5006  
FREMONT, CALIFORNIA 94537-5006  
(510) 713-5700 • (510) 713-5708 FAX





**APPENDIX D**





Gray Davis  
GOVERNOR

STATE OF CALIFORNIA

Governor's Office of Planning and Research  
State Clearinghouse

STREET ADDRESS: 1400 TENTH STREET ROOM 222 SACRAMENTO, CALIFORNIA 95814  
MAILING ADDRESS: P.O. BOX 3044 SACRAMENTO, CA 95812-3044  
916-445-0613 FAX 916-325-3018 www.opr.ca.gov/clearinghouse.html



Loretta Lynch  
DIRECTOR

**ACKNOWLEDGEMENT OF RECEIPT**

DATE: December 8, 1999  
TO: Dennis Radel  
Department of Transportation, District 1  
111 Grand Avenue  
Oakland/Eureka, CA 94623-0660  
RE: Interstate Highway 680 HOV Lanes Sunol Gracie  
SCH#: 99122004

This is to acknowledge that the State Clearinghouse has received your environmental document for state review. The review period assigned by the State Clearinghouse is:

Review Start Date: December 1, 1999  
Review End Date: January 6, 2000

We have distributed your document to the following agencies and departments:

- California Highway Patrol
- Department of Conservation
- Department of Fish and Game, Region 3
- Department of Housing and Community Development
- Department of Parks and Recreation
- Native American Heritage Commission
- Office of Historic Preservation
- Regional Water Quality Control Board, Region 2
- Resources Agency
- State Lands Commission

The State Clearinghouse will provide a closing letter with any state agency comments to your attention on the date following the close of the review period.

Thank you for your participation in the State Clearinghouse review process.



Gray Davis  
GOVERNOR

STATE OF CALIFORNIA

Governor's Office of Planning and Research  
State Clearinghouse



Loretta Lynch  
DIRECTOR

January 7, 2000

Dennis Radel  
Department of Transportation  
111 Grand Avenue  
Oakland, CA 94623-0660

Subject: Interstate Highway 680 HOV Lanes Sunol Gracie  
SCH#: 1999122004

Dear Dennis Radel:

The State Clearinghouse submitted the above named Joint Document to selected state agencies for review. The review period closed on January 6, 2000, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the eight-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts  
Senior Planner, State Clearinghouse

**Document Details Report  
State Clearinghouse Data Base**

**SCH#** 1999122004  
**Project Title** Interstate Highway 680 HOV Lanes Sunol Gracie  
**Lead Agency** Caltrans #1

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**Type** jd Joint Document  
**Description** Widening to accommodate a S/B HOV lane; auxiliary lanes; ramp metering

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**Lead Agency Contact**

**Name** Dennis Radel  
**Agency** Department of Transportation  
**Phone** (510) 286-6214 **Fax**  
**email**  
**Address** 111 Grand Avenue  
**City** Oakland **State** CA **Zip** 94623-0660

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**Project Location**

**County** Alameda, Santa Clara  
**City** Dublin, Milpitas  
**Region**  
**Cross Streets** I-580, SR-237

<b>Parcel No.</b>	<b>Range</b>	<b>Section</b>	<b>Base</b>
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**Proximity to:**

**Highways** I-580, SR-237  
**Airports**  
**Railways**  
**Waterways**  
**Schools**  
**Land Use** Transportation

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**Project Issues** Aesthetic/Visual; Agricultural Land; Air Quality; Drainage/Absorption; Economics/Jobs; Flood Plain/Flooding; Geologic/Seismic; Minerals; Noise; Public Services; Recreation/Parks; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Wetland/Riparian; Wildlife; Landuse; Growth Inducing; Cumulative Effects; Other Issues; Archaeologic-Historic; Housing

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**Reviewing Agencies** Resources Agency; Department of Conservation; Department of Fish and Game, Region 3; California Highway Patrol; Office of Historic Preservation; Department of Parks and Recreation; Department of Housing and Community Development; Regional Water Quality Control Board, Region 2; Native American Heritage Commission; State Lands Commission

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**Date Received** 12/01/1999 **Start of Review** 12/01/1999 **End of Review** 01/06/2000

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**APPENDIX E**



## Comments Requiring Responses

The following public agencies, public officials, and private citizens submitted comments on the document:

- Bob Kahn (December 8, 1999)
- N. Brickner (December 8, 1999)
- Wilson, Sonsini, Goodrich & Rosati/Environmental Defense Fund (December 10, 1999)
- John Magruder (December 13, 1999)
- James Stoffel (December 15, 1999)
- Glenn Bugler (December 15, 1999)
- Elaine B. Bowers (December 15, 1999)\*
- Gamini Rajapakse (December 15, 1999)
- Yunbiao Wang (December 15, 1999)
- Robert and Donna Wallace (December 15, 1999)
- Jim Tracey (December 15, 1999)
- Takashi Yamamoto (December 15, 1999)
- William Hall (December 15, 1999)
- Dave and Elaine Bowers (December 16, 1999)
- Neal Johnson (December 17, 1999)
- Norris and Juanita Gilmore (December 19, 1999)
- The City of Pleasanton, Public Works (December 21, 1999)
- Sree L. Kolavennu (December 28, 1999)
- Bay Area Air Quality Management District (December 30, 1999)
- County of Santa Clara, Roads and Airports Department (January 3, 2000)
- U.S. Environmental Protection Agency, Federal Activities Office (January 6, 2000)
- The City of Milpitas (January 6, 2000)
- Environmental Defense Fund (January 6, 2000)
- Santa Clara Valley Transportation Authority, Congestion Management and Highway Programs (January 26, 2000)

\* See Appendix F for addition comments made via mail or at the public hearings.

# Comment Sheet



I-680 (Sunol Grade)  
Southbound HOV Lane  
EA # 253700  
Public Hearing



Pleasanton Middle School, Pleasanton  
Wednesday, December 8, 1999

Name: Bob Kahn Organization: \_\_\_\_\_  
Address: 3003 Calle de la Mesa Pleasanton Zip Code 94566

Please print. Use the back of the sheet if necessary.

This is a great idea that is about 7 years overdue.  
I would find it very interesting to see where/~~how~~ how the \$135M is spent. Is there a project cost proposal I can look at?

PLEASE PLACE THIS IN THE COMMENT BOX TONIGHT OR MAIL TO:  
Caltrans District 4, Robert Gross, Chief, Office of Environmental Planning South,  
P.O. Box 23660, Oakland, CA 94623-0660.

Written comments must be postmarked by January 6, 2000.

**Comment #1 from Bob Kahn 12/8/99:**

I would find it very interesting to see where/how the \$35 million is spent. Is there a project cost proposal I can look at?

**Response:**

<b>Scope</b>	<b>Cost</b>
Reconstruct shoulders to allow for an interim southbound HOV lane from SR 84 to SR 237. Demolish Structures between Automall Parkway and Washington Blvd.	\$22,000,000
Widen structures and shoulders to final roadway widths for HOV and auxiliary lanes. Construct auxiliary lanes between Washington Blvd. and Automall Pkwy, between South Mission Blvd. (SR 262) and Scott Creek Rd., and between Scott Creek Rd. and Jacklin Rd. Construct soundwalls and install ramp metering facilities.	\$38,000,000
<b>Total cost including retaining walls and grading</b>	<b>\$60,000,000</b>



**Comment #2 from N. Brickner 12/8/99:**

What about northbound?

**Response:**

A northbound I-680 HOV lane project has been proposed similar in scope to this southbound I-680 HOV lane project. However, project funding, scope and schedule are yet to be determined.

Wilson Sonsini Goodrich & Rosati  
PROFESSIONAL CORPORATION

December 10, 1999

VIA FACSIMILE AND OVERNIGHT COURIER



Emily Landin-Lowe  
California Department of Transportation  
111 Grand Avenue  
Oakland, CA 94612

PALO ALTO

Re: Proposed Negative Declaration/Draft Initial Study/Draft  
Environmental Assessment for the Sunol Grade Project (the "Initial  
Study")

KIRKLAND

Dear Ms. Landin-Lowe:

AUSTIN

Thank you very much for forwarding a copy of the Initial Study to the Environmental Defense Fund ("EDF"). In reviewing the document, a number of questions have arisen. It would be very helpful to have a meeting between Dan Kirshner of EDF and a suitable member of Caltrans' staff so that the questions can be discussed in an efficient manner. It is EDF's hope that such a meeting will narrow the comments it needs to submit on the Initial Study. Since the comment deadline is January 6, 2000, please let us know if a meeting can be scheduled the week of December 13.

In particular, EDF would like to explore with Caltrans the following questions:

1. What method was used to determine VMT under build and no-build conditions? Do VMT figures represent peak hour only? Are the VMT figures consistent with the 1998/99 RTP and 1998 RTIP?
2. "The forecasting model is designed to recognize the added capacity and assigns more traffic demand to the Build alternative compared to the No-Build." p. 9. What forecasting model is this? What method does it use to assign traffic demand? What is the resulting traffic demand in each case? Are there any differences in assumed trip generation between the Build and No-Build cases? If so, what are they, and what is the basis for the differences?

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650 Page Mill Road, Palo Alto, CA 94304-1050 • 650.493.9300 Tel • 650.493.6811 Fax • [www.wsgr.com](http://www.wsgr.com)

Emily Landin-Lowe  
December 10, 1999  
Page 2

Wilson Sonsini Goodrich & Rosati  
PROFESSIONAL CORPORATION

3. Table 1, p. 11, shows increased VMT on I-680 in the build cases compared to the no-build cases. What assumptions and calculations were made in determining this?
4. How were both the mainline and ramp delays calculated? (For example, 1,140 vehicle-hours and 370 vehicle-hours, respectively, in the no-build case in 2005, p. 9.) What mainline and ramp capacities were used? What demands were used? What was the basis for each of these figures?
5. Year 2005 predicted conditions in the no build case include, "[m]aximum individual travel time from I-580 to SR 237 will be approximately 45 minutes." This appears to be inconsistent with observed conditions in 1997, when a maximum travel time of one hour and eight minutes (1:08) was recorded. Technical Report on the I-680 Traffic Operations Study, TJKM Transportation consultants, December 1997. Can the difference between these two results be explained?
6. What is the basis for the statement, "[t]he project ... will not cause cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment"? Section 7.2.2, p. 41.
7. What is the method for determining HOV lane usage (e.g., 700 to 1100 vph, depending on location, in 2005, p. 9, and 750 to 1180 vph in 2025, p. 10). Can you provide details of how the vph varies with location? How were these location-specific HOV lane usages determined? Are these results consistent with the analysis contained in the Traffic Operations Study?
8. Is the project design consistent with the future use of movable barriers to provide congestion relief?
9. EDF would like confirmation that, as stated on page 16 of the Initial Study, the project design is consistent with the future use of an Express Lane or High Occupancy Toll Lane.

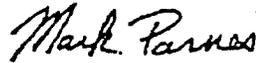
Emily Landin-Lowe  
December 10, 1999  
Page 3

Wilson Sonsini Goodrich & Rosati  
PROFESSIONAL CORPORATION

EDF looks forward to cooperating with Caltrans in this project and hopes that a dialogue with Caltrans' personnel will resolve the questions listed above. I look forward to hearing from you.

Sincerely,

WILSON SONSINI GOODRICH & ROSATI  
Professional Corporation



Mark Parnes

MGP:lw

Comment #3 from EDF 12/10/99:

a) What method was used to determine VMT under build and no-build conditions? b) Do VMT figures represent peak hour only? c) Are the VMT figures consistent with the 1998/99 RTP and 1998 RTIP?

Response:

The VMT were determined during the FREQ11 analysis based on the forecasted demands. FREQ11 is a widely used macroscopic freeway simulation software program. The predicted volumes are for peak hour only. VMT represent the total vehicle miles traveled for the entire length of the FREQ11 model. It is determined based on subsection length, number of vehicles entering subsection in one time slice for all subsections. b) VMT reported were based only on the peak hour study. c) This project is consistent with the RTP.

Comment #4 from EDF 12/10/99:

a) "The forecasting model is designed to recognize the added capacity and assigns more traffic demand to the Build alternative compared to the No Build." P. 9. What forecasting model is this? b) What method does it use to assign traffic demand? c) What is the resulting traffic demand in each case? d) Are there differences in assumed trip generation between the Build and No-Build cases? If so, what are they, and what is the basis for the differences?

Response:

a) As discussed in the draft environmental document, the forecasting model is the BAYCAST Model. b) The model assigns SOVs and HOVs simultaneously on the highway network with capacity restraint to achieve users equilibrium. c) Following is a table (Table 7) detailing the resulting traffic demand for the build and no-build scenarios. d) No, there are no differences in assumed trip generation between build and no-build scenarios. Trip generations are based on the most recent economic and demographic projections – ABAG Projections '98 – that are reviewed and concurred by regional and local governments. The projections were developed based on input from local governments for plans, policies, and regulations regarding developments and urban services. However, the BAYCAST Model does analyze geometric changes between build and no-build scenarios in other steps and produced different modal choices, time-of-day choices, and traffic assignments reflecting build and no-build scenarios.

Comment #5 from EDF 12/10/99:

Table 1, p. 11, shows increased VMT on I-680 in the build cases compared to the no-build cases. What assumptions and calculations were made in determining this?

Response:

As discussed above, the BAYCAST model analyzes geometric changes between no-build and build. The VMT is calculated by summing all subsections the product of subsection length, vehicular volume and duration in time per time slice. As the vehicular throughput volumes of the subsections increase, the summation of VMT also increases.

**Table 7  
Southbound I-680 HOVL Project Forecast**

Facility Description	Year 2005 AM peak hour				Year 2025 AM peak hour			
	No Build	Build			No Build	Build		
		All	All	MF		HOV	all	all
Hwy 680	5430	5530			5860	5900		
Alcosta Off-ramp	690	740			840	845		
Alcosta On-ramp	895	900			1090	1100		
Hwy 680	5635	5690			6110	6155		
Rte 580/Dublin Off-ramp	2665	2630			3055	3055		
Dublin On-ramp	1065	1075			1350	1360		
Rte 580 On-ramp	2705	2720			2905	2915		
Hwy 680	6740	6855			7310	7375		
Stoneridge Off-ramp	1750	1755			1885	1895		
Stoneridge W On-ramp	245	255			275	285		
Stoneridge E On-ramp	365	375			405	420		
Hwy 680	5600	5730			6105	6185		
Bernal Off-ramp	840	815			930	925		
Bernal On-ramp	845	880			1005	1090		
Hwy 680	5605	5795			6180	6350		
Plston/Sunol Off-ramp	515	495			665	665		
Plston/Sunol On-ramp	865	895			1115	1135		
Hwy 680	5955	6195			6630	6820		
Koopman Off-ramp	320	340			350	355		
Hwy 680	5635	5855			6280	6465		
Rte 84 Off-ramp	440	460			565	565		
Rte 84 On-ramp	1655	1720			2030	2350		
Calaveras On-ramp	1255	1305			1405	1695		
Hwy 680	8105	8420	7425	995	9150	9945	8410	1535
Andrade Off-ramp	95	85	75	10	105	105	90	15
Andrade On-ramp	85	75	65	10	95	100	95	5
Hwy 680	8095	8410	7415	995	9140	9940	8415	1525
Sheridan On-ramp	150	135	120	15	165	175	155	20
Hwy 680	8245	8545	7535	1010	9305	10115	8570	1545
Vargas Off-ramp	20	20	20	0	20	20	20	0
Vargas On-ramp	50	50	50	0	55	55	50	5
Hwy 680	8275	8575	7565	1010	9340	10150	8600	1550
Rte 238 Off-ramp	1370	1020	835	185	1600	1525	1175	350
Rte 238 On-ramp	1135	1170	1070	100	1325	1430	1260	170
Hwy 680	8040	8725	7800	925	9065	10055	8685	1370
Washington Off-ramp	425	380	335	45	460	440	380	60
Washington On-ramp	835	980	745	235	905	1160	960	200
Hwy 680	8450	9325	8210	1115	9510	10775	9265	1510
Durham Off-ramp	1025	1050	910	140	1355	1300	1020	280
Durham On-ramp	1255	1305	1255	50	1660	1830	1760	70
Hwy 680	8680	9580	8555	1025	9815	11305	10005	1300
Rte 262 Off-ramp	2045	2105	1795	310	2445	2460	1990	470
Rte 262 On-ramp	2175	2405	2305	100	2475	2540	2400	140
Hwy 680	8810	9880	9065	815	9845	11385	10415	970
Scott Creek Off-ramp	530	715	575	140	615	860	705	155
Scott Creek On-ramp	480	465	435	30	555	665	615	50
Hwy 680	8760	9630	8925	705	9785	11190	10325	865
Jacklin Off-ramp	415	495	415	80	755	905	785	120
Jacklin On-ramp	655	670	630	40	750	690	625	65
Hwy 680	9000	9805	9140	665	9780	10975	10165	810
Rte 237 Off-ramp	1495	1755			1800	2180		
Rte 237 On-ramp	755	720			910	935		
Hwy 680	8260	8770			8890	9730		
Landess Off-ramp	1430	1735			1630	2095		
Landess On-ramp	895	895			1095	1120		
Hwy 680	7725	7930			8355	8755		

**Comment #6 From EDF 12/10/99:**

a) How were both the mainline and ramp delays calculated? (For example, 1,140 vehicles-hours and 370 vehicle hours, respectively, in the no-build case in 2005, p.9) b) What mainline and ramp capacities were used? c) What demands were used? d) What was the basis for each of these figures?

**Response:**

a) Mainline delay is defined as the difference between the travel time of vehicles moving with the flow of traffic on a given subsection and the travel time of those same vehicles had they been traveling under smooth conditions at some desired speed. For our study, 40 mph was used as the minimum desired speed. This means that delays are registered when vehicles are travelling below that speed. For example, if a one-mile subsection is congested for a one-hour period and the average speed is 30 mph with 6000 vehicles throughput, the mainline delay is 50 vehicle-hours (6000 vehicles x (1 mile/30mph – 1 mile/40mph)). b) Freeway capacities were derived by calculating existing conditions based on the traffic data attained for this study. The values used for the subsections were in the range between 1,950 to 2,200 vehicles per hour per lane. This range was derived from field data and were used as a base to model the existing conditions for each subsection in the analysis software. The ramp delays were calculated using a ramp capacity of 1,500 vehicles per hour. c) See Table 7 for the demand volumes used. d) Again, the FREQ11 model was utilized for this analysis based on the assumptions described here.

**Comment #7 from EDF 12/10/99:**

Year 2005 predicted conditions in the no build case include, “(m)aximum individual travel time from I-580 to SR 237 will be approximately 45 minutes.” This appears to be inconsistent with observed conditions in 1997, when a maximum travel time of one hour and eight minutes (1:08) was recorded. Technical Report on the I-680 Traffic Operations Study, TJKM Transportation consultants, December 1997. Can the difference between these two results be explained?

**Response:**

The analyses conducted for the “No-build” and “Build” alternatives were based on the forecast for the peak hour only. The results cannot be compared directly to an observed field condition, which takes account cumulative effects on congestion from earlier hours. However, the intent of the study was to evaluate the benefit of the proposal. As such examining only the peak hour was sufficient to serve the purpose of the study – differentiate the effects of the addition of an HOV lane. This is a widely used, acceptable method of comparing alternatives. The TJKM study looked at existing short term conditions and was a multi-hour analysis. A consistent methodology was used between the two studies but as noted the study period was different yielding different results.

**Comment #8 from EDF 12/10/99:**

What is the basis for the statement, “(t)he project ... will not cause cumulative considerable net increase of any criteria pollutant for which the project region is in non-attainment”? Section 7.2.2, p. 41.

**Response:**

The project is included in the 1998 Regional Transportation Plan (RTP) and 1999 Transportation Improvement Program (TIP), which was approved jointly by FHWA and FTA on October 5, 1998. Based on the TIP conformity analysis, the following reductions in VOC, Nox, and CO emissions can be expected in the future:

**Table 8  
VOC Projections**

Year	Tons/Day VOC Budget	TIP	Change
2000	299.6	124.4	-58.5%
2010	299.6	57.2	-80.9%
2020	299.6	45.5	-84.8%

**Table 9  
Nox Projections**

Year	Tons/Day NOx Budget	TIP	Change
2000	251.1	206.4	-17.8%
2010	251.1	163.3	-35.0%
2020	251.1	164.5	-34.5%

**Table 10  
CO Projections**

Year	Tons/Day CO Budget	TIP	Change
2000	2,193	1,323	-39.7%
2010	2,193	635.9	-71.0%
2020	2,193	540.7	-75.3%

Judging from the above projections, it appears that projects included in the latest approved TIP will not result in negative air quality impacts. Since significant reductions in VOC and NOx (precursors to ozone formation) are predicted, it can reasonably be concluded that ozone concentrations will decrease as well and that the Bay Area once again will be in attainment. We agree that the Bay Area is in non-attainment for the State Standard for particulate matter (PM10). To date, no methodology has been developed to quantify PM10 concentrations as the result of motor vehicle operations.

**Comment #9 from EDF 12/10/99:**

a) What is the method for determining HOV lane usage (e.g., 700 to 1000 vph, depending on location, in 2005, p. 9, and 750 to 1180 vph in 2025, p. 10). b) Can you provide details of how the vph varies with location? c) How were these location-specific HOV lane usages determined? d) Are these results consistent with the analysis contained in the Traffic Operations Study?

**Response:**

a) & c) HOV lane usage is the result of an iterative process of modal choice and highway assignment. There is one logit choice sub-model for each trip purpose. These logit choice models evaluate the tradeoffs between travel time and trips costs and split trip among seven available modes. They are Drive Alone, Shared Ride 2, Shared Ride 3+, Transit Auto Access, Transit Walk Access, Bicycle, and Walk. Available modes vary slightly for Non-home-based and Home-based School trip purposes. For more detailed information, the following document is available: "Travel Demand Models for the San Francisco Bay Area (BAYCAST-90) Technical Summary, Charles L. Purvis, Senior Transportation Planner/Analyst, Metropolitan Transportation Commission, 101 Eighth Street, Oakland, CA 94607, June 1997." This document can be ordered from MTC, or viewed from the MTC web site. The Mode Choice Models, which determine HOV usages, are documented from pages 21 to 35. b) See Table 7 on page E-6. d) Although two different methodologies were used, the Caltrans Traffic Operations Study and the TJKM Traffic Study results are comparable and consistent.

**Comment #10 from EDF 12/10/99:**

Is the project design consistent with the future use of movable barriers to provide congestion relief?

**Response:**

The project will not preclude the use of movable barriers. Depending on how the facility is operated, there are many features that may be required for the utilization of moveable barriers. For example, to utilize the southbound HOV lane as a northbound lane in the afternoon, median crossings and merging lanes would be required for an entrance and exit into the lane, storage areas for the barrier transfer machine would be needed, and two existing overcrossings would potentially need to be replaced.

**Comment #11 from EDF 12/10/99:**

EDF would like confirmation that, as stated on page 16 of the Initial Study, the project design is consistent with the future use of an Express Lane or High Occupancy Toll Lane.

**Response:**

The project will not preclude the future use of an Express or High Occupancy Toll Lane. As with the moveable barrier, additional construction is anticipated to utilize an Express Lane or High Occupancy Toll Lane.

Caltrans District 4  
Office of Environmental Planning So.  
P.O. Box 23660  
Oakland, Ca. 94623 -0660  
Attn: Robert Gross

Re: I-680 Carpool Lane

The proposed carpool lane for I-680 is stated as being built on I-680 South from Stoneridge (Pleasanton ) to I237 (Milpitas). As one who commutes that every day, I have some comments.

1. The additional lane would carry far less traffic than any of the 3 existing lanes and therefore have far less than a 25% increase upon the environment.
2. Benefit is stated as a potential for reducing 3 to 4 hours of congestion to 1 hour.

That is pure wishful thinking. The main reason I-680 is congested is not due to I-680 itself, but the other commute paths it connects with:

- a. Westbound exits from I-680 onto South Mission, I-237, and Montague are fully congested in AM in spite of each already having their own diamond lanes
  - b. Eastbound entry to I-680 from Montague, I237 and South Mission are congested in the PM, but the Sunol Grade part of I-680 (Northbound) does not have serious congestion.
3. The real problem has never been the Sunol Grade itself, but the aforementioned roadways. The funds allocated for the I-680 carpool lane would better serve the public if spent resolving the real problem.

Thanks,  
John Magruder  
jmm00@amdahl.com

Comment # 12 From John Magruder (December 13, 1999):

The additional lane would carry far less traffic than any of the 3 existing lanes and therefore have far less than a 25% increase upon the environment.

Response:

Traffic projections for the year 2025 indicate that more than 1,400 vph would qualify to use the HOV lane if the occupancy requirement were two or more persons per vehicle. Thus it is expected that the HOV lane will be well utilized and will not appear to be empty to motorists in the adjacent mixed-flow lanes but also will not be so well utilized that delays will occur in the lane. Furthermore, based on the results of the technical studies conducted as part of the IS/EA, it has been determined that the proposed project will not have a significant impact on the environment.

Comment # 13 From John Magruder (December 21, 1999):

Benefit is stated as a potential for reducing 3 to 4 hours of congestion to 1 hour. That is pure wishful thinking. The main reason I-680 is congested is not due to I-680 itself but other commute paths it connects with:

- a. I-680 westbound exit to South Mission Blvd (SR-262), SR-237, and Montague expressway during the morning commute.
- b. Eastbound entry to I-680 from Montague Expressway, SR-237 and South Mission Blvd (SR-262) during the afternoon commute.

The real problem has never been the Sunol Grade itself, but the aforementioned roadways. The funds allocated for the I-680 carpool lane would better serve the public if spent resolving the real problem.

Response:

The environmental document does not state the benefits as reducing the congestion from 3 or 4 hours to 1 hour. The traffic forecast analysis conducted for the No-build and Build alternatives were based on peak hour conditions only and estimate a noticeable net reduction in travel time for single occupant vehicles (SOVs) in the mixed flow lanes as well as HOVs in the HOV lane. With the proposed project there would be a noticeable net reduction in travel time for single occupant vehicles; as much as 9 minutes in comparison to the No-Build alternative based on the peak hour analysis. HOVs would experience an even greater time savings; as much as 20 minutes in comparison to vehicles in the non-HOV lanes and 19 minutes in comparison to vehicles in the No-build alternative.

The congested commute paths referred to in your comment are mostly utilized for commuting between I-680 and I-880 as there is currently no direct connection path between the two interstate highways. A direct connection is proposed between these two major freeways in order to provide relief to commuters currently using city streets to make this connection. Other projects have been proposed to improve the SR-237/I-880 interchange, build a direct HOV lane between SR-237 and I-880, and widen I-880 from 4 to 6 lanes between North First Street to Montague Expressway.

**All of these proposed improvements have been considered in the traffic forecast models that were used in this study to predict traffic conditions on I-680 under both Build and No-Build conditions. The traffic forecast models indicate that even with the I-680/I-880 cross connector and the proposed improvements to I-880/SR-237 in place, I-680 Sunol Grade corridor would still suffer from heavy congestion under the No-build alternative.**

**Funding was set aside in the 1998 STIP for study to determine the feasibility and potential alternatives for the I-680/I-880 Cross-connector. The other I-880/SR/237 improvement project mentioned above, are Santa Clara Valley Transportation Authority (SCVTA) projects and have been funded locally.**



# Comment Sheet

I-680 (Sunol Grade)  
Southbound HOV Lane  
EA # 253700



Public Hearing  
Fremont Main Library, Fremont  
Wednesday, December 15, 1999

Name: JAMES W. STOFFEL Organization: ---  
Address: 47353 UNICATAN DR. Zip Code 94539

Please print. Use the back of the sheet if necessary.

MY CONCERN IS THE LACK OF PROPOSED SOUND WALL ALONG 680 SOUTH OF MISSION BOULEVARD FAR ENOUGH TO EASE THE NOISE LEVELS TO MY AREA AND NEIGHBORHOOD. PREVIOUS READING OF NOISE LEVELS BY CALTRANS SHOWED THAT WE WOULD QUALIFY FOR SOUND WALL INSTALLATION AT THE NEXT IMPROVEMENT OF 680. THAT TIME IS HERE AND NO PLANS ARE IN THE OFFING

*James W. Stoffel*

PLEASE PLACE THIS IN THE COMMENT BOX TONIGHT OR MAIL TO:  
Caltrans District 4, Robert Gross, Chief, Office of Environmental Planning South,  
P.O. Box 23660, Oakland, CA 94623-0660.

Written comments must be postmarked by January 6, 2000.

**Comment #14 from Mr. Stoffel 12/15/99:**

I live at 47353 Yuctan Drive, in Fremont. My home is located about three-quarters of a mile beyond a proposed sound wall along I-680. The noise from the freeway is disturbing to our neighborhood. In the past, Caltrans representatives have measured the noise levels in our area and at that time they stated that this area would qualify for a sound wall that would probably be build at the time of the next I-680 improvement. The next improvement is here but the wall is not being proposed.

**Response:**

We did not find any records of previous field measurements taken by Caltrans in your area. Nor did we find records of statements made by Caltrans regarding your area qualifying for a sound wall that would be built at the time of the next I-680 improvements. However, in 1999, field measurements were taken along this portion of Yucatan Drive and the readings yielded noise levels of 55 dBA, Leq(h). Adjusting this noise level upward to account for peak hour traffic volumes yields 57 dBA. The project will increase noise levels 1-2 dBA. Maximum noise levels will therefore be 59 dBA, Leq(h) under worst case conditions. Noise abatement must be considered when hourly noise levels approach the noise level criterion of 67 dBA. Approach is defined as 1 dBA below the criterion. Under Caltrans and FHWA guidelines, this area does not qualify for noise abatement.

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Those are my comments.

- - -

MR. BUGLER: My name is Glenn Bugler,  
B-u-g-l-e-r. I live at 47363 Yucatan Drive, in  
Fremont.

I found this meeting very informative,  
but I am concerned about the lack of noise  
mitigation measures that are lacking in this  
proposed improvement.

The decibel level seems to have increased  
in the five years I've lived here, and is most  
acute in the morning and evening hours.

I'm interested in when the sound  
measurements were taken, and would like to know  
if the widening of the freeway by one lane  
adjacent to our home was considered in the  
determination of where the sound walls will be  
going.

That's it.

MR. FISHER: I'm Tony Fisher, Dr. Tony  
Fisher, F-i-s-h-e-r, senior adviser for  
New United Motor Manufacturing Inc., otherwise  
known as NUMMI, G.M., Toyota, Joint Venture,  
located here in Fremont, California.

**Comment #15 from Mr. Bugler 12/15/99:**

I live at 47363 Yucatan Drive, in Fremont. I am concerned about the lack of noise mitigation measures that are lacking in the proposed improvements. The decibel level seems to have increased in the five years I've lived here and is most acute in the morning and evening hours. I'm interested in when the sound measurements were taken, and would like to know if the widening of the freeway by one lane adjacent to our home was considered in the determination of where the sound walls will be going.

**Response:**

Field readings along this portion of Yucatan Drive yielded noise levels of 55 dBA, Leq(h). Adjusting this noise level upward to account for peak hour traffic volumes yields 57 dBA. The project will increase noise levels 1-2 dBA. Maximum noise levels will therefore be 59 dBA, Leq(h) under worst case conditions. Noise abatement must be considered when hourly noise levels approach the noise level criterion of 67 dBA. Approach is defined as 1 dBA below the criterion. Under Caltrans and FHWA guidelines, this area does not qualify for noise abatement.



# Comment Sheet

I-680 (Sunol Grade)  
Southbound HOV Lane  
EA # 253700  
Public Hearing



Fremont Main Library, Fremont  
Wednesday, December 15, 1999

Name: Elaine B. Bowne Organization: Homeowner  
Address: 1804 Berry Ct (on 680) Zip Code 94539

Please print. Use the back of the sheet if necessary.

My concerns are centered around the effects of disturbing the soil on the slope behind my home which is adjacent to the right of way. I would like to be kept informed of any possible adverse effects of putting into this slope, its possible negative effects to my property. I do want a sound wall, but I would just like to be kept informed of this aspect of the project in my area.

I would also appreciate knowing what the soil bed levels are in my area or nearby areas. I appreciate the opportunity to attend this information meeting and look forward to the Homeowner meetings with Victor.

Elaine B. Bowne

PLEASE PLACE THIS IN THE COMMENT BOX TONIGHT OR MAIL TO:  
Caltrans District 4, Robert Gross, Chief, Office of Environmental Planning South,  
P.O. Box 23660, Oakland, CA 94623-0660.

Written comments must be postmarked by January 6, 2000.

**Comment #16 from Ms. Bowers 12/15/99:**

I'm concerned about the level of lead in the soil and would like for Caltrans to inform me of the results of the lead testing that they will be doing later on.

**Response:**

Information on the levels of lead in soil is available in the environmental site investigation report titled *Site Investigation Report, Soil and Stockpile Investigation, Route 680 Southbound HOV Lane Project, December 1999* (Expenditure Authorization 04-253700). A summary of this report was mailed to you on September 8, 2000.

**Comment #17 from Ms. Bowers 12/15/99:**

I am concerned about the effects of disturbing the soil on the slope behind my home which is adjacent to the right-of-way. I would like to be kept informed of any possible adverse effects of cutting into this slope, its possible negative effects to my property.

**Response:**

Homeowners will be informed through the upcoming meetings related to soundwall design and construction. A retaining wall is proposed at the toe of the slope to allow widening of freeway. A candidate soundwall is shown at the top of the slope next to Ms. Bowers' property. The construction should not alter the drainage pattern.



# Comment Sheet

I-680 (Sunol Grade)  
Southbound HOV Lane

EA # 253700

Public Hearing

Fremont Main Library, Fremont

Wednesday, December 15, 1999



Name: GAMINI RATAPAKSE Organization: RESIDENT  
Address: 42929 NIDA CT, FREMONT Zip Code 94539

Please print. Use the back of the sheet if necessary.

① OUR PROPERTY LOCATION @ NIDA CT. IS LOWER THAN Hwy 680. NOISE LEVEL IS VERY HIGH. WITH NEW CONSTRUCTION & ADDITIONAL LANES CLOSE TO R/W, "SOUND WALL IS A MUST. HEIGHT OF THE SOUNDWALL SHOULD BE MORE THAN 12'

② CONSTRUCTION OF THE SOUNDWALLS SHOULD BE PRIOR TO ANY CONSTRUCTION TO MITIGATE SOUND DURING CONSTRUCTION.

FINDING RV

③ WE WILL APPRECIATE ANY SOUND PROBLEMS OF THE RESIDENTS PRIOR TO CONSTRUCTION BEGIN

THANKS



PLEASE PLACE THIS IN THE COMMENT BOX TONIGHT OR MAIL TO:  
Caltrans District 4, Robert Gross, Chief, Office of Environmental Planning South,  
P.O. Box 23660, Oakland, CA 94623-0660.

Written comments must be postmarked by January 6, 2000.

**Comment #18 from Gamini Rajapakse 12/15/99:**

**Our property, located at Nido Ct, is lower than I-680. The noise level is very high. A sound wall is a must and it's height should be more than 12 feet. Construction of the sound wall should be prior to other construction. We will appreciate funding for soundproofing of the residents prior to construction.**

**Response:**

**Sound wall construction is part of the project scope in order to provide abatement of future predicted noise levels. Construction of the sound walls is planned during the final phase of the project and will be specified as a first order of work where feasible within that construction contract. Field investigations and community meetings will need to be conducted prior to design of the walls. The field effort is scheduled for this summer with community meetings being held after the results of the investigations are available.**



# Comment Sheet



I-680 (Sunol Grade)  
Southbound HOV Lane  
EA # 253700  
Public Hearing

Fremont Main Library, Fremont  
Wednesday, December 15, 1999

Name: YUNBIAO WANG Organization: \_\_\_\_\_  
Address: 42746 Baron st Zip Code 94539

Please print. Use the back of the sheet if necessary.

Please build the sound wall first, especially, between NIDO CT and Mission Blvd. I have one 2 Year old son and 3 Year old daughter stay at home 24 hrs. I do not want they get hurt by the construction noise and pollutant.

*Yunbiao Wang*

PLEASE PLACE THIS IN THE COMMENT BOX TONIGHT OR MAIL TO:  
Caltrans District 4, Robert Gross, Chief, Office of Environmental Planning South,  
P.O. Box 23660, Oakland, CA 94623-0660.

Written comments must be postmarked by January 6, 2000.

**Comment #19 from Yunbiao Wang 12/15/99:**

**Please build the sound wall first, especially between Nido Ct. and Mission Blvd.**

**Response:**

**Sound wall construction is part of the project scope in order to provide abatement of future predicted noise levels. Construction of the sound walls is planned during the final phase of the project and will be specified as a first order of work where feasible within that construction contract. Field investigations and community meetings will need to be conducted prior to design of the walls. The field effort is scheduled for this summer with community meetings being held after the results of the investigations are available.**



# Comment Sheet

I-680 (Sunol Grade)  
Southbound HOV Lane  
EA # 253700  
Public Hearing



Fremont Main Library, Fremont  
Wednesday, December 15, 1999

Name: Robert and Anne Wallace Organization: \_\_\_\_\_  
Address: 42979 Verde Ct Zip Code 94539

Please print. Use the back of the sheet if necessary.

The drawings are very informative but  
 my concern is that plans you  
 have in adding the second lane  
 to the road will make traffic and  
 noise to that already intolerable  
 situation. Please consider placing  
 the road walls in the first phase  
 of the plan.

We live near the Sunol  
 Road (we're residing outside of  
 San Bruno) and have the added  
 noise there. I hope you have  
 done a good job of planning and  
 the increase in traffic in the 45 mi.  
 here will be much less than expected.

Thank you,  
 Anne Wallace

PLEASE PLACE THIS IN THE COMMENT BOX TONIGHT OR MAIL TO:  
 Caltrans District 4, Robert Gross, Chief, Office of Environmental Planning South,  
 P.O. Box 23660, Oakland, CA 94623-0660.  
 Written comments must be postmarked by January 6, 2000.

**Comment #20 from Robert and Donna Wallace 12/15/99:**

**Please consider placing the sound walls in the first part of the plan.**

**Response:**

**Sound wall construction is part of the project scope in order to provide abatement of future predicted noise levels. Construction of the sound walls is planned during the final phase of the project and will be specified as a first order of work where feasible within that construction contract. Field investigations and community meetings will need to be conducted prior to design of the walls. The field effort is scheduled for this summer with community meetings being held after the results of the investigations are available.**



# Comment Sheet

I-680 (Sunol Grade)  
Southbound HOV Lane  
EA # 253700  
Public Hearing



Fremont Main Library, Fremont  
Wednesday, December 15, 1999

Name: Tim Tracer Organization: \_\_\_\_\_  
Address: 42969 Av. de Ct Fremont Zip Code 94539

Please print. Use the back of the sheet if necessary.

*If there is any input regarding prioritization, I would appreciate the NR 14 Sound Barrier being completed as early in the project as possible.*

*The amount of anticipated construction dust & noise will be even worse than what we currently experience.*

*Thanks -*

*Tim*

PLEASE PLACE THIS IN THE COMMENT BOX TONIGHT OR MAIL TO:  
Caltrans District 4, Robert Gross, Chief, Office of Environmental Planning South,  
P.O. Box 23660, Oakland, CA 94623-0660.

Written comments must be postmarked by January 6, 2000.

**Comment #21 from Jim Tracey 12/15/99:**

I would appreciate the NB-14 sound barrier being completed as early in the project as possible. The amount of construction dust and noise will be even worse than we currently experience.

**Response:**

Sound wall construction is part of the project scope in order to provide abatement of future predicted noise levels. Construction of the sound walls is planned during the final phase of the project and will be specified as a first order of work where feasible within that construction contract. Field investigations and community meetings will need to be conducted prior to design of the walls. The field effort is scheduled for this summer with community meetings being held after the results of the investigations are available.

The proposed project may generate dust during construction. The impacts from construction activities would vary from day to day as construction progresses. The Special Provisions and Standard Specifications will include requirements to minimize or eliminate dust through the application of water or dust palliatives.

Noise levels from construction activities may be higher at times than currently existing noise levels. Where feasible, any of the following abatement measures may be incorporated to minimize the temporary impacts of construction noise levels:

- Constructing noise barriers as first item of work, where feasible.
- Use of stock piled dirt as earthen berms to attenuate the impact of construction activities.
- Avoid construction activities during nighttime and weekends, when possible.
- Establishment of a field office to handle noise complaints and keep the community informed of upcoming construction activities.



# Comment Sheet

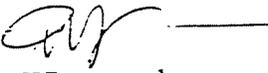
I-680 (Sunol Grade)  
Southbound HOV Lane  
EA # 253700  
Public Hearing



Fremont Main Library, Fremont  
Wednesday, December 15, 1999

Name: Takashi YAMAMOTO Organization: \_\_\_\_\_  
Address: 42959 Nido Ct Fremont CA Zip Code 94539

Please print. Use the back of the sheet if necessary.

  
When our house was built in 1979, I680 was a sleepy freeway with a limited volume of traffic. Since then, the traffic has increased tremendously as many people have bought houses in the Central Valley and commute to work in Santa Clara County. Due to heavy traffic congestion, a major "improvement" was made a few years ago. I saw that Caltrans constructed one additional lane each way on I680 from Pleasanton (I580) to Fremont. As a result, more cars are fed to our section of I680 causing tremendous problems of noise and air pollution. We, homeowners living on Nido Court, have been asking for a noise barrier but got deaf years of Caltrans administrators. It seems that Caltrans official position is they will not construct noise barrier, as there is no change on the section of the freeway near our house. I strongly feel that this is not right as the freeway was indeed "changed" (i.e. lanes were added up to Mission Boulevard North Exit, only one mile or so from our house).

Now I learn that Caltrans is planning to add another lane (HOV lane) to I680. As all of us have seen (e.g. I880 "improvement" on the section from Dixon Landing to 237), additional lane simply means more cars and no solution to the traffic congestion. Although I was told noise barrier is planned at this time, it seems that the construction is the lowest priority. I strongly oppose against any plan to add any more lanes, which will only cause more noise, air pollution, and vibration. Please consider changing your plan. I feel I can not accept this vicious cycle, more lanes for more cars. If you must construct this HOV lane, we need the construction of noise barrier BEFORE you open the lane for public use.





PLEASE PLACE THIS IN THE COMMENT BOX TONIGHT OR MAIL TO:  
Caltrans District 4, Robert Gross, Chief, Office of Environmental Planning South,  
P.O. Box 23660, Oakland, CA 94623-0660.

Written comments must be postmarked by January 6, 2000.

**Comment #22 from Takashi Yamamoto 12/15/99:**

Due to heavy traffic congestion, a major improvement was made to I-680 a few years ago. Caltrans constructed an additional lane each way on I-680 from Pleasanton (I-580) to Fremont. We, homeowners living on Nido Court, have been asking for a noise barrier but got deaf ears of Caltrans administrators. Now I learn that Caltrans is planning to add another lane (HOV lane) to I-680. Although I was told a noise barrier is planned at this time, it seems that the construction is the lowest priority. I strongly oppose any plan to add any more lanes, which will cause more noise, air pollution, and vibration. If you must construct this HOV lane, we need the construction of noise barriers before you open the lane for public use.

**Response:**

Sound wall construction is part of the project scope in order to provide abatement of future predicted noise levels. Construction of the sound walls is planned during the final phase of the project and will be specified as a first order of work where feasible within that construction contract. Field investigations and community meetings will need to be conducted prior to design of the walls. The field effort is scheduled for this summer with community meetings being held after the results of the investigations are available.



# Comment Sheet

I-680 (Sunol Grade)  
Southbound HOV Lane  
EA # 253700  
Public Hearing



Fremont Main Library, Fremont  
Wednesday, December 15, 1999

Name: William Hall Organization: Home owner  
Address: 42472 Olive Zip Code 94539

Please print. Use the back of the sheet if necessary.

AS HOMEROWNER ON OLIVE CT, WE HAVE ENDURED AN EVER INCREASING NOISE LEVEL FROM TRAFFIC ON 680 SOUTH. WE HAVE LIVED IN THIS HOUSE FOR 17 YEARS. I WOULD LIKE CALTRANS TO CONSIDER BUILDING THE SB3 NOISE BARRIER BEFORE ADDING MORE TRAFFIC NOISE. WE ARE NOT ABLE TO HOLD A NORMAL CONVERSATION IN OUR BACK YARD AT THIS TIME. ON OUR FIRST FLOOR WE HAVE DOUBLE PANE WINDOWS AND STILL HEAR THE ROAR OF TRAFFIC. WHEN WE MOVED INTO OUR HOUSE IN 1982 THE NOISE LEVEL WAS TOLERABLE. HELP US TO RETURN TO A NOISE LEVEL THAT WE CAN LIVE WITH.

PLEASE PLACE THIS IN THE COMMENT BOX TONIGHT OR MAIL TO:  
Caltrans District 4, Robert Gross, Chief, Office of Environmental Planning South,  
P.O. Box 23660, Oakland, CA 94623-0660.

Written comments must be postmarked by January 6, 2000.

**Comment #23 from William Hall 12/15/99:**

**As homeowners on Olive Ct. we have endured an ever increasing noise level from traffic on 680 south. I would like Caltrans to consider building the SB-5 noise barrier before adding more traffic noise.**

**Response:**

**Sound wall construction is part of the project scope in order to provide abatement of future predicted noise levels. Construction of the sound walls is planned during the final phase of the project and will be specified as a first order of work where feasible within that construction contract. Field investigations and community meetings will need to be conducted prior to design of the walls. The field effort is scheduled for this summer with community meetings being held after the results of the investigations are available.**

*Comment on Sound Wall*

December 16, 1999

Chairperson Roberta Cooper  
Alameda Congestion Management Agency  
1333 Broadway Suite 220  
Oakland, California

Dear Sirs,

As a homeowner who resides adjacent to the 680 southbound lanes I have been directly affected by the increasing noise levels. Over the past three years I have conveyed these concerns to Victor Sousa of Caltrans. Last night I attended one of two public hearings concerning the I- 680 project. I recently learned that a body of people made a decision to place sound wall construction in the second phase of the project, years after the completion of the HOV lane. Those who decided this plan did not attempt to include the homeowner in this process. . The walls are scheduled at this point for 2003.

My home is 35 years old. Older than the freeway. We have a quarter acre lot size with the majority exposed to the 680 freeway, approximately 175 feet in width. My family and I are subjected to decibel levels of up to 76 and higher as cars and trucks drive through day and night. It has dramatically increased over the past three years to a level approaching a loud city street, yet we are located in a suburban setting. Our sleep is disturbed as well as our family life. We are not able to enjoy our back yard, our school age sons do not want their windows open at night even in the hottest evenings of September and October because of the noise levels. This is a direct impact on the quality of our life caused by the worsening of traffic conditions on 680.

If the HOV lane is completed first, traffic may well move faster. That is great for those people. But as the cars and trucks increase their speed the already high decibel levels rise further. It is well known that there will be even more cars and trucks using this route as well. So our quality of life further declines as we wait two more years beyond this point for a sound wall.

I believe the homeowners should be included in the process of deciding when the sound walls are built. I do not accept the current timeline of 2003 for this. Homeowners along the 680 corridor should be weighted equally as important as the business and government entities who seem to be ignoring the impact of decisions they made, and done without our input. Include homeowners in this decision making process, we are just as adversely affected as any other Silicon Valley worker or business.

Sincerely,

Dave and Elaine Bowers  
Homeowners  
1804 Berry Court  
Fremont, Ca. 94539

cc: Harry Yahata, CALTRANS Director of I-680 project,  
Steve Heminger, Metropolitan Transportation Commission,  
Don Reynolds, CALTRANS

**Comment #24 from Dave and Elaine Bowers 12/16/99:**

As a homeowner who resides adjacent to the 680 southbound lanes I have been directly affected by the increasing noise levels. I recently learned that a body of people made a decision to place sound wall construction in the second phase of the project, years after the completion of the HOV lane. We have a quarter acre lot size with the majority exposed to the 680 freeway, approximately 175 feet in width. My family and I are subjected to decibel levels of up to 76 and higher as cars and trucks drive through day and night.

If the HOV lane is completed first, traffic may well move faster. But as the cars and trucks increase their speed the already high decibel levels rise further. So our quality of life further declines as we wait two or more years beyond this point for a sound wall. I believe the homeowners should be included in the process of deciding when the sound walls are built. I do not accept the current timeline of 2003 for this. Homeowners along the 680 corridor should be weighted equally as important as the business and government entities who seem to be ignoring the impact of decisions they made and done without our input. Include homeowners in this decision making process, we are just as adversely affected as any other Silicon Valley worker or business.

**Response:**

Sound wall construction is part of the project scope in order to provide abatement of future predicted noise levels. Construction of the sound walls is planned during the final phase of the project and will be specified as a first order of work where feasible within that construction contract. Field investigations and community meetings will need to be conducted prior to design of the walls. The field effort is scheduled for this summer with community meetings being held after the results of the investigations are available.

Neal Johnson  
556 La Copita Ct.  
San Ramon, CA 94583  
Work: [neal@tibinc.com](mailto:neal@tibinc.com) (925) 447-4005 x5550  
Home: [nealjn@home.com](mailto:nealjn@home.com) (925) 838-2820

December 17, 1999

Caltrans District 4  
Robert Gross, Chief  
Office of Environmental Planning South  
P.O. Box 23660  
Oakland, CA 94623-0660

Dear Sir or Madam:

I am pleased to see that the auxiliary lane between Automall Parkway and Mission Blvd. South has been given priority and its construction has been advanced. I am also pleased that the southbound HOV (no widening) has been advanced ahead of other construction, even though I am concerned that the narrow lanes and shoulder will be particularly dangerous between Sheridan Road and Mission Blvd. North.

I have a less positive opinion of the rest of the project. The metering lights at Calaveras, Andrade, Sheridan, and Vargas would be useless and a waste of money. The lights at Stoneridge, Bernal, and Sunol would be of limited value, and the light at Vallecitos would be counter-productive once improvements to 84 from I-580 to I-680 are complete. The metering light would discourage use of this improved facility while I-580 congestion and cut-through traffic around Pleasanton would remain that much worse.

Instead of tearing down the would-be Foothill Freeway ramps, they should be used for a new interchange at Blacow Rd. that, with a railroad undercrossing, would relieve congestion in the center of the Irvington District.

Also, something doesn't add up. You propose 10 structures be widened, but only estimate a \$60 M price tag. That would be \$6M per structure if you did nothing else! Does this bring lanes and shoulders to standard 12' and 10'? Are there no retaining walls or extensive grading to be done?

My opinion is that the long-term fix should be put in the hands of a private toll authority.

Sincerely,



Neal Johnson  
Independent Transportation Advocate

**Comment #25 from Neal Johnson 12/17/99:**

Ten structures are proposed to be widened. The estimated cost is \$60 million. That would be \$6 million per structure if you did nothing else. Does this bring lanes and shoulders to standard 12 and 10 feet? Are there no retaining walls or extensive grading to be done?

**Response:**

Scope	Cost
<b>Reconstruct shoulders to allow for an interim southbound HOV lane from SR 84 to SR 237. Demolish Structures between Automall Parkway and Washington Blvd.</b>	<b>\$22,000,000</b>
<b>Widen structures and shoulders to final roadway widths for HOV and auxiliary lanes. Construct an auxiliary lane between Washington Blvd and Automall Pkwy, between South Mission Blvd (SR 262) and Scott Creek Rd, and between Scott Creek Rd and Jacklin Rd. Construct soundwalls and install ramp metering facilities.</b>	<b>\$38,000,000</b>
<b>Total cost including retaining walls and grading</b>	<b>\$60,000,000</b>

As a result of the project, the section of I-680 from just south of Alameda Creek to SR-84 will have non-standard lane and shoulder widths.

DATE: December 19, 1999  
TO: I 680 PROJECT CHAIR PERSON  
FROM: Norris and Juanita Gilmore  
SUBJECT: SOUND WALL

As a Fremont homeowner for the past 21 years we too would also like to register our complaint of the noise from I 680. Our home is located on Olive CT. and our back yard backs up to I 680. Twenty-one years ago the noise was minimal however with the boom of Silicon Valley the noise is unbearable if you have your windows or doors open.

Respectfully I request that the sound wall be constructed first.

NORRIS AND JUANITA GILMORE

HOMEOWNERS

42473 OLIVE COURT

FREMONT, CA. 94539

**Comment #26 from Norris and Juanita Gilmore 12/19/99:**

As a Fremont homeowner for the past 21 years we too would also like to register our complaint of the noise from I-680. Our home is located on Olive Ct. and our back yard backs up to I-680. I request that the sound wall be constructed first.

**Response:**

Sound wall construction is part of the project scope in order to provide abatement of future predicted noise levels. Construction of the sound walls is planned during the final phase of the project and will be specified as a first order of work where feasible within that construction contract. Field investigations and community meetings will need to be conducted prior to design of the walls. The field effort is scheduled for this summer with community meetings being held after the results of the investigations are available.



# PLEASANTON

December 21, 1999

Robert Gross, Chief  
Caltrans District 4  
Office of Environmental Planning, south  
POB 23660  
Oakland, CA 94623-0660

Dear Mr. Gross:

The following are comments on the "Proposed Negative declaration/ Draft Initial Study, Draft Environmental Assessment (NEPA), Southbound Interstate 680 Proposed Improvements."

These comments are given in perspective of the City of Pleasanton.

### Existing Public Transit Services

The implication of the statement/quote from MTC's MIS Phase II, Paragraph 2.8, page (1) is that, "transit cannot compete with the private car in the corridor", yet the HOV lane by designation will be a primary assist to transit vehicles. Regardless of "tradition", transit is beginning to compete very well. Transit obviously cannot compete if there is none in place. LAVTA projects the need for at least doubling of the express buses which are currently all running near capacity and the ACE train has made a significant jump in the percentage by transit and will be increasing service by 50%.

Comment should be made that, "express transit is in high demand and running well in spite of the current lack of a time advantage and having to run in mixed traffic."

### Park and Ride Facilities

Section 2.8.4, page 13, should be changed to read, "the City of Pleasanton has under study Park and Ride facilities at I-680 at West Las Positas and I-680 at Bernal Avenue."

### Traffic and Transportation Impacts

Section 7.2.13 states reduction of delays on mainline freeway operations but makes no statements regarding the possibility of ramp metering delays or possible impacts on local arterials.

Traffic Mitigation for ramp metering will entails widening of ramps, changeable message signing and agreements with local agencies regarding metering policies.

#### PUBLIC WORKS

E41

P. O. Box 520, Pleasanton, CA 94566-0802

Administration  
200 Old Bernal Ave.  
(925) 484-8040  
Fax: 484-8269

Engineering  
200 Old Bernal Ave.  
(925) 484-8041  
Fax: 484-8269

Traffic  
200 Old Bernal Ave.  
(925) 484-8041  
Fax: 484-8269

Inspection  
205-E Main Street  
(925) 484-8195  
Fax: 484-8376

Operations Service Center  
3333 Busch Road  
(925) 484-8074  
Fax: 484-8361

at Gross, Chief  
Caltrans District 4  
December 21, 1999  
Page 2

There should be a clear statement that Caltrans will reach agreement with Fremont and Pleasanton on the ramp-metering plan prior to the implementation of ramp metering.

Yours truly,



Randall A Lum  
Director of Public Works

c: City Manager  
Tri-Valley Transportation Council  
Dennis Fay, Alameda Co CMA

traffic/eri680hov.doc.sm

**Comment # 27 (a) from the City of Pleasanton 12/21/99:**

Comment should be made that, "express transit is in high demand and running well in spite of the current lack of a time advantage and having to run in mixed traffic."

**Response:**

Comment noted.

**Comment #27(b) from the City of Pleasanton 12/21/99:**

Section 2.8.4, page 13, should be changed to read, "the City of Pleasanton has under study Park and Ride facilities at I-680 at West Las Positas and I-680 at Bernal Avenue"

**Response:**

This section has been revised to reflect the comment from the City of Pleasanton.

**Comment #28 from the City of Pleasanton 12/21/99:**

Section 7.2.13 states reduction of delays on mainline freeway operations but makes no statements regarding the possibility of ramp metering delays or possible impacts on local arterials.

**Response:**

Generally, ramp metering delays and impacts on local streets are addressed in an operations analysis report closer to the time when ramp metering is implemented. At this time, the project is planned to be completed by December 2004, so ramp metering is scheduled for some time in 2005. At this time, it is difficult to predict the growth of traffic, changes in traffic patterns, and changes in the transportation systems.

**Comment #29 from the City of Pleasanton 12/21/99:**

There should be a clear statement that Caltrans will reach an agreement with Fremont and Pleasanton on the ramp-metering plan prior to the implementation of ramp metering.

**Response:**

A ramp metering policy will be developed, involving the local agencies, prior to ramp metering implementation. This policy will be similar to the ramp metering policy developed for I-880 in Alameda County, with which the local agencies in that county are familiar. Generally, there are no operational analysis done for the project at this early stage, so it is difficult to come to an agreement without a ramp metering plan.

From: Sree Kolavennu  
1966 Mandan Ct.  
Fremont, CA 94539

To: Robert Gross  
I-680 Environment Project  
Cal Trans District 4  
P.O. Box 23660  
Oakland, CA 94623

12/28/99

Re: I-680 Environment Project.

Dear Sir,

This is regarding the I-680 Environment Project that came in the local news section of the Argus on 12/16/1999.

I was very happy to see that Caltrans is planning to build a soundwall along with a car pool lane, etc. I called your office the other day to find out more information on the project. The staff was kind enough to give me details and the proposed map of the soundwall.

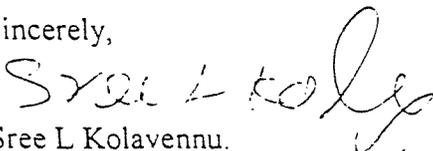
As I learned from the map, under the current plan, the wall on I-680 will only be built up to the intersection at Grimmer. I live on the next court. I would like to request Caltrans, on behalf of several residents, to extend the soundwall to the next ramp or at least for another half a mile. This would greatly reduce the freeway noise, and let us all use our backyards once again.

On another note, the map said that a 14-foot wall exists on some parts of the freeway in this area. But I want to bring it to your attention that the existing wall does not sit on the freeway. Since the freeway in this neighborhood is above the level of our homes, a 14-foot wall from our ground level would hardly reduce the noise. Building a 16-foot sound wall on the freeway itself will solve this problem and all of us will have much more quietness.

I would like to strongly urge you to modify your plans so that they include these suggestions. Please consider my request on behalf of many concerned residents.

Thank you.

Sincerely,

  
Sree L. Kolavennu.

**Comment #30 from Sree L. Kolavennu 12/28/99:**

Under the current plan, the sound wall on I-680 will only be built up to the intersection at Grimmer. I live on the next court. I would like to request Caltrans, on behalf of several residents, to extend the sound wall to the next ramp or at least for another half a mile. This would greatly reduce the freeway noise and let us all use our backyards once again.

The map said that a 14-ft wall exists on some parts of the freeway in this area. But I want to bring it to your attention that the existing wall does not sit on the freeway. Since the freeway in this neighborhood is above the level of our homes, a 14-ft wall from our ground level would hardly reduce the noise. Building a 16-ft sound wall on the freeway itself will solve this problem and all of us will have much more quietness.

**Response:**

The proposed 14-foot high sound wall (NB-8) will be raised to 16 feet and extended approximately 100 feet to the north closer to the Grimmer Blvd overcrossing. The sound wall will reduce freeway noise levels up to 13 decibels for nearby residents. A 10 decibel reduction is perceived by the healthy human ear as half as loud. Although the top of wall elevation of a sound wall near the existing edge of shoulder would be higher than at the State's right-of-way, a 16-foot wall at the State's right-of-way line will provide the same attenuation, therefore, the proposed wall will be located at the State's right-of-way.



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

December 30, 1999

**ALAMEDA COUNTY**

Scott Haggerty  
Greg Harper  
Mary King  
Ben C. Tarver

**CONTRA COSTA COUNTY**

Paul Cooper  
Mark DeSaulnier  
Gayle Uilkema

**MARIN COUNTY**

Harold C. Brown, Jr.

**NAPA COUNTY**

Brad Wagenknecht

**SAN FRANCISCO COUNTY**

Amos Brown  
Michael Yaki

**SAN MATEO COUNTY**

Michael Nevin  
(Chairperson)  
Mariland Townsend

**SANTA CLARA COUNTY**

Randy Attaway  
(Vice-Chairperson)  
Don Gage  
Julia Miller  
Dena Mossar

**SOLANO COUNTY**

William Carroll  
(Secretary)

**SONOMA COUNTY**

Tim Smith  
Pamela Torliatt

Ellen Garvey  
Executive Officer/  
Air Pollution Control Officer

Mr. Robert Gross, Chief  
Office of Environmental Planning, South  
Caltrans District 4  
P.O. Box 23660  
Oakland, CA 94623-0660

**Subject: Draft Initial Study / Environmental Assessment and Proposed Negative Declaration – Southbound I-680 Proposed Improvements**

Dear Mr. Gross:

The Bay Area Air Quality Management District (BAAQMD) has received your agency's Draft Initial Study / Environmental Assessment (EA) and Proposed Negative Declaration for the proposed improvements to Southbound I-680 in Alameda and Santa Clara Counties. The project would include construction of a high occupancy vehicle (HOV) lane from Route 84 to Route 237, auxiliary lanes and ramp metering of on-ramps. The Draft Initial Study / EA states that the HOV lane probably would be restricted to vehicles with 2 or more occupants only during the AM peak hour. At other times, the new HOV lane would be open to all vehicles.

The Initial Study / EA prepared for the Southbound I-680 project concludes that the project would have no impact on air quality, and that the "no build" alternative would allow air quality to deteriorate due to increased traffic congestion. We are concerned that the project as proposed may have mixed short-term air quality impacts, and negative long-term impacts from induced travel.

The Bay Area is a non-attainment area for federal and state ambient air quality standards for ground level ozone, and state standards for particulate matter. The air quality standards are set at levels to protect public health and welfare. The major source of air pollution in the Bay Area is motor vehicles.

The BAAQMD supports the expansion of our HOV lane system, subject to appropriate operational constraints (See Attachment 1 – TCM 8 of the *Bay Area 1997 Clean Air Plan*).

Conversion of existing mixed flow lanes, though controversial, it is the most effective means of using an HOV lane to change travel mode and thus improve air quality. When existing mixed flow lanes are designated for HOV use, the conversion tends to encourage the formation of new carpools and greatly reduces travel times for express buses. Increasing average vehicle occupancy in this manner is likely to produce a long-term air quality benefit, as it encourages the formation of new carpools and shifts travel to buses.

Building new HOV lanes can also provide travel time savings for some carpool, van and bus passengers. But because new lanes increase overall capacity, the short term effect is to reduce travel time for all drivers so there is less motivation to form carpools and less air quality benefit. This is especially true for new HOV lanes that connect job centers in the core of the region with lower cost housing at the periphery – such as the southbound I-680 project. Studies have shown

that the new capacity is quickly taken as people change their travel routes and times. Until the new capacity is fully consumed, the enhanced accessibility due to shorter travel time is likely to foster land use changes that lead to increased vehicle miles traveled.

Given that southbound I-680 is one of the most congested commutes in the region, we expect that any new capacity – HOV-restricted or otherwise – will be quickly consumed. If the proposed project results in a meaningful time savings, we expect more commuting to Santa Clara County from the Tri-Valley, Eastern Contra Costa County and the Central Valley. Some who would have taken the Altamont Commuter Express because of congestion may choose to drive instead. In short, the project could result in a large increase in vehicle miles traveled, as people seek housing in communities at ever longer distances from jobs in Southern Alameda and Santa Clara Counties. Thus, we request an analysis of the project's long term effect on induced traffic prior to proceeding with this project. Given the potential for significant air quality impacts, this analysis should be undertaken as part of an Environmental Impact Report (EIR).

In addition to analyzing the growth inducing impacts of the proposed project, the Draft EIR should evaluate alternatives to the proposed project and recommend mitigation that reduces any significant impacts of the project to less-than-significant.

We are sensitive to the fact that there is local support for the I-680 HOV Project. However, we believe that additional information needs to be made available to the public regarding the project's impacts on air quality and traffic flow *after* the new capacity is consumed and induced traffic is taken into account. The project and each alternative should be analyzed in detail, including the likely cost-effectiveness, technical feasibility and long-term benefits to air quality of each option. The effectiveness and comparative cost-effectiveness of proposed mitigation measures should also be analyzed and reported.

Please call David Marshall, Principal Planner on my staff, at (415) 749-4678 if you have any questions or need additional information regarding our comments.

Sincerely,



Ellen Garvey  
Executive Officer

EG:DM

cc: BAAQMD Director Randy Attaway  
BAAQMD Director Don Gage  
BAAQMD Director Scott Haggerty  
BAAQMD Director Mary King  
Felicia Marcus, EPA Region IX  
Michael Kenny, California Air Resources Board  
Michael Evanhoe, Santa Clara Valley Transportation Agency  
Dennis Fay, Alameda County Congestion Management Agency  
Larry Dahms, Metropolitan Transportation Commission  
Dan Kirshner, Environmental Defense Fund

BAAQMD Director Julia Miller  
BAAQMD Director Dena Mossar  
BAAQMD Director Greg Harper  
BAAQMD Director Ben C. Tarver

## ATTACHMENT 1

### TCM 8 - CONSTRUCT CARPOOL / EXPRESS BUS LANES ON FREEWAYS

#### Purpose

This TCM could help reduce mobile source emissions in the near term by promoting the use of carpools, vanpools and other high occupancy vehicles (HOVs) such as express buses, provided the operational recommendations outlined below are implemented.

#### Background

Low vehicle occupancy rates are a major cause of the Bay Area's mobile source related air pollution and traffic congestion problems. The single occupant vehicle is the dominant mode of transportation, especially during peak commute periods, when over 68% of cars and trucks carry only the driver (Source: 1990 Census). Travel time and cost are the primary factors that influence choice in transportation mode. Although carpools and vanpools can provide a significant cost saving compared to driving alone, they often involve a sacrifice in terms of time required for pick-up and drop-off. By providing significant time savings for carpools, vanpools and express buses, additional 3-person HOV lanes on key freeways and expressways may stimulate formation of carpools and use of high occupancy vehicles. Maximum priority should be given to HOV system enhancements that give priority to buses, and reduce their travel time. Since expressways are open to bicycle travel, the addition of HOV lanes should avoid hazards to bicycle users.

The California Air Resources Board has defined HOV lane networks as a "reasonably available" transportation control measure under the provisions of the California Clean Air Act. The Act mandates that local air districts include all reasonably available TCMs in their air quality plans.

#### Description

MTC issued a *Year 2005 HOV Lane Master Plan* in August 1990, which was prepared in cooperation with Caltrans and the California Highway Patrol. This Master Plan provides a blueprint for construction of additional HOV lanes in the region. The Master Plan calls for a network of 534 lane-miles of HOV lanes upon completion compared to 270 lane-miles at present. However, MTC is in the process of updating the Master Plan, and envisions a more limited HOV system of 419 lane-miles.

Several events have occurred that necessitates an update of the Master Plan. While many of the HOV lanes have been constructed and are operational, others have been dropped from funding consideration. In addition, in response to ISTEA, MTC has developed a financially constrained 1996 *Regional Transportation Plan* (RTP) that does not include a number of HOV lanes identified in the Master Plan that have no current funds available for construction.

A HOV lane system designed to improve air quality would have the following elements:

- Identification of freeway segments where conversion of general purpose lanes to HOV lanes would provide significant time savings for transit, allow projects to be implemented earlier or avoid entirely the cost and dislocation associated with freeway widening.
- Joint planning with transit agencies and major employers in the HOV corridor regarding design, operations and promotion of the HOV facility

## ATTACHMENT 1

- Active enforcement of occupancy and use restrictions (to reduce violation rates that today run as high as 20 to 30 percent), and identification of long term funding for enforcement.
- Direct connections between HOV lanes on intersecting freeways
- "Slip ramps" allowing direct entry and exit to HOV lanes at key points along freeways
- HOV Bypass lanes at metered ramps allowing additional time advantage to carpoolers
- Strategically located park & ride lots for HOV lane users
- Aggressive rideshare promotion/matching in a corridor
- Changeable message signs and real time information to provide information on HOV lanes (entry points, hours of operation, occupancy requirements, etc.)
- Clean fueled vehicles should be allowed to use HOV lanes regardless of their occupancy. This access could be granted only to zero emission vehicles (ZEVs), or alternatively could also be granted to inherently low emission vehicles (ILEVs). While air quality benefits would be maximized by providing access to all ILEVs, the idea may be more politically feasible if it applies only to ZEVs. This is because the very low number of ZEVs on the road initially means that they should not contribute significantly to HOV lane congestion. Such an HOV access provision should be designed to sunset at either some future year (e.g., 2003) or at a fixed level of ZEV/ILEV sales volume. Vehicles eligible to use the HOV lanes regardless of occupancy should be required to be identified in some obvious way to simplify enforcement. This strategy would provide a very powerful incentive to spur sales and introduction of clean fueled vehicles, without cost to the state or region.

MTC and Caltrans will conduct corridor studies to help determine the need for support facilities described above. MTC will coordinate with Caltrans on specific proposals with respect to their design feasibility and potential for funding.

Funding varies by project, and can include Federal, State and local moneys. Approximately 139 HOV lane miles are programmed in the 1997 TIP.

Increases in certain express bus services should be considered to maximize person carrying capacity of HOV lanes. MTC is currently reviewing express bus service needs which would be operated on HOV lanes in the I-80 corridor.

Average vehicle occupancy of all HOV lanes should be monitored frequently. HOV lane use requirements (currently 2 persons for most HOV lanes) should be increased to 3 people per vehicle when appropriate to maintain travel time advantages and stimulate the formation of new carpools.

Hours of operation could be extended from the current a.m. and p.m. peak periods to cover mid-day hours (10:00 a.m. to 3:00 p.m.) where mid-day congested conditions warrant. This would provide greater benefits to HOVs and enhance transit reliability where transit operates on HOV lanes.

## ATTACHMENT 1

### Travel Market Affected

TCM 8 is aimed primarily at commute trips, which account for the majority of trips during the morning and evening peak periods. However, HOV lanes should help to increase average vehicle occupancy for other types of trips (shopping, personal business, school, recreational), especially when lane designation is expanded to include mid-day periods.

### Effectiveness

TCM 8 is expected to yield the following emission reductions:

	<u>ROG</u>	<u>NOx</u>
2005	0.01 tpd	0.01 tpd
2015	0.03 tpd	0.03 tpd

### Cost

Funding for partial construction of the *HOV Lane Master Plan* is already available through several sources, including ISTEA, Proposition 111 and local county sales tax measures. If legislation is approved for new revenue measures (see TCM 18), a portion of this new revenue could be allocated to expedite construction of the HOV lanes.

### Impediments

Funding must be maintained as assumed in the 1996 *Regional Transportation Plan* to complete the remaining 56 lane miles identified in the *Regional Transportation Plan*.

### Other Impacts

In addition to reducing emissions in the near term, TCM 8 will help to mitigate traffic congestion. An additional benefit is reduced wear and tear on motor vehicles.

Construction of HOV lanes will create employment in the construction trades over the next 10-15 years.

TCM 8 may have a short term negative impact on air quality due to emissions generated during construction. Congestion on freeways and adjacent arterials can be expected during construction. However, traffic mitigation programs for certain major projects can be implemented to mitigate congestion.

TCM 8 may also have a long term (i.e., 20 to 50 years from today) negative impact on air quality due to additional traffic being attracted to the highway, generated by increased land development in the areas served by the HOV facility. This phenomenon is particularly an issue in rapidly developing areas of Contra Costa, Santa Clara, Solano and Sonoma counties, where new development may quickly consume added capacity and return facilities to their pre-HOV lane congestion levels. The Air District has asked that the Air Resources Board consider whether HOV lanes should remain on the list of reasonably available TCMs. Air District staff will follow research on this topic and adjust future air quality plans accordingly.

Comment #31 from BAAQMD 12/30/99:

The project as proposed may have mixed short-term air quality impacts and negative long-term impacts from induced travel.

Response:

Studies by Caltrans and others have shown that reduced congestion results in fewer emissions and therefore improved local air quality. This conclusion is based on the fact that emissions decrease as speeds increase in the range of 3 to 58 mph. Stop-and-go conditions result in high emissions, smooth traffic flow results in lower emissions.

Induced travel is addressed in MTC's regional travel demand forecasting system (BAYCAST-90) by simulating the effects of route changes, departure time changes, modal shifts and mode shifts due to highway capacity changes. As the forecasting for this project has been done using BAYCAST, induced travel effects have been accounted for and are not a factor.

The project is included in the 1998 Regional Transportation Plan (RTP) and 1999 Transportation Improvement Program (TIP), which was approved jointly by FHWA and FTA on October 5, 1998. Based on the TIP conformity analysis, the following reductions in VOC, Nox, and CO emissions can be expected in the future:

Table 8  
VOC Projections

Year	Tons/Day VOC Budget	TIP	Change
2000	299.6	124.4	-58.5%
2010	299.6	57.2	-80.9%
2020	299.6	45.5	-84.8%

Table 9  
NOx Projections

Year	Tons/Day NOx Budget	TIP	Change
2000	251.1	206.4	-17.8%
2010	251.1	163.3	-35.0%
2020	251.1	164.5	-34.5%

Table 10  
CO Projections

Year	Tons/Day CO Budget	TIP	Change
2000	2,193	1,323	-39.7%
2010	2,193	635.9	-71.0%
2020	2,193	540.7	-75.3%

Judging from the above projections, it appears that projects included in the latest approved TIP will not result in negative long-term air quality impacts.

Comment #32 from BAAQMD 12/30/99:

The Bay Area is a non-attainment area for federal and state ambient air quality standards for ground level ozone, and state standards for particulate matter. The air quality standards are set at levels to protect public health and welfare. The major source of air pollution in the Bay Area is motor vehicles.

Response:

Since significant reductions in VOC and NO<sub>x</sub> (precursors to ozone formation) are predicted (see table above), it can reasonably be concluded that ozone concentrations will decrease as well and that the Bay Area once again will be in attainment. We agree that the Bay Area is in non-attainment for the State Standard for particulate matter (PM<sub>10</sub>). To date, no methodology has been developed to quantify PM<sub>10</sub> concentrations as the result of motor vehicle operations.

Comment #33 from BAAQMD 12/30/99:

The BAAQMD supports the expansion of our HOV lane system, subject to appropriate operational constraints (TCM 8 of the Bay Area 1998 Clean Air Plan).

Response:

Caltrans will monitor and operate the proposed HOV lane to assure maximum benefit to the traveling public. This project conforms to the requirements of TCM 8 of the 1998 Clean Air Plan.

Comment #34 from BAAQMD 12/30/99:

Conversion of existing mixed flow lanes, though controversial, is the most effective means of using an HOV lane to change travel mode and thus improve air quality. This conversion tends to encourage the formation of new carpools, greatly reduce travel times for express buses and is likely to produce a long-term air quality benefit.

Response:

Converting an existing mixed-flow lane to an HOV lane is not the most effective means to change travel mode and improve air quality. Although traffic operations in the converted lane could presumably improve, operations in the remaining two mixed-flow lanes would significantly deteriorate, offsetting any air quality benefits gained by the converted HOV lane. Furthermore, as BAAQMD rightfully pointed out, converting an existing mixed-flow lane to an HOV lane will be controversial. We respectfully refer BAAQMD to recent legislation (AB 1624, Figueroa, 1997-98) regarding HOV lanes in the Bay Area. This bill was chaptered by the Secretary of State in 1998 (Chapter 653, Statutes of 1998).

This law amended Section 21655.6 of the Vehicle Code to state that whenever the Department of Transportation authorizes or permits exclusive or preferential use of highway lanes for HOVs on any highway located within the territory of a transportation

planning agency, or county transportation commission, the department shall obtain the approval of that agency or commission prior to establishing the HOV lane. Furthermore, this section of the Vehicle Code was amended to state that if the department restricts or requires the restriction of the use of any lane on any federal-aid highway in the unincorporated areas of Alameda County to HOVs, MTC shall review the use patterns of those lanes and shall determine if congestion relief is being efficiently achieved by the creation of the HOV lanes.

**Comment #35 from BAAQMD 12/30/99:**

Building new HOV lanes can also provide travel time savings for some carpool, van and bus passengers, but because they increase overall capacity, the short term effect is to reduce travel time for all drivers so there is less motivation to form carpools and less air quality benefit. Studies have shown that the new capacity is quickly taken as people change their travel routes and times. Until the new capacity is fully consumed, the enhanced accessibility due to shorter travel time is likely to foster land use changes that lead to increased vehicle miles traveled. If the proposed project results in a meaningful time savings, we expect more commuting to Santa Clara County from the Tri-Valley, Eastern Contra Costa county and the Central Valley. Some who would have taken the Altamont Commuter Express because of congestion, may choose to drive instead. The project could result in a large increase in vehicle miles traveled, as people seek housing in communities at ever longer distances from jobs in Southern Alameda and Santa Clara Counties. Thus, we request an analysis of the project's long term effect on induced traffic prior to proceeding with this project. Given the potential for significant air quality impacts, this analysis should be undertaken as part of an Environmental Impact Report (EIR).

**Response:**

It may be true that increased capacity will eventually be taken up, but that is mainly due to a rapidly increasing population and a strong economy in addition to the other factors we previously pointed out. We respectfully disagree with the BAAQMD that the new capacity of one HOV lane will likely foster land use changes. The Draft Environmental Report of the 1998 Regional Transportation Plan predicts an increase of 14% in population between the years 2000 to 2020, a 20% increase in trips and a 28% increase in VMT. New lane miles will only increase by 4% and new peak transit capacity will increase by 11%. This leads to the conclusion that present planning scenarios do not provide sufficient new capacity to keep up with regional growth. As mentioned above, the approved TIP concludes that air quality will not deteriorate as a result of this project

**Comment #36 from BAAQMD 12/30/99:**

The draft environmental document should evaluate alternatives to the proposed project and recommend mitigation that reduces any significant impacts of the project to less-than-significant.

**Response:**

No significant impacts have been identified in the draft environmental document for the proposed project. Other alternatives have been discussed and reasons for their dismissal are included in Section 4.0 of the Draft IS/EA.

**Comment #37 from BAAQMD 12/30/99:**

**Additional information needs to be made available to the public regarding the project's impacts on air quality and traffic flow after the new capacity is consumed and induced traffic is taken into account. The project and each alternative should be analyzed in detail, including the likely cost-effectiveness, technical feasibility and long-term benefits to air quality of each option. The effectiveness and comparative cost-effectiveness of proposed mitigation measures should also be analyzed and reported.**

**Response:**

**Our present process of evaluation already adequately addresses these concerns and provides the public with sufficient information regarding air quality impacts of the different options. Using CO as an indicator of microscale impacts of the facility options, our study predicts that all options will meet the Clean Air Act requirements by not increasing the severity or number of exceedences and not creating new exceedences. Facilities of this size for all options exist currently in the Bay Area. The area has attained CO standards. Therefore, these facilities do not currently violate CO microscale standards. Neither, with the improved emissions, will they violate standards in the future. This method of assessment has the approval of the EPA, MTC, and the BAAQMD.**

**Regionally, the TIP process provides the basis for conformity of the region. This project is in the TIP and, therefore, conforms. According to the future projected daily emissions in the years 2010 and 2020 in the approved TIP, no degradation of air quality will occur, instead, air quality is expected to improve. Current state and federal laws do not prohibit growth or increased emissions as long as it can be shown that these increases, if any, will not cause exceedances of existing standards or violation of the emissions budget listed in the approved SIP. This project does not require mitigation measures for the purpose of air quality.**

# County of Santa Clara

Roads and Airports Department

101 Skyport Drive  
San Jose, California 95110-1302



January 3, 2000

Mr. Robert Gross  
District Office Chief  
Office of Environmental Planning, South  
P.O. Box 23660  
Oakland, CA 94623-0660

Subject: Southbound I-680 HOV

Dear Mr. Gross,

We have reviewed the Proposed Negative Declaration/Draft Initial Study/Draft Environmental Assessment dated November 17, 1999 for the subject project.

It is recommended that the HOV lane be extended to Montague Expressway to provide a continuous HOV connection for I-680, Montague Expressway, and Highway 101.

If you have any questions, please call me at 573-2463.

Sincerely,

A handwritten signature in black ink that reads "Sean Quach".

Sean Quach  
Project Engineer

cc: MA/SK  
DEC  
RVE  
Files

I-680 HOV

**Comment #38 from the County of Santa Clara 1/3/00:**

The HOV lane should be extended to Montague Expressway to provide a continuous HOV connection for I-680, Montague Expressway, and Highway 101.

**Response:**

Although extension of the proposed HOV lane southerly to the Montague Expressway would be desirable from the standpoint of creating HOV network continuity, there would be little, if any, direct user benefit.

Currently, the controlling southbound bottleneck during the morning commute is located at the SR-262 interchange. After the southbound HOV lane project is completed, the controlling bottleneck is expected to shift to SR-237 interchange. Immediately downstream of the SR-237 interchange, I-680 is expected to operate under free-flow conditions. Thus, extending the HOV lane to Montague Expressway will have minimal benefit. As the proposed HOV lane terminus will be connected to an existing lane at the SR-237 interchange, no additional transition is required. Additional widening will be required to extend the HOV lane southerly as we do not recommend conversion of an existing mix-flow lane to an HOV lane. Furthermore, extending the HOV lane to Highway 101 was outside the scope of this project's purpose and need.

The HOV lane project was initiated by the Major Investment Study (MIS) that was commissioned by the Alameda County Congestion Management Agency (CMA) with the cooperation of Santa Clara CMA and Caltrans. The MIS studied many alternatives to provide immediate congestion relief for the Sunol Grade commuters. The current HOV lane proposal, along with the auxiliary lanes and ramp metering, emerged as the preferred alternative. In a parallel effort, Caltrans is also working with the Alameda County CMA to develop long-term improvements for this freeway corridor. The study covers both directions of I-680 including the Montague Expressway interchange and other adjoining arterial streets and routes. A wide range of alternatives is being considered for these improvements.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

JAN 6 2000

David A. Nicol, Acting Division Administrator  
Federal Hwy. Administration—California Division  
980 9<sup>th</sup> St., Ste. 400  
Sacramento, CA 95814-2724

Dear Mr. Nicol:

The U.S. Environmental Protection Agency (EPA) has received a copy of the Draft Initial Study/Environmental Assessment (IS/EA) for the **Southbound I-680 Proposed Improvements** project. Although we have no specific comments on the proposed project at this time, we are aware that commenting agencies and the public have raised issues related to induced traffic and the potential for significant air quality impacts.

In their letter dated December 30, 1999, the Bay Area Air Quality Management District (BAAQMD) requested that Caltrans conduct an analysis of the project's long term effect on induced traffic in a separate Environmental Impact Report (EIR), citing the potential for significant air quality impacts. The BAAQMD letter does not make a specific recommendation regarding the need for FHWA to prepare an Environmental Impact Statement (EIS) for NEPA compliance purposes, but it raises serious concerns about the project's potential for inducing growth and an its contribution to an inevitable increase in vehicle miles traveled (VMT), both directly relevant to FHWA's consideration of air quality and cumulative impacts under NEPA.

FHWA must now determine whether it is appropriate to approve a Finding of No Significant Impact (FONSI) or prepare an EIS. Given the nature of the concerns raised by BAAQMD, EPA requests an opportunity to review the public comment record and comment on FHWA's proposed FONSI language prior to signature.<sup>1</sup> If, however, FHWA concludes that an EIS is necessary, EPA requests that FHWA route the Draft EIS and any scoping materials to this office for review pursuant to the normal procedures for EIS-level reviews.

We appreciate your consideration of this request. If you have any questions about this letter, please contact Leonidas Payne of my staff at (415) 744-1571.

Sincerely,

David Farrel, Chief  
Federal Activities Office

cc: Robert Gross, Caltrans District 4  
Ellen Garvey, BAAQMD

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<sup>1</sup> EPA has already received tentative approval from Caltrans that they are willing to route a copy of the Final IS/EA (including draft responses to agency and public comments) to EPA at the same time it is made available to FHWA for pre-release review. (Personal conversation with Dennis Radel, January 5, 2000)

Comment #39 from U.S. EPA 1/6/00:

BAAQMD, in their letter dated December 30, 1999, requested that Caltrans conduct an analysis of the project's long term effect on induced traffic in a separate EIR citing the potential for significant air quality impacts. This letter raises serious concern about the project's potential for inducing growth and its contribution to an inevitable increase in vehicle miles traveled (VMT).

Response

Studies by Caltrans and others have shown that reduced congestion results in fewer emissions and therefore improved local air quality. This conclusion is based on the fact that emissions decrease as speeds increase in the range of 3 to 58 mph. Stop-and-go conditions result in high emissions, smooth traffic flow results in lower emissions.

Induced travel is addressed in MTC's regional travel demand forecasting system (BAYCAST-90) by simulating the effects of route changes, departure time changes, modal shifts and mode shifts due to highway capacity changes. As the forecasting for this project has been done using BAYCAST, induced travel effects have been accounted for and are not a factor.

The project is included in the 1998 Regional Transportation Plan (RTP) and 1999 Transportation Improvement Program (TIP), which was approved jointly by FHWA and FTA on October 5, 1998. Based on the TIP conformity analysis, the reductions in VOC, NOx, and CO emissions presented in Tables 8, 9, and 10 can be expected in the future. Judging from these projections, it appears that projects included in the latest approved TIP will not result in negative long-term air quality impacts.

Since significant reductions in VOC and NOx (precursors to ozone formation) are predicted (see Tables 8, 9 and 10), it can reasonably be concluded that ozone concentrations will decrease as well and that the Bay Area once again will be in attainment. We agree that the Bay Area is in non-attainment for the State Standard for particulate matter (PM10). To date, no methodology has been developed to quantify PM10 concentrations as the result of motor vehicle operations.

According to the future projected daily emissions in the years 2010 and 2020 in the approved TIP, no degradation of air quality will occur, instead, air quality is expected to improve. Current state and federal laws do not prohibit population growth or increased emissions as long as it can be shown that these increases, if any, will not cause exceedances of existing standards or violation of the emissions budget listed in the approved SIP. This project does not require mitigation measures for the purpose of air quality.

Caltrans will monitor and operate the proposed HOV lane to assure maximum benefit to the traveling public. This project conforms to the requirements of TCM 8 of the 1998 Clean Air Plan.

It may be true that increased capacity will eventually be taken up, but that is mainly due to a rapidly increasing population and a strong economy in addition to the other factors we previously pointed out. We respectfully disagree with the BAAQMD that the new capacity of one HOV lane will likely foster land use changes. The Draft Environmental Report of the 1998 Regional Transportation Plan predicts an increase of 14% in population between the

years 2000 to 2020, a 20% increase in trips and a 28% increase in VMT. New lane miles will only increase by 4% and new peak transit capacity will increase by 11%. This leads to the conclusion that present planning scenarios do not provide sufficient new capacity to keep up with regional growth. As mentioned above, the approved TIP concludes that air quality will not deteriorate as a result of this project.

No significant impacts have been identified in the draft environmental document for the proposed project. Other alternatives have been discussed and reasons for their dismissal are included in Section 4.0 of the Draft IS/EA.

Comment #40 from U.S. EPA 1/6/00:

FHWA must now determine whether it is appropriate to approve a Finding of No Significant Impact (FONSI) or prepare an EIS. EPA requests an opportunity to review the public comment record and comment on FHWA's proposed FONSI language prior to signature. If FHWA concludes that an EIS is necessary, EPA requests that FHWA route the Draft EIS and any scoping materials to EPA for review pursuant to normal procedures for EIS-level reviews.

Response:

If the IS/EA had revealed significant environmental impacts and an EIR/EIS became necessary, normal procedures for notice of intent, scoping and circulation of the draft EIR/EIS would have included full coordination with EPA. However, the IS/EA concluded that the project will result in no significant impacts. Therefore, a ND/FONSI is the appropriate level of environmental determination under CEQA and NEPA respectfully.



# City of Milpitas

455 E. Calaveras Blvd.  
Milpitas, California 95035



January 6, 2000

Robert Gross, Chief  
Caltrans District 4  
Office of Environmental Planning Studies  
PO Box 23660  
Oakland, CA 94623-0660

**Re: Proposed Negative Declaration Draft Initial Study/Draft Environmental Assessment for Southbound Interstate 680 Proposed Improvements**

Dear Mr. Gross:

Thank you for the opportunity to comment on the environmental document for this project. The City of Milpitas strongly supports efforts to improve traffic flow on the Interstate 680 (I-680) Corridor. This project, however, may have a significant adverse effect on traffic moving through the City and the region if measures are not taken to reduce its impacts.

Because of its location, Milpitas serves as a major gateway to the high employment area of Silicon Valley, accommodating significant regional traffic on its street system. The 680 Corridor is one of the major regional facilities that traverse the City. Peak hour traffic volumes in this Corridor have increased greatly over the past five years, and are likely to further increase as the economy flourishes and jobs are created in Silicon Valley. The imbalance between the employment in the Valley and housing in far distant areas has resulted in commuters using the Corridor southbound during the morning peak period and northbound in the afternoon peak period. In addition, commuters use the I-680 to connect to west/eastbound regional facilities, including Calaveras Blvd. (SR 237) and the Montague Expressway. This has caused congestion to occur along I-680 as well as Milpitas' city streets during both peak periods.

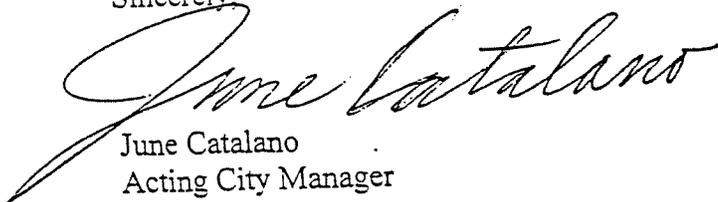
While the City strongly supports improving capacity along the I-680, these improvements should not cause significant adverse impacts in other transportation corridors. As proposed, the HOV lane will deliver more traffic to the City's already congested east/west corridors and force motorists to find parallel City streets to bypass congestion on I-680. In short, the bottleneck will be moved from the Sunol Grade to Milpitas' streets. Therefore, it is critical that the environmental analysis for the HOV lane discuss and document this project's potential impacts to the Milpitas roadway system. Where

impacts are identified, mitigation measures should be described in detail. The current environmental analysis neither identifies impacts nor addresses any mitigation measures for City streets.

The project also exacerbates the need for the long-sought I-680/I-880 Cross-Connector. Although the Cross-Connector has been proposed as a High Priority project for the Santa Clara Valley Transportation Authority's 2020 Plan, there is currently no certainty that it will be included. The Silicon Valley Manufacturing Group, which represents the largest hi-tech firms in the Valley, is highly supportive of the Cross-Connector and the City is prepared to aggressively pursue this project in partnership with other responsible public agencies. Explicit reference to the project as a viable and critical measure should be included in the environmental review.

We appreciate this opportunity to comment on the proposed Negative Declaration and look forward to reviewing the amended document.

Sincerely,

A handwritten signature in cursive script that reads "June Catalano". The signature is written in black ink and is positioned above the typed name and title.

June Catalano  
Acting City Manager

cc: City Council  
Transportation Subcommittee

**Comment #41 from the City of Milpitas 1/6/00:**

As proposed, the HOV lane will deliver more traffic to the City of Milpitas' already congested east/west corridors and force motorists to find parallel City streets to bypass congestion on I-680. The bottleneck will be moved from the Sunol Grade to Milpitas' streets. Therefore, it is critical that the environmental analysis for the HOV lane discuss and document this project's potential impacts to the Milpitas roadway system. Where impacts are identified, mitigation measures should be described in detail.

**Response:**

This project will deliver more HOVs to the County of Santa Clara with some motorists commuting to the City of Milpitas and others travelling beyond the city. Currently with the existing high demand, the freeway segment within the limits of the City of Milpitas is operating under free-flow conditions. This is due to the fact that traffic throughput is constrained at the Mission Blvd./SR-262 interchange, north of the City of Milpitas. However, it is important to note that the trend of traffic demand and congestion growth will continue regardless of whether or not the proposed HOV lane is built.

The current study did not quantify the impact to city streets. Based on the peak-hour operational analysis of the freeway corridor, the current free-flow conditions will deteriorate in the future under both Build and No-Build scenarios. As a result, under the No-Build alternative, local streets would still be impacted as more and more motorists seek alternate routes to bypass freeway congestion.

**Comment #42 from the City of Milpitas 1/6/00:**

The project exacerbates the need for the long-sought I-680/I-880 Cross-Connector. Although the Cross-Connector has been proposed as a High Priority project for the Santa Clara Valley Transportation Authority's 2020 Plan, there is currently no certainty that it will be included.

**Response:**

The need for the I-680/880 connector exists regardless of whether or not this project is built. Funding is set aside in the 1998 STIP for a study to determine the feasibility and potential alternatives for a direct connection between I-680 and I-880. The connection is proposed to provide relief to commuters currently using city streets to make this connection. This is supported by the Santa Clara Valley Transportation Authority, the Silicon Valley Manufacturing Group, and the City of Milpitas.



ENVIRONMENTAL  
DEFENSE FUND

January 6, 2000

Robert Gross, Chief  
Office of Environmental Planning South  
Caltrans District 4  
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Oakland CA 94623-0660

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Rockridge Market Hall  
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**Re: Draft Environmental Review of new carpool lane  
on the Sunol Grade**

Environmental Defense<sup>1</sup> provides these comments on the *Proposed Negative Declaration / Draft Initial Study and Draft Environmental Assessment* ("Draft") concerning the new lane proposed for the Sunol Grade on Interstate 680.

The Draft fails to address important environmental effects, and fails to analyze relevant, feasible alternatives. A legal analysis prepared for Environmental Defense by the law firm of Wilson, Sonsini, Goodrich & Rosati indicates that these failures would render a Negative Declaration inadequate. Environmental Defense believes that the law requires that the Draft be revised to adequately address these issues.

The principal environmental effect that the Draft appears not to address concerns the issue of "induced traffic."<sup>2</sup> The draft mistakenly relies on the Metropolitan Transportation Commission's previous traffic modeling, which does not consider induced traffic. "Induced traffic" refers to the response of travelers to a capacity expansion such as the proposed new lane on the Sunol Grade.

<sup>1</sup> Environmental Defense is a national, not-for-profit organization with a regional office in Oakland, California. The organization has more than 300,000 members nationwide, of which approximately 5300 live in Contra Costa, Alameda, Santa Clara, San Joaquin, and Stanislaus counties. Residents of all these counties will be most affected by decisions concerning the Sunol Grade. The organization has a long involvement with California transportation issues. See, for example, the reports *Transportation Efficiency: Tackling Southern California's Air Pollution and Congestion*, March 1991 and *Efficiency and Fairness on the Road: Strategies for Unsnarling Traffic in Southern California*, 1994. Environmental Defense has had a particular interest in the proposed Sunol Grade lane addition. See for example, letter to Assemblywoman Liz Figueroa from Michael Cameron dated February 12, 1998. Environmental Defense participated in the "Major Investment Study Phase I Public Meeting and Scoping Meeting for Phase II," held on April 2, 1998 and has attended all meetings of the Sunol Grade Policy Advisory Committee. Also, see letters to Dennis Fay dated February 10, 1999 and to Jose Medina dated June 16, 1999, and the reports *Stop Stalling on Sunol*, March 1999 and *Express Solutions on Sunol*, August 1999.

<sup>2</sup> It is not possible to determine with certainty from the Draft itself whether induced traffic was addressed by the analysis. Hence, a letter from Wilson, Sonsini, Goodrich & Rosati to Emily Landin-Lowe dated December 10, 1999 asked Caltrans a series of questions to clarify the basis of its analysis (Attachment A). Partial responses to these questions were received by Environmental Defense at the public hearing held in Fremont on December 15, 1999. The partial responses gave a good indication that the analysis reported in the Draft does not address induced traffic. The Draft should be revised to clarify the basis of the analysis.

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Travelers experience both monetary costs – for example, the cost of gasoline – and non-monetary costs – for example, time lost to congestion – that together form an “effective cost” for travel. To the extent that a capacity expansion reduces this effective cost under various alternatives, there will be a demand response: when the cost of a good is lower, more people will choose to buy that good. Consequently, the reduced effective cost can be expected to lead to an increase in travel.

There is also a second, related, induced growth issue. This concerns a longer-term phenomenon: to the extent that an alternative reduces the effective cost of travel in a corridor, then there will be a greater incentive for people and businesses to locate where the effective cost of travel has been reduced.

These two issues – induced traffic and induced growth – have been the subject of considerable research in recent years. The evidence that confirms these effects, and methods to analyze the magnitude of these effects, are summarized in Attachment B.

The analysis methods used in the Draft do not account for induced traffic and induced growth effects. Instead, the total number of trips does not change between build and no-build cases, for example. The analysis method does “re-assign” trips between these two cases. That is, when the Sunol Grade capacity expansion occurs, more vehicles use the Sunol Grade compared to alternate routes. Vehicle miles traveled on the Sunol Grade goes up, but only because vehicle miles traveled on other routes are reduced.

Because it ignores induced traffic, the Draft states conclusions that do not appear to be reasonable. For example, use of the new carpool lane as proposed – open to two-or-more-person vehicles – is assumed to be no greater than 1100 vehicles per hour in 2005, and no greater than 1400 vehicles per hour even in the year 2025. The California Department of Transportation (Caltrans) typically assumes that the nominal capacity of a carpool lane is 1700 vehicles per hour. Environmental Defense’s analysis is that this level of use would be exceeded soon after the new Sunol Grade carpool lane opens.<sup>3</sup> The carpool lane on Interstate 80 leading to the Bay Bridge – restricted to *three-or-more-person* vehicles – is already congested during morning peak periods, less than two years after it opened.

The analysis of carpool lane usage also appears to be flawed because it does not take account of base conditions on the Sunol Grade.<sup>4</sup> A previous study of specific conditions on the Sunol Grade indicates that the Sunol Grade has a higher-than-average proportion of multi-occupant (carpool) vehicles.<sup>5</sup> It appears that the Draft’s estimates of the number of carpool vehicles – which is

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<sup>3</sup> *Express Solutions on Sunol*, August 1999.

<sup>4</sup> Again, it is not possible to determine with certainty from the Draft itself exactly how the analysis was conducted. The Draft should be clarified.

<sup>5</sup> *Technical Report on the I-680 Traffic Operations Study*, TJKM Transportation Consultants, December 1997.

based on the Metropolitan Transportation Commission's regional model – did not take this into account.

These failures to account for induced traffic and induced growth, and the failure to correctly estimate the number of carpool vehicles, have several effects. First, the effect on congestion is wrongly stated. Induced traffic and induced growth effects tend to re-establish congestion in the long run. (The "long run" is not very long. From 60 to 90% of the new capacity is "consumed" within five years, according to the research summarized in Attachment B.) Second, the effect on air pollution is oppositely stated. Ignoring induced traffic leads one to conclude that capacity expansions, by reducing congested flow with no increase in overall travel, will reduce emissions. In fact, the capacity expansion will lead to more traffic, with little reduction in congestion in the long run. Air pollution will in fact increase as a result of the capacity expansion. Third, the advantages of a carpool lane are overstated. As mentioned above, the Draft states that the carpool lane will allow free-flow travel, even in the year 2025. This is incorrect.

The Draft contains at least one glaring indication that its analysis is flawed. Table 1 (p. 11) indicates that even *without the addition of a new lane* the *maximum* travel time on I-680 between the I-580 interchange and SR 237 (a distance of 23 miles) would be 45 minutes, in the year 2005.<sup>6</sup> The I-680 study conducted in 1997, however, observed a maximum travel time over just an 18-mile portion of this route of one hour and eight minutes (1:08).<sup>7</sup> It appears that the Draft's analysis has not been correctly calibrated to observed conditions.

The Sunol Grade is the most significant congested link in a corridor that is a major focus of sprawl development, spreading from the San Francisco Peninsula as far as the Central Valley. The Draft's analysis that additional capacity on this link will have no significant induced demand effects is contrary to common sense and to existing research.

The legal analysis performed for Environmental Defense (Attachment C) indicates that under the law these "indirect effects" must be considered in assessing whether the Sunol Grade project has a significant effect on the environment. The analysis indicates that "failure to perform a thorough analysis would make a Negative Declaration inadequate."

The Draft also fails to examine feasible alternatives that could significantly mitigate the adverse effects of the proposed project. Among these is an Express Lane. An Express Lane would allow three-or-more person vehicles to travel free of charge, and would allow lower-occupancy vehicles to access the lane for a fee that would vary depending on congestion. Express Lanes are currently operating on State Route 91 in Orange County, and on Interstate 15 in San Diego.

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<sup>6</sup> Table 1 also indicates that between 2005 and 2025 that worst-case travel times would lengthen by only two minutes – to 47 minutes.

<sup>7</sup> *Ibid.*, Table IVa, "Summary of Tachograph Runs," p 14.

Robert Gross  
January 6, 2000  
Page 4

Concerning an Express Lane, the Draft declares that, since "support for this proposal appears to be limited, the [Express] Lane concept is not being considered as an alternative at this time." In fact, there is significant interest in the Express Lane concept, as the *San Francisco Chronicle* article, "Sen. Perata's Cure for Transit Woes: He Proposes Single Regional Rail System, New Toll Lanes," makes clear (Attachment D). There has also been editorial support from the *San Jose Mercury News* (Attachment E) and *The Contra Costa Times* (Attachment F).

The legal analysis performed for Environmental Defense indicates that the law requires that such alternatives to the proposed project be considered, and that "failure to meaningfully consider [these] alternatives would also render the environmental document inadequate."

Environmental Defense believes that the law requires that the *Proposed Negative Declaration / Draft Initial Study and Draft Environmental Assessment* be revised to address the inadequacies that have been identified in these comments.

Sincerely,



Daniel Kirshner  
Senior Economic Analyst

Cc: Mark Parnes  
Tom Graff

Attachments

Wilson Sonsini Goodrich & Rosati  
PROFESSIONAL CORPORATION

December 10, 1999

VIA FACSIMILE AND OVERNIGHT COURIER



Emily Landin-Lowe  
California Department of Transportation  
111 Grand Avenue  
Oakland, CA 94612

PALO ALTO

Re: Proposed Negative Declaration/Draft Initial Study/Draft  
Environmental Assessment for the Sunol Grade Project (the "Initial  
Study")

KIRKLAND

Dear Ms. Landin-Lowe:

AUSTIN

Thank you very much for forwarding a copy of the Initial Study to the Environmental Defense Fund ("EDF"). In reviewing the document, a number of questions have arisen. It would be very helpful to have a meeting between Dan Kirshner of EDF and a suitable member of Caltrans' staff so that the questions can be discussed in an efficient manner. It is EDF's hope that such a meeting will narrow the comments it needs to submit on the Initial Study. Since the comment deadline is January 6, 2000, please let us know if a meeting can be scheduled the week of December 13.

In particular, EDF would like to explore with Caltrans the following questions:

1. What method was used to determine VMT under build and no-build conditions? Do VMT figures represent peak hour only? Are the VMT figures consistent with the 1998/99 RTP and 1998 RTIP?
2. "The forecasting model is designed to recognize the added capacity and assigns more traffic demand to the Build alternative compared to the No-Build." p. 9. What forecasting model is this? What method does it use to assign traffic demand? What is the resulting traffic demand in each case? Are there any differences in assumed trip generation between the Build and No-Build cases? If so, what are they, and what is the basis for the differences?

Emily Landin-Lowe  
December 10, 1999  
Page 3

Wilson Sonsini Goodrich & Rosati  
PROFESSIONAL CORPORATION

EDF looks forward to cooperating with Caltrans in this project and hopes that a dialogue with Caltrans' personnel will resolve the questions listed above. I look forward to hearing from you.

Sincerely,

WILSON SONSINI GOODRICH & ROSATI  
Professional Corporation

*Mark Parnes*

Mark Parnes

MGP:lw

Environmental Defense  
June 14, 1999

## Induced Traffic and Induced Growth in the Sunol Grade Corridor: Evidence and Methods for Analysis

### Summary

The effects of road capacity expansions on travel and land use have been difficult to isolate because there are other factors – such as population growth and economic growth – which generally accompany road capacity expansion. Recent studies, however, account for multiple effects, and distinguish those due solely to road capacity expansion from other effects. These studies indicate that there is a substantial “induced demand” effect – a 10% increase in capacity, for example, induces a 6 to 9% increase in traffic within four years.

Such effects are consistent with economic theory. Capacity expansion reduces the “effective cost” of driving. The effective cost includes both monetary costs (e.g., gasoline) and non-monetary costs (chiefly time spent traveling). The reduction in effective cost of a good means that more of that good will be purchased.

A Transportation Research Board committee that examined the effects of induced demand on air quality concluded that the effects of induced demand were relatively small. The study indicated, however, that there were specific cases in which induced demand effects would be most significant. Most importantly, the study highlighted congestion pricing as a method for mitigating such effects.

Moreover, other recent studies in California and the United States as a whole have improved on the research that was available at the time the Transportation Research Board committee produced its report.

A British Department of Transport report also addresses the question of induced demand at length. This report strongly supports the conclusion that induced demand effects must be included in the analysis of road projects.

It is relatively easy for Caltrans to examine the impacts of induced demand on traffic volumes on the Sunol Grade by incorporating the results of this recent research. As mentioned above, the studies indicate the factor for increases in travel is 6% to 9% over time for each 10% increase in capacity (that is, a long-run elasticity between 0.6 and 0.9). Caltrans should calculate the increase in traffic that the additional lane on the Sunol Grade could support while maintaining the current level of service, and then examine at least one case in which traffic increases by between 60% and 90% of that level.

This induced traffic volume analysis does not account for additional effects due to changes in land uses that may be induced by the Sunol Grade capacity expansion. This is because these results “controlled for” the effect of population increases. Population and land use changes induced by additional highway capacity are more difficult to take into account. Nevertheless, it is incorrect to ignore such effects, and available research indicates that these effects are significant, and suggests means for quantifying these effects. Changes in building permit activity can be estimated using the research cited below. In addition, Caltrans could examine these effects by using an “expert judgment” (sometimes termed “Delphi”) method. Land use experts could use the increase in accessibility – the remaining improvement in commute times, for example, after accounting for induced traffic – to estimate the likely acceleration of development, accounting for existing land uses, zoning constraints, etc.

## Recent Studies

Hansen and Huang used statistical techniques to examine 18 years of California county and metropolitan area data.<sup>1</sup> The statistical techniques “control” for the effects of population growth and economic growth, as well as other factors, including general effects over time and area-specific differences, to isolate the independent influence of road capacity on travel. Since the “induced demand” effect is one that takes place over time, Hansen and Huang’s analysis allows for “lags” in the impact of capacity expansions.

Hansen and Huang find that, at the county level, the long-run elasticity of vehicle-miles traveled (VMT) with respect to state highway lane miles is 0.62, realized after a period of two years.<sup>2</sup> At the metropolitan area level, the long-run elasticity is 0.94, realized after a period of four years.<sup>3</sup> Hansen and Huang note that “[t]he higher lane-mile elasticities found in the metropolitan models suggest that adding lane-miles in a given county increases VMT throughout a wider region. This will occur if, for example, increasing the capacity of a highway in a given county induces commuting to or through that county from other counties in the region.” This is certainly the case with respect to the Sunol Grade, which essentially connects two counties (Contra Costa and Alameda) with a third (Santa Clara). Through-commutes from San Joaquin and Stanislaus Counties are also significant on the Sunol Grade. Thus, use of the metropolitan area result is indicated.

Hansen and Huang conclude, “the full impact of vehicle-miles traveled materializes within five year of the change in road supply.”<sup>4</sup> Since their analysis also takes account of general trends in travel in addition to changes in road capacity, as well as population, income, and gasoline prices, they note, “even when all these factors are accounted for, there has been a sharp increase in the propensity toward vehicle travel over the period of this study [1973-1990], particularly during the late 1980s.”<sup>5</sup> Nevertheless, the independent effect of road supply on vehicle-miles traveled is highly statistically significant.

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<sup>1</sup> “Road Supply and Traffic in California Urban Areas,” Mark Hansen and Yuanlin Huang, *Transportation Research A*, Vol. 31, No. 3, pp. 205-218, 1997.

<sup>2</sup> *Ibid.*, p. 214. An elasticity of 0.62 indicates that there is a 0.62% increase in VMT as a result of each 1% increase in state highway lane miles.

<sup>3</sup> *Ibid.*

<sup>4</sup> *Ibid.*, p. 205.

<sup>5</sup> *Ibid.*

Noland used a method similar to Hansen and Huang's with data from each state over the 13-year period 1984 through 1996.<sup>6</sup> As in Hansen and Huang's analysis, the effects of population growth, economic growth (income per capita), and gasoline prices were controlled for. Noland used a "distributed lag" model to determine the long-run effects of road capacity additions on vehicle travel. The effects of different types of road capacity (urban interstate, urban arterials, rural interstates, rural arterials) were examined separately. In each of these cases, the long-run elasticity was found to be in a range from approximately 0.71 to 0.84.

Hansen, Gillen, and Puvathingal examined the effects of capacity expansion on different types of land development.<sup>7</sup> In this research, residential single-family, residential multi-family, commercial, and industrial building permit activity were statistically related to capacity expansions of eight California corridors that were completed in the 1970 through 1988 period. The statistical technique used controls for such things as regional population growth and economic activity, as well as other factors such as a building freeze imposed by one city in certain years. Thus, the statistical analysis isolates the effect of development induced by the capacity expansion, independent of general and regional development trends.

This study concludes: "[The] results offer strong support for one overriding conclusion: highway capacity expansion stimulates development activity, both residential and non-residential, in the corridors served by the expanded facilities."<sup>8</sup>

### Transportation Research Board Committee Report

The National Research Council's Transportation Research Board issued a committee report that examined the effects of road capacity expansion on travel, with special attention to air quality and energy use.<sup>9</sup> The report's principal results include these mixed conclusions:

The current regulatory focus on curbing growth in motor vehicle travel by limiting highway capacity is at best an indirect approach for achieving emissions reductions from the transportation sector that is likely to have relatively small effects, positive or negative, on metropolitan air quality by current attainment deadlines. Executive Summary, p. 8.

The effects of traffic flow improvements could be positive or negative, depending on offsetting increases in traffic. *Ibid.*

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<sup>6</sup> *Relationships Between Highway Capacity and Induced Vehicle Travel*, Robert B. Noland, Transportation Research Board Annual Meeting, January 1999.

<sup>7</sup> *Freeway Expansion and Land Development: An Empirical Analysis of Transportation Corridors*, Mark Hansen, David Gillen, and Mohnish Puvathingal, Institute for Transportation Studies, UC Berkeley, sponsored by Caltrans Division of New Technology, January 1988.

<sup>8</sup> *Ibid.*, p. 11.

<sup>9</sup> *Expanding Metropolitan Highways: Implications for Air Quality and Energy Use*, Committee for Study of Impacts of Highway Capacity Improvement on Air Quality and Energy Consumption, Transportation Research Board, National Research Council, 1995. Available at <http://books.nap.edu/books/0309061075/html/index.html>.

On the other hand, the report also concludes:

...major highway capacity additions are likely to have larger effects on travel and to increase emissions in the affected transportation corridors in the long run unless some mitigating strategy is implemented in conjunction with the capacity addition. *Ibid.*

Finally, the report points out that:

Congestion pricing... could mitigate negative effects on emissions from travel growth. *Ibid.*, p. 9.

The body of the report elaborates on these last two conclusions as follows:

...the potential for a highway capacity addition to affect travel decisions depends on the size of travel cost reductions resulting from the expansion project. Capacity additions that provide larger time savings are expected to have a greater effect on travel decisions. Transportation system management actions such as traffic signal retiming, channelization, and other intersection improvements generally have modest effects on travel times and are therefore expected to have modest induced travel effects. Adding lanes to a congested freeway can result in large time savings during peak periods. Larger induced traffic effects along with some shifting of traffic from other time periods might be expected during these periods. P. 149.

Potential increases in traffic from highway capacity additions might be reduced by imposing or raising tolls on the improved facilities. P. 150

The proposed Sunol Grade project will certainly have – absent induced demand effects – large travel cost effects in terms of time savings. Congested travel times during peak periods have been measured to be as long as one hour and eight minutes (1:08).<sup>10</sup> Uncongested travel times are 18 minutes (0:18) or less.<sup>11</sup>

### Department of Transport Report

The British Department of Transport also examined induced demand effects.<sup>12</sup> This report concludes quite strongly that induced demand effects must be evaluated in the consideration of new road projects (“schemes”), rather than assuming an unchanging level of traffic (“fixed demand approach”):

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<sup>10</sup> *Technical Report on the I-680 Traffic Operations Study*, TJKM Transportation Consultants for Alameda County Congestion Management Agency, Contra Costa Transportation Authority, Santa Clara Valley Transportation Authority, December 1997.

<sup>11</sup> Uncongested travel time calculated at 60 miles per hour.

<sup>12</sup> *Trunk Roads and the Generation of Traffic*, The Standing Advisory Committee on Trunk Road Assessment, HMSO Publications, London, 1994.

...we do not think that continuing to appraise solely at the scheme level using the fixed demand approach is, either intellectually, or in practical terms, acceptable. It is this central conclusion which has led us to make the recommendations in this Report. Executive Summary, p. iv.

The report indicates that:

Induced traffic is of greatest importance in the following circumstances:

- where the network is operating or is expected to operate close to capacity;
- where traveller responsiveness to changes in travel times or costs is high, as may occur where trips are suppressed by congestion and then released when the network is improved;
- where the implementation of a scheme causes large changes in travel costs.

This suggests that the categories of road where appraisal needs to be most careful are improvements to roads in and around urban areas, estuary crossing schemes, and strategic capacity-enhancing interurban schemes, including motorway widening. *Ibid.*, p. iii.

Again, these criteria are particularly applicable to the proposed Sunol Grade project. While the Sunol Grade project is not an "estuary crossing scheme," it is indeed a "strategic capacity-enhancing interurban scheme," and, given the relative impassability of the hills between Pleasanton and Milpitas, it does share many characteristics with water crossings such as the Bay Bridge. The Sunol Grade corridor connects two distinct urbanized areas, with a differential concentration of housing and jobs at each end of the corridor. In addition, close alternate routes are not available.

## Analysis Methods

There are two separate induced demand effects to be taken into account. The first effect is the increase in traffic volumes due to the additional capacity, assuming no changes in population or land use in the corridor. The second effect is the increase in population and land use conversion due to the additional capacity (together with concomitant additional traffic that results). These effects can be considered separately because the elasticity figures for traffic volumes with respect to capacity additions discussed above were calculated controlling for changes in population.

The elasticity figures allow use of a simple method to account for the first effect (induced traffic). The results indicate that, after four years, between 60% and 90% of the added capacity due to the Sunol Grade project will be used by additional traffic. The first step in the calculation is determining the "full" amount of additional traffic (that is, the "100% level") that the project could accommodate. The 1997 traffic operation study indicated that there are currently enough

carpools of two or more occupants to make full utilization of the additional lane.<sup>13</sup> Thus, the existing mixed flow lanes will be able accommodate additional vehicles equal to the number of vehicles that “move” into the new lane.

The second step is to use the elasticity figures to calculate the additional traffic that will occur over time. This additional traffic will be between 60% and 90% of the number of vehicles that use the new lane. Ideally, several analyses would be performed to show the effects of different results within this range. Alternatively, at least one analysis should be performed for a representative figure in this range, for example, 70%.

The analyses – for example, of air emissions – would be conducted in the same manner that they would be conducted in the absence of induced demand effects, except that a new, higher level of traffic would be considered, and the resulting congestion level would have to be taken into account.

The second effect – changes in land uses due to additional capacity – is less straightforward to calculate. The Hansen, Gillen, and Puvathingal research results can be used to estimate changes in building permit activity in a corridor. In addition, EDF believes that an expert panel could produce a consensus estimate of these effects. Such a panel of experts would first consider the increase in accessibility – the remaining improvement in commute times, for example, after accounting for induced traffic – caused by the Sunol Grade project. Accessibility is an important factor in development and housing decision-making. Thus, the change in accessibility can be used in the assessment of changes in development and housing patterns, taking into account existing land uses, zoning constraints, and so forth.

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<sup>13</sup> *Technical Report on the I-680 Traffic Operations Study*. See also, letter from Jean Hart to Dan Kirshner dated March 10, 1998.

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JOHN ARNOT WILSON  
RETIRED

**To:** Dan Kirshner  
Environmental Defense Fund

**From:** Mark Parnes

**Date:** June 15, 1999

**Re:** Analysis of Legal Requirements For Environmental Review of Sunol Grade Project

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I. STATEMENT OF FACTS

A. Definition of the Project

Caltrans proposes to build a new southbound High Occupancy Vehicle (HOV) lane on Sunol Grade (I-680 from Pleasanton to Milpitas) in two major phases:

- (1) Interim project: pave a below-standard lane in the median;
- (2) Ultimate project: widen the outer edge of the freeway and reconstruct overpasses, allowing re-striping for a new, standard-size lane.

EDF has proposed two alternative concepts instead of the Project: (1) a flexible lane (utilizing a moveable lane barrier that "borrows" a lane from the other side of the highway during peak hours) and (2) an express lane (a three person carpool lane that solo drivers can access for a fee). The express lane has the added advantage of funding additional transportation choices (such as the Altamont Commuter Express trains).

B. Planning Context

The Sunol Grade project is a piece of a broader planning context that includes the following actors: the Congestion Management Agency for Alameda County, Caltrans, local politicians, and the Metropolitan Transportation Commission. The project is thus subject to numerous planning documents, including the Alameda County Congestion Management Plan and the MTC Regional Transportation Plan, as well as several funding documents, including the State Transportation Improvement Program (State funding) and the Regional Transportation Improvement Plan (Federal funding). For purposes of the Sunol Grade environmental review, the most important previous environmental documents are the 1998 Environmental Impact Report for the 1998 Regional Transportation Plan ("RTP EIR") and the March 1999 Draft Supplemental Environmental Impact

Report. These documents are "Program EIRs" for all MTC projects, including the Sunol Grade project. The exact meaning of a program EIR is discussed below.

### C. Sunol Grade Timing

In conversations with Emily Landin Lowe (510) 286-5124 of Caltrans, the timing of environmental review for the Sunol Grade Project is now through July, with an anticipated Negative Declaration to be released in August/September. Emily suggested that if we have comments, we could submit them prior to August/September.

## II. QUESTIONS PRESENTED

- A. What level of environmental review is necessary for the Caltrans proposed project?
- B. What level of environmental review is necessary for EDF's proposed alternatives?

## III. BRIEF ANSWER

A. An EIR is required for projects that "may have a significant effect on the environment." This Firm does not have enough information to reach a conclusion on whether the effects of the Sunol Grade project would require the preparation of an EIR. However, the phrase "significant effect on the environment" requires an analysis of three different types of impact: (1) direct effects; (2) indirect effects which, in this context, would include growth inducing impacts; and (3) cumulative effects. Thus, any environmental analysis done by Caltrans must look at these impacts.

For direct effects, the phrase "significant effect on the environment," is limited to substantial, or potentially substantial, adverse changes in the physical environment. Accordingly, Caltrans must analyze what changes will occur, due to the project, to the land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. At present, this Firm is not aware of any land use impacts along the Sunol Grade right of way that would rise to the level of significance based on the interim or ultimate project. However, it appears that the air quality in the 680 corridor could be significantly altered if the increased capacity results in increased traffic. It is thus important for Caltrans to analyze the air quality implications of the project, particularly in light of the EPA's recent emphasis on "Smart Growth." EDF should suggest that Caltrans consult with the EPA and the State Air Resources Board on this issue.

Similarly, an EIR may be required due to the growth inducing impacts triggered by the construction. The cases that discuss this requirement require that, whether or not an EIR is prepared, an extensive analysis should be performed on growth inducement. Thus, EDF should emphasize to Caltrans that such an analysis should be thorough. Caltrans is entitled to utilize data from the RTP EIR in the Sunol Grade review. However, the analysis employed in the growth inducing impact section of the RTP EIR was extremely limited.

The conclusion reached in the RTP EIR was: "Since the RTP is proposed to be implemented at a time and in a location where the economic pressures for growth are very strong, it is unlikely

that the RTP will induce any growth on a regional scale over what is already expected to occur.”  
Section 4, page 3. The RTP EIR also states:

The RTP also includes a few projects that traverse agricultural/open space areas that are not planned for urban development. These projects could have potential growth inducing impacts, but they are not likely to be realized due to planning regulations or physical constraints. Examples include the widening of US 101 between Novato and Windsor, Rte. 84 improvements in Livermore, the Route 12 widening through Jameson Canyon, the Vasco Road safety improvements, and the HOV lanes on I-680's Sunol Grade.

Section 4, page 4. This “conclusion” needs to be supported by a careful analysis, which was not done in the regional document.

Cumulative impacts must also be analyzed. This is where a project may have a limited individual effect on the environment, but a considerable cumulative one. Here the RTP EIR is, by its very nature, much more thorough, since it takes a broader view. However, even here, there should be a focused review on how this project may contribute to air quality issues in the 680 corridor in light of future MTC projects.

In summary, Caltrans is entitled to utilize the RTP EIR analysis in its review of the Sunol Grade project. That document is weakest in its growth inducing impact analysis (and associated effects on air quality). These are the areas that should be emphasized in any communication to Caltrans; failure to perform a thorough analysis would make a Negative Declaration inadequate.

Finally, if there is a significant effect on the environment caused by the project, Caltrans is required to consider alternatives to the proposed project. EDF should request that Caltrans carefully review EDF's proposed alternatives. This is particularly true since Caltrans has already had success utilizing express lanes in Southern California. A failure to meaningfully consider EDF's alternatives would also render the environmental document inadequate.

B. Since EDF's proposals do not involve a physical change to the environment, and are analogous to the Interstate 15 project in San Diego County, they are likely to be determined categorically exempt. See Exhibit A.

#### IV. LEGAL ANALYSIS

##### A. Overview of CEQA Process<sup>1</sup>

The California Environmental Quality Act (Pub Res C §§21000 et seq.), commonly referred to as CEQA, was adopted in 1970 and is one of California's most important environmental laws.

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<sup>1</sup> In this case, the National Environmental Policy Act is implicated since the Sunol Grade project will be receiving federal funding. A joint EIR/EIS or a joint negative declaration/FONSI (Finding of No Significant Impact), is a means of combining the federal and state documents into one document. See Pub. Res. C §§21083.5, 21083.7; 14 Cal Code Regs §15170. Both the CEQA Guidelines and NEPA regulations encourage interagency cooperation to prepare one document that satisfies both statutes. 14 Cal Code Regs §15222; 40 CFR §1506.2. Since CalTrans is the lead agency, this memo will focus on CEQA provisions.

CEQA applies to most public agency decisions to carry out, authorize, or approve projects that could have adverse effects on the environment. Unlike most environmental laws, CEQA does not regulate project implementation through substantive regulatory standards, or prohibitions. Instead of prohibiting agencies from approving projects with adverse environmental effects, CEQA requires that agencies inform themselves about the environmental effects of their proposed actions, carefully consider all relevant information before they act, give the public an opportunity to comment on the environmental issues, and avoid or reduce potential harm to the environment when that is feasible.

The CEQA process starts with a formal proposal to proceed with an action.

The first substantive question under CEQA is whether the action is a "project" subject to CEQA. 14 Cal Code Regs §15060. Generally, a project is a discretionary action by a public agency that may result in a physical change to the environment. If the action is a "project" under CEQA, the lead agency must determine whether the action is exempt from CEQA under a statutory exemption or a categorical (or regulatory) exemption. 14 Cal Code Regs §15061.

If CEQA does not apply to the action, either because the action is not a "project" or because an exemption applies, an agency may file and post a notice of exemption under CEQA.

Based on my discussions with Caltrans, there appears to be no dispute that the project is subject to CEQA. Caltrans must then determine the type of CEQA document to be prepared.

If the project may have a significant environmental impact, an EIR must be completed before the project is approved. If there is no possible significant impact, a negative declaration must be completed before the project is approved. 14 Cal Code Regs §15063, 15102.

A mitigated negative declaration may be prepared when a possible significant impact can be avoided or substantially mitigated to insignificance by changing the project (usually by adopting or imposing a mitigation measure as a condition of approval). See Pub Res C §21080(c); 14 Cal Code Regs §15070.

## B. Significant Environmental Effects

The key inquiry under the statute is therefore whether the project may have a significant environmental impact. The agency must look at direct, indirect and cumulative impacts.

### (1) Direct Effects

Under Pub Res C §§21100 and 21151, which require an EIR for projects that "may have a significant effect on the environment," the phrase "significant effect on the environment" is limited to substantial, or potentially substantial, adverse changes in physical conditions within the area as defined in Pub Res C §21060.5. In §21060.5, "environment" is defined as

the physical conditions which exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and projects of historic or aesthetic significance.

See also 14 Cal Code Regs §15360.

At present, this Firm is not aware of any land use, water, mineral, flora, fauna or historic or aesthetic impacts along the Sunol Grade right of way that would be implicated by the interim or ultimate project. There will be noise impacts certainly associated with construction, as well as from potentially increased traffic. The largest potential direct impact relates to air quality. In particular, EDF should suggest that Caltrans consult with the EPA on air quality impacts given EPA's emphasis recently on smart growth, as well as the State Air Resources Board (e.g., for a draft EIR on a highway or freeway project, a state lead agency must consult with, and obtain comments from, the State Air Resources Board concerning the air pollution impact of vehicular use of the project (Pub. Res C § 21104(b))).

## (2) Indirect Effects

An environmental review must discuss ways in which the project could directly or indirectly foster economic or population growth or the construction of additional new housing in the surrounding environment, including "growth-accommodating" impacts that may remove obstacles to growth. California decisions usually focus on growth-inducing impacts in the context of determining whether an EIR or a negative declaration is required. See *Bozung v LAFCO* 13 C3d 263 (1975), (EIR required before LAFCO may approve proposed annexation that was clearly intended to result in development of property); *Stanislaus Audubon Soc'y, Inc. v County of Stanislaus* 33 CA4th 144 (1995), (EIR required for golf course project because development of golf course might encourage growth in surrounding area); *City of Antioch v City Council* 187 CA3d 1325 (1986) (EIR required because of possible growth-inducing impacts of road and sewer lines); *City of Livermore v LAFCO* 184 CA3d 531 (1986), (EIR required for revision of sphere of influence guidelines because it embodied a major policy shift that would affect land use throughout area); *Friends of "B" St. v City of Hayward* 106 CA3d 988 (1980), (EIR required in part because of accelerating conversion of homes to commercial or multifamily use).

Growth inducing impacts were analyzed in the RTP EIR<sup>2</sup>. As discussed above, that analysis did not look at the Sunol Grade project in any detail. Accordingly, Caltrans should carefully focus on this issue.

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<sup>2</sup> In August 1998, the Draft Environmental Impact Report for the 1998 Regional Transportation Plan was submitted for public review. It, along with the Regional Transportation Plan, was adopted by the MTC in October 1998. The RTP EIR was supplemented by the March 1999 Draft Supplemental Environmental Impact Report for Amendments to the 1998 Regional Transportation Plan. These amendments did not alter the Sunol Grade Project. These documents constitute a "program EIR." A program EIR may be used to simplify the task of preparing later environmental documents or to focus later environmental review of activities within the program as they are considered for approval. 14 Cal Code Regs §15168(b)-(d). For example, program EIRs may be used in each of the following ways:

- In an initial study to evaluate potential environmental effects of a program activity. 14 Cal Code Regs §15168(d)(1).
- As the underlying, or first-level, EIR for purposes of tiering later environmental documents under 14 Cal Code Regs §15152, by focusing later environmental review of activities within the program on specific environmental effects that were not fully evaluated in the program EIR. 14 Cal Code Regs §15152(b).
- As an environmental database for activities within a program. A program EIR may be incorporated by reference in a later EIR, providing the analysis of environmental setting, cumulative impacts, project alternatives, and similar matters. 14 Cal Code Regs §15168(d)(2).

### (3) Cumulative Impacts

The guidelines define cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." 14 Cal Code Regs §15355. The individual effects may be changes resulting from a single project or more than one project. 14 Cal Code Regs §15355(a). The cumulative impact from several projects is the change in the environment that results from the incremental effect of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts may result from individually minor but collectively significant projects taking place over a period of time. 14 Cal Code Regs §15355(b).

Here the RTP EIR has, as its main focus, analyzed the cumulative and regional aspects of the MTC's transportation plan. However, while the Sunol Grade review can incorporate this document by reference, there still needs to be a particularized analysis concerning the relation between growth inducement caused by this project and future projects contemplated by the MTC.

#### C. Alternatives

The requirement that environmental documents identify alternatives to the project stems from the fundamental statutory policy that public agencies should not approve projects, as proposed, if feasible alternatives or feasible mitigation measures are available that would reduce their significant environmental impacts (Pub Res C §21002). For example, to implement this policy, CEQA provides that an environmental impact report must describe a project's significant environmental effects and must identify both feasible mitigation measures and feasible alternatives that could avoid or substantially lessen those effects. Pub Res C §§21002, 21002.1(a), 21100(b)(4), 21150. Caltrans thus must look at feasible alternatives or feasible mitigation measures that will avoid or substantially lessen, significant direct, indirect, and cumulative effects.

Here, the alternatives proposed by EDF (barriers and express lanes) are feasible and have a track record in Southern California. They are also more efficient from a traffic management and economic perspective.<sup>3</sup> Thus, EDF's letter should request that Caltrans officials here carefully review these alternatives, as well as consult with their colleagues in Southern California so that meaningful consideration takes place.

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- To consider broad planning options and environmental issues at an early stage of a program planning process. 14 Cal Code Regs §15168(b)(4). See *Rio Vista Farm Bureau Ctr. v County of Solano* (1992) 5 Cal. App. 4th 351, 7 CR2d 307; *Atherton v Board of Supervisors* (1983) 146 Cal. App. 3d 346, 194 CR 203.

Here, the RTP EIR is intended for use as the basic general environmental assessment for Bay Area transportation planning. It does not eliminate the need for further environmental review of particular projects mentioned in the Plan.

<sup>3</sup> The EDF alternatives would likely be deemed categorically exempt. This analysis was adopted by the state for the Interstate 15 HOV lanes. See Exhibit A.

## V. CONCLUSION

Based on the foregoing, the following conclusions can be drawn:

1. Caltrans interim and ultimate projects present potentially significant effects on the environment, that would require an EIR, based on growth inducement and the concomitant decline in air quality. These topics should be emphasized in EDF's letter to Caltrans.
2. The alternatives suggested by EDF should be analyzed in Caltrans review of the Sunol Grade project, particularly where feasibility has already been demonstrated in Southern California.
3. EDF's proposed alternatives would likely be categorically exempt under CEQA, given the approach taken by the state with Interstate 15.

# San Francisco Chronicle

DECEMBER 10, 1999

## Sen. Perata's Cure for Transit Woes

Legislative fixes would include single regional rail system, new toll lanes

By Michael Cabanatuan  
CHRONICLE STAFF WRITER

Promising to fix a Bay Area transit network that he says is badly broken, state Sen. Don Perata promised yesterday legislation to bring toll lanes to the North Bay and Sunol Grade, to create a single regional rail system and to punish cities that fail to practice smart growth.

Perata, D-Oakland, outlined the legislative agenda after a hearing in Oakland, where the Senate Select Committee on Bay Area Transportation concluded that the region lacks a coordinated approach to attacking congestion.

"We're looking for pragmatic, practical solutions," Perata said.

He said he plans to introduce separate bills to address what the committee concluded were the roadblocks preventing the Bay Area from breaking up traffic congestion. They would propose:

- Building lanes on Interstate 680 at the Sunol Grade and Highway 101 in Sonoma and Marin counties that could be used by carpoolers or single drivers willing to pay a toll.

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*"There's very little coordination, very little vision as to how these regional plans are related."*

EZRA RAPPORT  
legislative committee consultant

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- Creating a single agency to control the Bay Area's rail transit operations, including BART, Caltrain and the Altamont Commuter Express.

- Enforcing smart growth, perhaps by withholding transportation funding from cities that fail to meet their own housing plans.

- Creating performance standards to evaluate the cost-effectiveness of both highway and transit projects.

- Reviewing the mission of the Metropolitan Transportation Commission, the region's transportation

planning and financing agency, and changing the way its governing board — now a collection of elected officials representing each county — is structured.

The committee, meeting for the third time since August, issued a report that criticized the Bay Area's transit effectiveness, saying the region lacks coordinated planning and governance, fails to focus its programs where congestion is the worst and has no way of evaluating which projects should be built first, if they should be built at all.

Ezra Rapport, the committee's consultant, said a particular problem is the county transportation taxes used to finance a big piece of the Bay Area's transportation improvements. The taxes are sold to voters with a list of projects that the revenues will finance, but those lists are not usually prepared with the assistance of adjoining counties or subject to the MTC's evaluation.

"There's very little coordination, very little vision as to how these regional plans are related," Rapport said.

MARCH 31, 1999

# OPINION

High Occupancy Toll lane could give commuters immediate relief on I-680

## HOT idea: Use the road better

**S**OLVING the Bay Area's traffic woes will require thinking creatively, as well as concretely. That is to say, more pavement is not always the solution. Sometimes creative use of existing pavement should be explored.

One example is a proposal for easing traffic on the Sunol Grade, the most congested stretch of freeway in the Bay Area.

Don't just build a new lane on Interstate 680 over the Sunol Grade, says the Environmental Defense Fund. Create a HOT lane — that stands for High Occupancy Toll — and bring immediate relief to commuters.

EDF officials presented their proposal to the Sunol Grade Policy Advisory Committee last week, and while they didn't meet with enthusiastic approval, their suggestions for flexible lanes and occasional tolls are getting a better hearing than they have in the past.

Caltrans plans to build a carpool lane on southbound I-680 between Pleasanton and Milpitas, starting next year. The EDF would

like to bring relief to commuters a lot faster by borrowing an existing north-bound lane half the day for a southbound carpool lane.

Technology already exists to shift concrete barriers from one side of a lane to the other, and such a movable barrier machine is used on the Coronado Bridge in San Diego and in Boston, Dallas and New York.

Beyond that, the lane would be a HOT lane: free to carpools, but also available to solo drivers willing to pay a toll. Some money from the toll would go toward the Altamont Commuter Express (ACE), the popular train which carries commuters from Stockton and Tracy through Pleasanton and on down to San Jose.

What are the advantages of a HOT lane over an ordinary diamond lane?

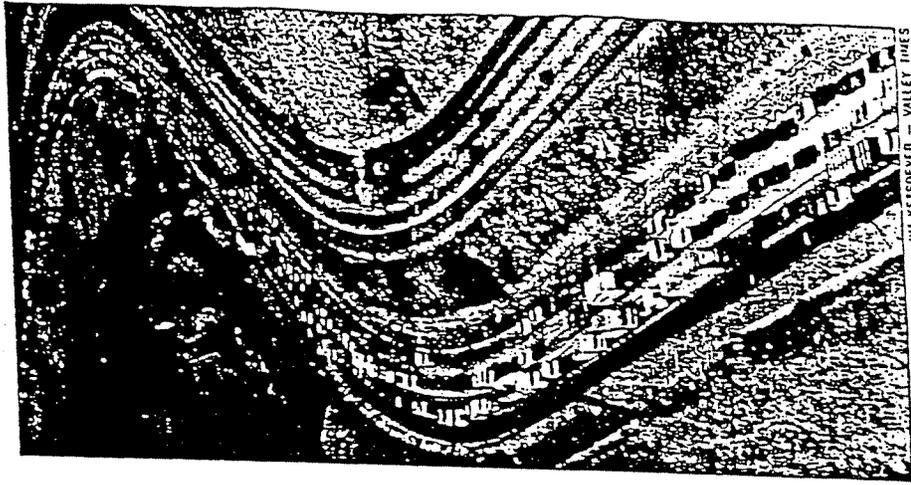
First, says the EDF, HOT lanes actually encourage carpooling (as happened in San Diego) because people know that if their carpool partners fail to show up, they can still get to work on time by taking the same lane and paying \$1 or \$5. A certain number of solo drivers will be willing to pay that much anyway just to guarantee a quick trip. And the subsidy for ACE will take even more drivers

off the road.

A speedy trip through the toll taker would be ensured by use of transponder cards that sit on windshields and are read electronically, without cars having to stop. Access to the HOT lane would encourage more subscription Livermore and Pleasanton to major Silicon Valley employers, says EDF, and would even give airport shuttles a boost.

The Alameda County Congestion Management Agency is interested in the idea of making the new lane a HOT lane, although it is not as eager to take an existing lane and change direction on it twice a day. But meanwhile, a new lane from Caltrans is at least a couple of years away. And the flexible lane approach could be used in other parts of the Bay Area. EDF suggests I-680 south of Pleasanton and Walnut Creek and I-880 south of Fremont. The Bay Area has great transportation capacity, says EDF, it's just not used efficiently.

We don't know if the EDF suggestion on the Sunol Grade is the best solution, but we like an approach that tries to get the most from existing resources before paying to build more.



JIM REISBERGER - VALLEY TIMES

Southbound traffic backs up on the Sunol Grade.

# CONTRA COSTA TIMES

AUGUST 16, 1999

## Sunol Grade solution?

**I**T IS BECOMING increasingly clear that highway congestion in the Bay Area is going to get a lot worse in a short time unless there is a much greater commitment to transportation projects and an open attitude by all government officials toward innovative solutions. A good place to begin with some creative thinking is in improving traffic flow in the most congested corridor in the Bay Area: Interstate 680 over the Sunol Grade, which connects the Tri-Valley area with Silicon Valley. Just five years ago the Sunol Grade was ranked 28th on the Bay Area's congestion list. Now it ranks first, surpassing the Bay Bridge, which led the list for many years. Fortunately, funds have been made available for improving the Sunol Grade, but there has not been much innovative thinking about how best to spend the money.

The current plan supported by Caltrans is to build a couple of high-occupancy-vehicle lanes, which won't be built for a few years. To speed things up a bit, Caltrans has offered an interim project, which it claims it can complete by October 2001. It would be a temporary southbound HOV lane costing about \$100 million.

The entire two-lane HOV lane project will take another \$100 million at least and another year or so. But before Caltrans can build anything, even the interim project, it must pass an environmental review. Unfortunately, Caltrans does not yet seem inclined to look at any innovative ideas and is pushing ahead for a southbound two-passenger-per-car HOV lane first, followed by a northbound one later.

One major purpose of an environmental review is to look at all viable alternatives to a project. One such highway option that deserves immediate close attention, if not quick adoption, is being promoted by the Environmental Defense Fund. The EDF deserves praise for courageously confronting many environmentalists who oppose any new pavement.

The EDF wants Caltrans to first build a reversible HOV lane that accommodates southbound traffic in the morning and northbound traffic in the evening, much like the middle bore of the Caldecott Tunnel switches from westbound to eastbound. A moveable barrier would make this possible within a year of approval. The EDF wants this to be an HOV lane with a three-person-per-car requirement. However, double- and single-occupancy vehicles would be allowed to use the lane for a fee paid via an electronic device.

Not only would the lane be open sooner, it could be used in two directions, accommodate more commuters, save money and raise revenue. Similar lanes are a success in Southern California. In time, a second such "express" or high-occupancy-toll lane could be added. With such limited funds for transportation, the eight- to 12-lane highway that is needed over the Sunol Grade is not likely ever to be built. While an HOV lane might offer some relief, a reversible HOT lane would be much better.

The plan has bipartisan support among area lawmakers and deserves serious consideration by business leaders in Silicon Valley and the governor's office. Of course, it merits close scrutiny by Caltrans. But that is not likely to happen without some prodding by all concerned, particularly Gov. Gray Davis. It's the kind of innovative, middle-ground solution the governor should be comfortable with, and it could be a big hit with his Bay Area constituents.

**Comment #43 from EDF 1/6/00:**

The proposed project presents potentially significant effects on the environment that would require an EIR based on growth inducement, induced traffic, and the resulting decline in air quality. The evidence that confirms these effects and methods to analyze their magnitude are summarized in Attachment B.

**Response:**

The Initial Study/Environmental Assessment did not identify any significant impacts on the environment. Therefore, a ND/FONSI was the appropriate determination for this proposed project. An EIR/EIS would be required when the IS/EA identifies significant environmental impacts that can not be avoided or mitigated.

As for the relationship between growth inducement, induced traffic and the deterioration of air quality, refer to MTC's letter dated February 12, 2000 in Appendix G. This letter, which EDF has received under separate cover, is in response to EDF's January 18, 2000 letter to MTC. The letter addresses induced travel, the method in which induced travel is handled in travel demand models, and EDF's proposed methods for analyzing induced growth.

**Comment #44 from EDF 1/6/00:**

The failure of the Draft IS/EA to analyze relevant and feasible alternatives that could significantly mitigate the adverse effects of the proposed project would render the environmental document inadequate.

**Response:**

Our technical studies did not identify any significant impacts to the environment, therefore, it was determined that an IS/EA and ND/FONSI are appropriate levels of environmental documentation and determination respectively. Section 4.0 of the Draft IS/EA discusses alternatives considered as well as the reasons for their dismissal. However, unlike an EIR/EIS, an IS/EA does not require the examination of all alternatives to the proposed project.

**Comment #45 from EDF 1/6/00:**

The Draft IS/EA fails to address important environmental effects such as induced traffic and induced growth as well as their effects on air quality. The analysis methods used in the draft document do not account for induced traffic and induced growth effects. As a result the effect on congestion is wrongly stated. Induced traffic and induced growth effects tend to re-establish congestion in the long run. The effect on air pollution is oppositely stated. The capacity expansion will lead to more traffic, with little reduction in congestion in the long run. Air pollution will in fact increase as a result of the capacity expansion.

**Response:**

Studies by Caltrans and others have shown that reduced congestion results in fewer emissions and therefore improved local air quality. This conclusion is based on the fact that

emissions decrease as speeds increase in the range of 3 to 58 mph. Stop-and-go conditions result in high emissions, smooth traffic flow results in lower emissions.

Induced travel is addressed in MTC's regional travel demand forecasting system (BAYCAST-90) by simulating the effects of route changes, departure time changes, modal shifts and mode shifts due to highway capacity changes. As the forecasting for this project has been done using BAYCAST, induced travel effects have been accounted for and are not a factor.

The project is included in the 1998 Regional Transportation Plan (RTP) and 1999 Transportation Improvement Program (TIP), which was approved jointly by FHWA and FTA on October 5, 1998. Based on the TIP conformity analysis, the reductions in VOC, NOx, and CO emissions presented in Tables 8, 9, and 10 can be expected in the future. Judging from these projections, it appears that projects included in the latest approved TIP will not result in negative long-term air quality impacts.

Since significant reductions in VOC and NOx (precursors to ozone formation) are predicted (see Tables 8, 9 and 10), it can reasonably be concluded that ozone concentrations will decrease as well and that the Bay Area once again will be in attainment. We agree that the Bay Area is in non-attainment for the State Standard for particulate matter (PM10). To date, no methodology has been developed to quantify PM10 concentrations as the result of motor vehicle operations.

According to the future projected daily emissions in the years 2010 and 2020 in the approved TIP, no degradation of air quality will occur, instead, air quality is expected to improve. Current state and federal laws do not prohibit population growth or increased emissions as long as it can be shown that these increases, if any, will not cause exceedances of existing standards or violation of the emissions budget listed in the approved SIP. This project does not require mitigation measures for the purpose of air quality.

Caltrans will monitor and operate the proposed HOV lane to assure maximum benefit to the traveling public. This project conforms to the requirements of TCM 8 of the 1998 Clean Air Plan.

It may be true that increased capacity will eventually be taken up, but that is mainly due to a rapidly increasing population and a strong economy in addition to the other factors we previously pointed out. The new capacity of one HOV lane will not likely foster land use changes. The Draft Environmental Report of the 1998 Regional Transportation Plan predicts an increase of 14% in population between the years 2000 to 2020, a 20% increase in trips and a 28% increase in VMT. New lane miles will only increase by 4% and new peak transit capacity will increase by 11%. This leads to the conclusion that present planning scenarios do not provide sufficient new capacity to keep up with regional growth. As mentioned above, the approved TIP concludes that air quality will not deteriorate as a result of this project.

No significant impacts have been identified in the draft environmental document for the proposed project. Other alternatives have been discussed and reasons for their dismissal are included in Section 4.0 of the Draft IS/EA.

**Comment #46 from EDF 1/6/00:**

Caltrans' proposed carpool lane usage/level of use is too low. The environmental document incorrectly states that the carpool lane will allow free-flow travel even in the year 2025. The environmental document fails to consider that the Sunol Grade has a higher than average proportion of multi-occupant vehicles. The current number of multi-occupant vehicles is higher than that used in the MTC model.

**Response:**

Alameda County CMA sponsored a Phase I MIS that led to this HOV lane proposal. The traffic consultant for the study, TJKM, cited in the technical report 15% double-occupant HOVs and 5% 3+HOVs. However, the TJKM report was based on a relatively small sample size (less than 10% of traffic), counting only 1200 vehicles in a four-hour period (300 vehicles per hour, less than 10% sample size). TJKM's Phase II MIS report cited a survey result (with 19% response rate) with a potential of 14% double-occupant multi-occupant (3+) HOVs. Given that survey responders are potential users, we believe our assumption is consistent with the consultant's data.

Survey	Percent HOVs
TJKM 1997 survey	20% 2+HOVs (based on 300 vph sample size)
TJKM 1998 survey	14% 2+HOVs (of survey respondents)
Caltrans 1999 survey	9 to 12% 2+HOVs (3-hr average vs. peak 15-minute flow rate)
Caltrans 2005 forecast	12% 2+HOVs based on 1,120 vph
Caltrans 2025 forecast	15% 2+HOVs based on 1,550 vph

Only a morning peak hour analysis was conducted for all scenarios of future traffic forecasting. As peak hour analyses do not account for congestion cumulated from previous hours, the calculated peak hour speeds, delays, and travel times reflect only the operations from a peak hour demand assuming free flow conditions from previous hours. The traffic congestion over a cumulative multi-hour peak period would be higher than indicated by the peak-hour analyses. Thus, the results cannot be directly compared to the existing observed congestion. Nonetheless, the analyses serve to differentiate future traffic operations between the Build and No-Build alternatives.

**Comment #47 from EDF 1/6/00:**

Table 1 (p.11) of the draft document indicates that even without the addition of a new lane the maximum travel time on I-680 between I-580 and SR-237 (23 miles) would be 45 minutes in the year 2005 and 47 minutes in the year 2025. It appears that this number has not been correctly calibrated to observed conditions. In comparison, an I-680 study conducted in 1997, observed a maximum travel time of 2 hours and 8 minutes over an 18 mile portion of this route.

**Response:**

The analyses conducted for the “No Build” and “Build” alternatives were based on the forecast for the peak hour only. Therefore, the results can not be directly compared to field observations which take into account cumulative effects on congestion. The intent of the study was to evaluate the benefit of the proposal and the relative differences between alternatives. As such, examining only the peak hour was sufficient to serve to the purpose of the study – differentiate the effects of the addition of an HOV lane from the No Build alternative. This is a widely used, acceptable method of comparing alternatives. The TJKM study looked at existing short term conditions and was a multi-hour analysis. A consistent methodology was used between the two studies but as noted, the study period was different yielding different results.



January 26, 2000

Ms. Emily Landin-Lowe  
Project Manager  
Caltrans District 4  
111 Grand Avenue  
P.O. Box 23660  
Oakland, CA 94623-0660

Dear Ms. Landin-Lowe:

Thank you for the opportunity to comment on the environmental document for the Southbound Interstate 680 Proposed Improvements project.

This project proposes constructing southbound HOV lanes from Route 84 to Route 237. We request that Caltrans evaluate the opportunity of extending the HOV lane from Route 237 to Montaque Expressway/Landess Avenue in Milpitas. This extension will provide additional opportunities to the driving public to connect to Route 880, and may also assist in relieving traffic congestion on the heavily traveled Route 237/Calavaras Boulevard in Milpitas.

If you have any questions or comments regarding this request, please contact John Ristow of my staff at 408 321-5713. VTA looks forward to working cooperatively with Caltrans on the successful completion of this important project.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael P. Evanhoe".

Michael P. Evanhoe

Director, Congestion Management and  
Highway Programs

cc: Mike McNeely, City of Milpitas.  
Dennis Fay, Alameda County Congestion Management Agency

Comment #48 from Santa Clara Valley Transportation Authority 1/26/00:

Caltrans should evaluate the opportunity of extending the HOV lane from Route 237 to Montague Expressway/Landess Avenue in Milpitas. This extension will provide additional opportunities to the driving public to connect to Route 880, and may also assist in relieving traffic congestion on the heavily traveled Route 237/Calavaras Boulevard in Milpitas.

Response:

Although extension of the proposed HOV lane southerly to the Montague Expressway would be desirable from the standpoint of creating HOV network continuity, there would be little, if any, direct user benefit.

Currently, the controlling southbound bottleneck during the morning commute is located at the SR-262 interchange. After the southbound HOV lane project is completed, the controlling bottleneck is expected to shift to SR-237 interchange. Immediately downstream of the SR-237 interchange, I-680 is expected to operate under free-flow conditions. Thus, extending the HOV lane to Montague Expressway will have minimal benefit. As the proposed HOV lane terminus will be connected to an existing lane at the SR-237 interchange, no additional transition is required. Additional widening will be required to extend the HOV lane southerly as we do not recommend conversion of an existing mix-flow lane to an HOV lane. Furthermore, extending the HOV lane to Highway 101 was outside the scope of this project's purpose and need.

The HOV lane project was initiated by the Major Investment Study (MIS) that was commissioned by the Alameda County Congestion Management Agency (CMA) with the cooperation of Santa Clara CMA and Caltrans. The MIS studied many alternatives to provide immediate congestion relief for the Sunol Grade commuters. The current HOV lane proposal, along with the auxiliary lanes and ramp metering, emerged as the preferred alternative. In a parallel effort, Caltrans is also working with the Alameda County CMA to develop long-term improvements for this freeway corridor. The study covers both directions of I-680 including the Montague Expressway interchange and other adjoining arterial streets and routes. A wide range of alternatives is being considered for these improvements.

**APPENDIX F**



## Comments Not Requiring Responses

The following individuals submitted comments either in writing or through the court reporter present at the public hearings:

- Gary Haas (November 30, 1999)
- John and Gerrie Novotny (December 2, 1999)
- Raquib U. Khan (December 2, 1999)
- Sunny (Kathy) Chandonais (December 15, 1999)
- Dr. Tony Fisher (December 15, 1999)
- Elaine Bowers (December 15, 1999)
- Theodore Weller (December 15, 1999)
- Arlene DeLeon (December 15, 1999)
- Robert V. Beaudreau (December 24, 1999)
- John A. Dutra, California Assemblymember, Twentieth District, (January 5, 2000)
- Liz Figueroa, California Senator, Tenth District (January 5, 2000)

Nov. 30, 1999

To: Caltrans District 4

Ref: HOV lanes I-680

Dear People:

I would like to make a comment for alternatives to a HOV lane on I-680

Instead I would suggest simply to complete a lane from the top of Sunol grade (where the right hand merge starts) to the start of the four lanes in Milpitas.

Also restrict truck traffic to "right lane only" during commute times, that is the major reason for traffic back-up during the commute.

Respectfully

*Gary Haas*

Gary Haas  
5441 San Jose Dr.  
Pleasanton, Ca. 94566  
925-462-7913

Mr. and Mrs. John Novotny  
4628 Black Avenue  
Pleasanton, CA 94566

Mr. Robert Gross  
Chief, Office of Environmental  
Planning South  
CALTRANS DISTRICT 4  
P.O. Box 23660  
Oakland, CA 94623-0660

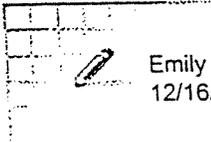
Mr. Gross:

RE: I-680 (Sunol Grade) Southbound HOV Lane

My husband and I each travel this route to work every day. The 13 mile commute takes me at least 45 minutes to travel to Fremont (Washington Blvd. exit) every day; so I know the need for another lane on I-680 going South. My only complaint to this proposition is that we do not believe the additional lane should be an HOV lane. We pay our taxes and that money is going to be used to provide the HOV lane. Why can't we use it! Just because someone has several people in their car should not give them more of a right to use the additional lane than us. Just build another lane; do not limit it's use!

Very truly yours,

*John and Gerrie Novotny*  
John and Gerrie Novotny



Emily Landin-Lowe  
12/16/99 10:48 AM

To: Moujan Mostaghimi/D04/Caltrans/CAGov@DOT  
cc:  
Subject: Re: Alameda/ Santa Clara 680 Sunol Grade HOV Lane Widening

You may want to include this in the comments.

----- Forwarded by Emily Landin-Lowe/D04/Caltrans/CAGov on 12/16/99 10:46 AM -----



Ken Leytem

12/02/99 11:32 AM

To: Emily Landin-Lowe/D04/Caltrans/CAGov@DOT  
cc:  
Subject: Re: Alameda/ Santa Clara 680 Sunol Grade HOV Lane Widening

For your information only! This is the gentleman who had e-mailed Harry Yahata about the Sunol Grade congestion. You will see below that I sent him only a small portion of the fact sheet and some information about the upcoming public hearings. I do not know if what he suggests is possible and/or practical, but I thought I would share his note with you. I do not believe any response is necessary at this time. If he and/or his colleagues are truly interested in the project, they can go to one of the public meetings.

----- Forwarded by Ken Leytem/D04/Caltrans/CAGov on 12/02/99 11:29 AM -----

Raquib\_U\_Khan@notes.seagate.com on 12/02/99 11:25:14 AM



To: Ken Leytem/D04/Caltrans/CAGov  
cc: Harry Yahata/D04/Caltrans/CAGov, Andrew Fremier/D04/Caltrans/CAGov

Subject: Re: Alameda/ Santa Clara 680 Sunol Grade HOV Lane Widening

Dear Mr. Ken Leytem

It's so nice of you that you replied and has given us the fact sheet. I just would like to say two things-

Temporarily Caltrans can allow atleast one side of the emmergency lane of 680 south bound in many segments for using for cars and light trucks as it is very common in LA area (I have seen). You could easily put a sign like- OK to use this lane for such and such time etc. within your regulation. All you need to do some marking which is nothing compare to the widening project.

Secondly- Please try to expedite the project by taking it as a crisis ! Thousands of people are losing thousands of hours every day - ultimately, our California loses billions of dollars equivalent work and of course other resultant bad consequences!- some times even shooting!!

Please remember one thing that- Only you can make it happen as you have the authority and resources- we can cry only.

Thanks.

Raquib Khan, Ph.D.  
Senior Scientist/Manager  
Seagate Technology

Ken\_Leytem@dot.ca.gov on 12/01/99 03:44:52 PM

To: Raquib U Khan@Seagate  
cc:

Subject: Re: Hwy 17 SB Retaining Wall Project

Our apologies for not replying earlier to your attached message but we wanted to wait until the Public Hearings for this project were scheduled. The following information should prove beneficial to your and your co-commuters.

Alameda/ Santa Clara 680 Sunol Grade HOV Lane Widening

#### FACT SHEET

#### Project History:

Beginning in 1994, the Department became increasingly aware of congestion over the Sunol Grade. This segment of Interstate 680 in Alameda and Santa Clara Counties is most heavily traveled in the southbound direction in the A.M. peak period. With traffic reduced to stop-and-go conditions beginning before 5 A.M., this bottleneck is the worst in the Bay Area. The reasons lie in the booming Silicon Valley economy, with thousands of workers traveling into the area every day from affordable housing origins in eastern Contra Costa and San Joaquin Counties.

In early 1997, three Bay Area business consortiums joined together to press for resolution to the increasing congestion over the Sunol Grade. The Bay Area Council, the Tri-Valley Council, and the Santa Clara Valley Manufacturers Group created Solutions on Sunol to bring attention to the need to widen I-680 or otherwise improve transportation options over the Sunol Grade. Joining with Congresswoman Ellen Tauscher and Assemblywoman Liz Figueroa, S.O.S. has pressed the Department and the Congestion Management Agencies involved to fund and expedite this project to widen I-680 over the Sunol Grade.

Caltrans has proposed constructing a southbound HOV lane with Traffic Operation Systems (TOS)/ramp metering facilities and auxiliary lanes. The Department has also been evaluating interim alternatives including using moveable barriers in the northbound direction in the morning to provide for southbound HOV lanes. On December 16, 1998, the I-680 Sunol Grade Policy Advisory Committee (PAC) recommended to Caltrans the median barrier option be eliminated. Caltrans is not pursuing the moveable barrier per that recommendation. The District is proceeding with a plan initiated by the Local Agencies to stage the construction of this project in order to provide more immediate congestion relief. This will provide a usable segment of HOV lane

years earlier than the overall project. The Department is in the process of determining the required adjustment of scope, cost and schedule changes.

Open House Public Hearings:

Two open house public hearings will be held to inform the public about the project and take comments on the Proposed Negative Declaration (ND) and Draft Initial Study/Environmental Assessment (IS/EA). Maps and exhibits describing the project will be on display at the hearings. There will be no formal presentation. However, Caltrans staff will be available to answer questions and a court reporter will be present to record your comments for the public hearing records. The hearings will be held on:

DATE:	Wednesday, December 8, 1999	Wednesday, December 15, 1999
TIME:	5:00 - 8:00 PM	5:00 - 8:00 PM
PLACE:	Pleasanton Middle School Multi-Purpose Room 5001 Case Avenue Pleasanton	Fremont Library Fukaya Room 2400 Stevenson Blvd. Fremont



# Comment Sheet

I-680 (Sunol Grade)  
Southbound HOV Lane  
EA # 253700  
Public Hearing



Fremont Main Library, Fremont  
Wednesday, December 15, 1999

Name: Sunny/Kathy Chandonai's Organization: Homeowner  
Address: 3018 Acosta Wy (Warm Springs) Fremont Zip Code 94539-7508

Please print. Use the back of the sheet if necessary.

Hopefully room will be allowed for eventual commuter train between - above the N+S-bound traffic. Eventually Californians (drivers and employers) have to face the horrendously detrimental effects to the environment of more cars & increased traffic. There must be a consolidated cross-county effort to provide non-polluting mass transit from the San Ramon Valley to the Silicon Valley. I used to ride my bicycle from Warm Springs (via Montague) to near Great America. Even that is now too dangerous not to mention what I had to breathe! Carpool lanes are only an interim solution - All other modern industrialized countries PLAN for using transit not limited to cars.

PLEASE PLACE THIS IN THE COMMENT BOX TONIGHT OR MAIL TO:  
Caltrans District 4, Robert Gross, Chief, Office of Environmental Planning South,  
P.O. Box 23660, Oakland, CA 94623-0660.

Written comments must be postmarked by January 6, 2000.

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Those are my comments.

- - -

MR. BUGLER: My name is Glenn Bugler,  
B-u-g-l-e-r. I live at 47363 Yucatan Drive, in  
Fremont.

I found this meeting very informative,  
but I am concerned about the lack of noise  
mitigation measures that are lacking in this  
proposed improvement.

The decibel level seems to have increased  
in the five years I've lived here, and is most  
acute in the morning and evening hours.

I'm interested in when the sound  
measurements were taken, and would like to know  
if the widening of the freeway by one lane  
adjacent to our home was considered in the  
determination of where the sound walls will be  
going.

That's it.

MR. FISHER: I'm Tony Fisher, Dr. Tony  
Fisher, F-i-s-h-e-r, senior adviser for  
New United Motor Manufacturing Inc., otherwise  
known as NUMMI, G.M., Toyota, Joint Venture,  
located here in Fremont, California.

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Now we have over 4700 employees.

I just want to mention that we have been following the work through Alameda County Congestion Management Agency, plus Caltrans, and plus the other agencies, Metropolitan Transportation Commission, and also the transportation agencies in Santa Clara County and Contra Costa County that have been involved in this.

We've been following the activity on this project for the last couple of years.

I just wanted to mention that we support the proposal as put forth by Caltrans today, and we think it would be -- it's cost-effective and a very beneficial way to relieve congestion and improve the environment.

I think that it's a well-thought plan.

MS. BOWERS: I'm a homeowner on 680.  
Elaine Bowers, B-o-w-e-r-s.  
I own -- 1804 Berry Court is my home, and we're the owners.  
We're in favor of the sound wall. We have decibel readings in the mid-70s, 76 or so, in our backyard. Our backyard has been pretty

1 Now we have over 4700 employees.

2 I just want to mention that we have been  
3 following the work through Alameda County  
4 Congestion Management Agency, plus Caltrans, and  
5 plus the other agencies, Metropolitan  
6 Transportation Commission, and also the  
7 transportation agencies in Santa Clara County and  
8 Contra Costa County that have been involved in  
9 this.

10 We've been following the activity on this  
11 project for the last couple of years.

12 I just wanted to mention that we support  
13 the proposal as put forth by Caltrans today, and  
14 we think it would be -- it's cost-effective and a  
15 very beneficial way to relieve congestion and  
16 improve the environment.

17 I think that it's a well-thought plan.

18  
19 MS. BOWERS: I'm a homeowner on 680.

20 Elaine Bowers, B-o-w-e-r-s.

21 I own -- 1804 Berry Court is my home, and  
22 we're the owners.

23 We're in favor of the sound wall. We  
24 have decibel readings in the mid-70s, 76 or so,  
25 in our backyard. Our backyard has been pretty

1 much unusable.

2 We don't go out there unless we have to.  
3 Our windows vibrate; our walls vibrate; our  
4 pictures vibrate.

5 We cannot carry on a normal conversation  
6 in our backyard. We have to talk loudly in order  
7 to be heard.

8 We cannot sit in our backyard and enjoy  
9 it, and we haven't for some time.

10 After the first year of ownership of the  
11 house, the noise was getting worse. During the  
12 next year, it continued to get worse.

13 I called and spoke with Victor Souza  
14 (phonetic) at Caltrans about a sound wall. He  
15 told me that since our home was 30-plus years  
16 old, we would qualify under the older homes  
17 funding that was supposed to be there, but that  
18 wasn't available.

19 This is the only avenue we have to adjust  
20 and correct the quality of life issues we have as  
21 a result of our growth and traffic volume on 680  
22 over the last three to four years there.

23 I have concerns about the soil conditions  
24 if they cut into that slope on 680, which is  
25 behind my home.

1 My concerns are that changes might be  
2 created in this soil and its drainage, and I  
3 would like for them to keep me informed of their  
4 decision as to how they are going to make that  
5 lane wider; if they are going to cut into it or  
6 what.

7 The other concern I have -- my second  
8 concern is the lead level in the soil, and I  
9 would like for them to inform me of the results  
10 of the lead testing that they'll be doing later  
11 on.

12 I do support this. I want this to  
13 happen. I want this sound wall to go up sooner.  
14 I would like the sound wall to be put in before  
15 they start to work, if at all possible.

16 Thank you

17 (Brief discussion off the record.)

18 MS. BOWERS: I would like to make some  
19 additions to my earlier comments, which would  
20 include: We're not able to open our bedroom  
21 windows at night; the traffic noise is still  
22 there. The trucks are still there, and they are  
23 quite loud.

24 Our 11-year-old old son chooses not to  
25 open his window at night. It is particularly

1 difficult during the summer heat when at 9:00,  
2 10:00 o'clock at night the house is still hot,  
3 but he chooses not to open his window because the  
4 noise is so bad and it keeps him awake.

5 The same with our 16-year-old son.

6 My husband works in the Silicon Valley.  
7 We appreciate and understand the growth that is  
8 going on there; but at the same time, we have a  
9 quality of life issue and he needs to get his  
10 sleep so he can do his job. And during the  
11 summer months, especially, that is particularly  
12 difficult.

13 Again, it's an issue of whether we can  
14 open our windows or not open our windows.

15 Our windows do vibrate; they vibrate  
16 during the day; at night, especially when trucks  
17 go by. Our pictures, I can see them vibrating.  
18 You can visually see them and hear them. The  
19 same with our sliding glass doors and kitchen  
20 windows.

21 The same goes -- I don't open my kitchen  
22 windows which faces my backyard simply because of  
23 the truck noise, the car noise, and it makes my  
24 house unpleasant.

25 I like a quiet house, and I don't have

1 that.

2 Thank you.

3  
4 (Previous speaker asked to speak again.)

5 MR. FISHER: On mine, can you go back up  
6 and say "in general." We think it's a  
7 well-thought out plan in general.

8  
9 MR. WELLER: My name is Theodore Weller,  
10 Sr. C.S.P., P.E.

11 P.O. Box 360929.

12 Telephone number, Business: (408)  
13 263-2737; Fax: (408) 942-8446; Home: (408)  
14 263-2737. And I live in Milpitas at the end of  
15 London Drive just east of Highway 680 between  
16 Jacklin and Scott Creek Road.

17 This project is, as I understand it,  
18 dealing with an HOV Lane from State Highway 84,  
19 and Sunol, to Calaveras Road in Milipitas. This  
20 is going to be a southbound HOV Lane.

21 My concern is that we're -- the money, I  
22 understand, is \$60 million, something to that  
23 effect, but I would like to see consideration  
24 given the area between Washington Boulevard and  
25 Alameda County to Calaveras Road in Santa Clara

1 County, that both the southbound and the  
2 northbound HOV Lane be developed at the same  
3 time, instead of in two different construction  
4 projects.

5 Basically, the area and the right-of-way  
6 that is presently available in the majority of  
7 that section is wide enough to take both lanes at  
8 the same time, to develop them both at the same  
9 time.

10 It is moving, primarily, the median strip  
11 -- barrier strip -- developing the HOV Lanes on  
12 each side of the existing barrier to the width  
13 that is necessary by using the outer edges of the  
14 roadway for the additional width that is  
15 necessary.

16 It is my opinion that when this initial  
17 construction is being considered for southbound  
18 only, that within a number of years, the  
19 construction would have to be redone to  
20 accommodate the northbound lane.

21 My feeling is that construction costs  
22 during this period are going to increase, and the  
23 disruption of traffic, as such, will again have  
24 to be faced maybe five, six years hence.

25 The design that is coming along on this,

1 especially in Santa Clara County, the traffic,  
2 southbound lanes, HOV Lane is in the middle of  
3 the roadway.

4 People must go across three lanes of  
5 traffic to exit to southbound 680 at either Scott  
6 Creek Road, Jacklin, and Calaveras which is quite  
7 difficult early in the morning or during the  
8 early commute rush.

9 Actually, all of these three exits  
10 eventually funnel into Highway 237 at Highway  
11 880, where construction is being done now.

12 This is going to be a monumental traffic  
13 jam being developed.

14 My feeling is that consideration should  
15 be given to correcting this whole stretch at one  
16 time instead of doing it over a period of, maybe,  
17 ten years.

18 That's it.

19 ---oOo---

20 (This concludes all speakers'  
21 comments at aforementioned hearing.)

22 ---oOo---

23

24

25



# Comment Sheet

I-680 (Sunol Grade)  
Southbound HOV Lane  
EA # 253700  
Public Hearing



Fremont Main Library, Fremont  
Wednesday, December 15, 1999

Name: Arlene DeLeon Organization: Resident of Fremont  
Address: 25 Calle Arroyo Dr. Fremont Zip Code 94539

Please print. Use the back of the sheet if necessary.

HOV lanes are a good solution to congested roadways. However, it needs to be implemented on a balanced system. The negative declaration does not describe the impacts of adding only a southbound HOV lane. Inevitably, traffic headed south will need to return north, that is if we're addressing traffic associated with daily commuters to work. In the evening congestion along I-680 begins at 5pm and that just 7pm. Over the past several years the continued growth with Silicon Valley businesses has increased congestion in both directions.

Preferable is an option that builds a segment SB with its companion HOV lane northbound. When the entire segment is completed, then Caltrans should pursue the ultimate widening improvement. Additionally, the cross-connector between I-680 and I-880 needs to be seriously studied with improvements to follow. Much of the increase on I-680 still desires a destination to the west. It

PLEASE PLACE THIS IN THE COMMENT BOX TONIGHT OR MAIL TO:  
Caltrans District 4, Robert Gross, Chief, Office of Environmental Planning South,  
P.O. Box 23660, Oakland, CA 94623-0660.

Written comments must be postmarked by January 6, 2000.

There was a cross connector at or around 267,  
the traffic would of Mission Blvd(s) would be  
considerably less. Thank you for this opportunity  
to comment.



Robert V Beaudreau  
1595 Vernal Ave  
Fremont CA 94539-4735

12/24/99

510-656-5942

Dear Mrs. Yahata,

I strongly oppose the construction of HOV on I-680 between Sunol Grade and Milpitas.

I travel I-680 between Fremont & San Ramon.

From my observation the HOV lanes in both directions are not used to justify the cost of constructing those lanes. The automobile per cost of road must be way out of line. I see cars with two or more people using the regular lanes instead of the HOV. These people should get a \$271 ticket for not using the HOV lane.

A few months ago I had to travel south of Fremont on I-680. Traffic as you know is unbearable. One thing I noticed, all the off ramps were backed-up to the highway and beyond. I think you could try putting police and the bottom of the ramp to move traffic on to the streets. I also think we use the police and highway patrol very little or not at all in traffic control. They should speed up their investigation of accidents. Some years back a southbound truck

(2)

on 680 returned at the bridge just before the  
Sunset grade. at about 5:30 AM. I was going north  
on 680 at about 6:40 AM and saw the massive  
line of cars back up to 580. I left San Ramon  
at 2:30 PM and 680 was still jammed-up. I  
took 580 to Mission Blvd to Fremont. Usually  
take about 21 min to make the trip, that day it took  
1:20. This is unacceptable to tie up a highway  
for that length of time. Let's get the highway  
patrol on the ball and get these things cleared-up  
faster. Their handling of traffic leaves much to be  
desired.

When construction started on 680-580 interchange  
traffic was a mess. I wrote a letter to the city of  
Dublin suggesting they eliminate the HOV from Alameda  
Blvd to south of 580. Caltrans removed the 180V  
and traffic is much better.

The only way we are going to solve the traffic  
problem in the Bay Area is to construct Public  
Transportation. Don't throw anymore money on those  
ineffective HOV's, put it into mass transportation  
facilities. Happy Holidays

Best regards,

P.S. San Mateo county should be  
made to get into BART

Robert V. DeMudra

# California State Assembly



JOHN A. DUTRA

ASSEMBLY MEMBER, TWENTIETH DISTRICT

Representing the Counties of Alameda and Santa Clara

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January 5, 2000

Robert Gross  
Office of Environmental Planning  
Department of Transportation  
P.O. Box 23660  
Oakland, CA 94623-0660

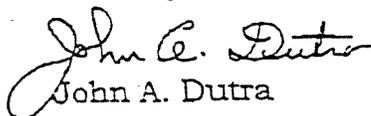
Dear Mr. Gross:

Your efforts, at the Department of Transportation, leading to the preparation of the Proposed Negative Declaration for the Southbound interstate 680 Improvement project are sincerely appreciated. The department's work in helping to develop an effective solution to the gridlock, currently faced each day by thousands of commuters on this route, has been both thorough and efficient.

The decision to add high occupancy vehicle lanes to this major Bay Area transportation artery is both fiscally and environmentally sound. Not only does it immediately increase vehicle capacity at the lowest overall cost, it also removes more vehicles from the road by encouraging people to carpool. The Proposed Negative Declaration clearly reveals the consideration of many different solutions, many yet untested and potentially impracticable. The HOV lane solution is tested, having been implemented successfully on many other state freeways, and will produce immediate results. It is clearly the correct approach, given the current technological and fiscal realities.

Your agency has my full support on this project.

Sincerely,

  
John A. Dutra



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# California State Senate

SENATOR  
LIZ FIGUEROA

TENTH SENATORIAL DISTRICT

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INSURANCE  
TRANSPORTATION



January 5, 2000

Robert Gross  
Office of Environmental Planning  
Department of Transportation  
P.O. Box 23660  
Oakland, CA 94623-0660

Dear Mr. Gross:

Thank you for your work preparing the Proposed Negative Declaration for the Southbound Interstate 680 Proposed Improvements. I appreciate your agency's effort addressing traffic on the single most congested commute in the Bay Area.

Congestion on I-680 is at a critical stage and the users of this corridor deserve timely relief. The currently planned High Occupancy Vehicle lane is a proven, effective solution with less than significant impacts on the environment. As reflected in the Proposed Negative Declaration, a number of ideas for solving congestion in this corridor have been offered. Unfortunately, some of these proposals are yet unproven and potentially unworkable. We know the HOV lane will bring traffic relief. I support implementing proven solutions and then building upon those with innovative ideas if and when we are certain of their success.

Your agency has my full support on this project.

Respectfully,

LIZ FIGUEROA  
State Senator, 10<sup>th</sup> District

LF:agc

**APPENDIX G**





METROPOLITAN  
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February 11, 2000

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*Sharon J. Brown, Vice Chair*  
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*Lawrence D. Dobson*  
Executive Director

*Steve Heminger*  
Deputy Executive Director

Mr. Thomas Graff and Mr. Dan Kirshner  
EDF  
Rockridge Market Hall  
5655 College Ave. #304  
Oakland, CA. 94618

*Tom Dan*  
Dear Mr. Graff and Mr. Kirshner,

Thank you for your letter of January 18, 2000 in which you suggest that MTC may need to improve our technical capability to address induced growth issues associated with transportation investments in the region. You also suggest in your letter that the Negative Declaration prepared by Caltrans for the I-680 Sunol Grade HOV lane may underestimate vehicle emissions in the corridor because of induced growth.

I would first like to indicate that MTC's travel forecasting models, as currently operated, does address the travel demand issues commonly associated with the topic of induced growth. The manner in which our models accomplishes this is described in the attached memo from MTC Senior Planner Chuck Purvis to Chris Brittle, MTC Planning Manager. Mr. Purvis is also familiar with the studies you reference and which you suggest could provide alternative methods for assessing induced growth in a corridor. While we understand the direction and purpose of these research efforts, we are not convinced that they provide a helpful methodology at the corridor level.

With respect to the corridor travel issues, MTC's travel forecasts take into account the growth in trips through the corridor that are generated by commuters living in the Bay Area as well as the growing number of commuters who reside outside the Bay Area and traverse the corridor on their way to and from jobs in Santa Clara County. Further, due to the use of MTC travel time input into ABAG's land use projection models, we believe the effects of changes in corridor travel times do get fed back into ABAG's projections of future job and housing locations in the region.

Finally, with respect to the vehicle trips in the corridor and air quality effects, the Sunol Grade carpool lane project has been incorporated into MTC's latest conformity analyses for the RTP and TIP, and these documents have been found to meet the transportation budget tests for the federal ozone standards. Further, as emissions from autos in the Bay Area are continuously being reduced as people purchase newer and cleaner cars, emissions Bay Area wide will drop substantially below today's levels. The VMT in a specific corridor would not cause this trend to change.

Mr. Graff and Mr. Kirshner  
February 11, 2000  
Page Two

After you have a chance to review our response, we would be pleased to set up a meeting to discuss these issues further.

Sincerely,



Lawrence D. Dahms  
Executive Director

LDD:CB  
J:\SECTION\PLANNING\Grafftr.doc



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*Memorandum*

TO: Chris Brittle

DATE: February 10, 2000

FR: Chuck Purvis

CP

W.I.: 12.2.10

RE: Comments on Induced Travel and Induced Growth

I have been asked by MTC Executive Director Larry Dahms to respond to the letter of Mr. Graff and Mr. Kirshner of EDF, their letter of January 18, 2000. In that letter they suggest that MTC may need to consider modifying the use, and perhaps design, of our travel demand forecasting model. This memo explains how our model is currently designed, and as you can see, already addresses most of the travel demand issues commonly associated with the topic of induced growth.

I have divided my response into three topic areas:

1. What is Induced Travel?
2. How Do Travel Demand Models (such as BAYCAST) Handle Induced Travel?
3. Comments on EDF Proposed Methods for Analyzing Induced Growth.

*1. What is Induced Travel?*

USDOT researchers and others have defined induced travel as:

"... any increase in highway system use caused by a highway capacity addition or other transportation system change which results in reduced travel times and/or costs. The primary travel demand variable used to measure the increases in highway system use is vehicle-miles of travel (VMT). VMT is a convenient and accurate summary measure that reduces the highly dimensional nature of travel demand (number of trips, the spatial distribution of these trips, the modes and routes chosen to execute these trips) to a single variable." (1)

This definition of induced travel includes "diverted" travel (route and mode shifts), and is more succinctly described as increase in the person trips generated by a household due to highway capacity additions or other transportation system changes. To be consistent with others, we will use this definition.

## 2. How Do Travel Demand Models (such as BAYCAST) Handle Induced Travel?

USDOT researchers have discussed the potential effects of highway capacity additions on traveler behavior in the following context:

- a. route changes;
- b. departure time changes;
- c. mode shifts;
- d. destination changes;
- e. additional (person) trips;
- f. new development / land use changes.

These researchers further note that:

"... the time periods over which these changes in travel behavior occur can be expected to vary. Route changes and changes in travel departure times can be expected to occur soon after a new or expanded highway opens. Mode shifts, changes in trip destinations, and new [person] trips may occur more gradually because they involve more significant changes in travelers' activity patterns. Finally, long-run effects are related to new development and how land use patterns adjust to the improved accessibility created by the newly available capacity and to the resulting spatial allocation of activities." (1)

There have been valid criticisms of older travel demand models and forecasting methodology, which are based on the use of "fixed" vehicle trip tables in evaluating the impact of highway capacity additions. Use of fixed vehicle trip tables will overstate the benefits (travel time savings, energy use, etc.) of the highway project in question. MTC does not use fixed vehicle trip tables.

The current MTC regional travel demand forecasting system is commonly referred to as BAYCAST-90. The system is comprised of computer representations of the region's highway, transit and non-motorized transportation networks; socio-economic forecasts allocated to MTC's 1,099 regional travel analysis zones; and the aggregate (zone-level) application of MTC's disaggregate travel behavior models estimated using MTC's 1990 household travel survey and auxiliary 1990 databases. The current system operates on MTC microcomputers using the MINUTP network planning package and software applications written by MTC programming and planning staff.

Complementing the MTC travel demand model system are the Association of Bay Area Governments' (ABAG) land use / demographic model systems. Of particular interest is the POLIS model (Projective Optimization Land use Information System). POLIS is used for the allocation of households and jobs in the Bay Area based, in part, on accessibility data provided by MTC.

1. MTC travel demand models are routinely used to simulate route changes due to highway capacity changes. MTC uses an equilibrium trip assignment computer algorithm that minimizes the travel time for vehicle trips occurring during the AM or PM peak periods.

For example, as part of the upcoming I-680 value pricing study, MTC staff and consultants will implement a nested mode choice / route choice model that will further split vehicle trips into toll-using versus non-toll-using trips. This will be done by grafting a toll / non-toll route choice nest onto existing MTC mode choice models.

2. A new feature of the current MTC model system is a home-to-work departure time choice model. This model shows that as congestion increases, consumers choose to begin their travel outside the peak period. So, MTC travel demand models are routinely used to simulate departure time changes due to highway capacity changes. Though this is routine at MTC, these departure time choice models are fairly new to transportation planning practice.

3. MTC travel demand models are routinely used to simulate mode shifts due to highway capacity changes. For example, inclusions of new high occupancy vehicle (HOV) lanes are used to simulate shifts from drive alone to carpool modes. The faster travel times on both the mixed flow and HOV lanes are then "fed back" to MTC's mode choice models to simulate the effect of some carpoolers perhaps switching back to driving alone due to faster travel times on the mixed flow lanes. MTC staff routinely iterate through these three sets of models: mode choice, departure time choice, and route choice, until equilibrium is reached in terms of travel by mode.

4. MTC travel demand models are *not* routinely used to simulate changes in destination choice due to highway capacity changes. Current MTC trip distribution models are based on a blend of AM peak period and midday drive alone travel times. As currently structured, school trips are based solely on AM travel times; work trips are based on both AM and midday travel times (weighted more towards the AM); and other non-work trips are based on both AM and midday travel times (weighted more towards the midday.) Given concerns about over-sensitivity to driving times and practical concerns about reasonableness of resulting overall person trip patterns, MTC staff are using fixed person trip tables in current sets of travel demand forecasts. So, although MTC travel demand models are capable of showing changes in destination choices due to highway (driving alone) capacity increases, we choose not to apply this methodology because of illogical person trip patterns based on future year drive alone travel times.

Possible solutions that we are beginning to explore are mode choice probability-weighted travel times, as input to trip distribution. This would mean that transit and HOV travel times would be taken into account when forecasting trip distribution patterns. This is of critical concern in certain corridors where drive alone travel times are deteriorating with respect to transit travel times (e.g., central Contra Costa County to Oakland and San Francisco).

5. MTC travel demand models are *not* routinely used to simulate changes in person trips due to highway capacity changes. On the other hand, MTC staff has published research on accessibility-sensitive trip generation models (2). These models suggest that non-work trips (home-based shop/other and home-based social/recreation) are influenced by work trip duration. If the work trip duration is shortened due to highway capacity improvements, then there is a slight increase in the number of non-work *person* trips. On a regional basis, a 10 percent decrease in work trip duration (for all workers) would yield a 0.40 percent increase in total regional person trips. Given the very low elasticities for these accessibility-sensitive trip generation models (ranging from -0.07 to -0.18), MTC staff may not incorporate these particular models into future versions of the BAYCAST forecasting system. Instead, these models may be used in an "off-model" fashion to estimate increases in person trips due to highway capacity changes. An additional point to make is that the projected increase in these non-work trips would probably occur as local trips onto local facilities, and would probably not occur on the facilities where the major change in work trip duration is expected to occur.

The order of magnitude changes due to changes in trip distribution and person trips is probably one-tenth to one-hundredth the magnitude of the route, departure time, and mode shifts. The changes in trip distribution would need to be examined at a regional level, since improvements in one corridor would shift person trips from other corridors, yielding lower person travel in unimproved corridors. That is the nature of trip distribution models.

6. MTC and ABAG land use/transportation models are routinely used to simulate the allocation of households and jobs within the region. MTC travel time forecasts are routinely provided to ABAG as input to their POLIS model. For example, the current set of MTC travel demand forecasts are based on ABAG's Projections '98 data. MTC travel time forecasts, developed for the 1998 Regional Transportation Plan using Projections '98 data, were then used by ABAG in preparing the current projection series - Projections 2000.

MTC and ABAG have also conducted sensitivity analyses to compare the household and job allocations using different transportation scenarios, typically "no-build" and "build" scenarios. ABAG then uses statistical methods such as paired t-tests to determine if the reallocation of jobs and households is significantly impacted by the transportation system changes. Results are documented in ABAG reports (3).

ABAG is currently conducting research on how to have their POLIS allocation model better represent the residential location behavior of non-working and multi-worker households. ABAG is committed to updating their Bay Area socio-economic/ land use forecasts every two years. MTC has committed to providing updated travel time and travel cost data as input to ABAG to maintain a fair degree of consistency between the transportation and land use model systems.

In summary, MTC travel demand models and forecasting methodology performs a reasonable and thorough job of analyzing and predicting induced travel and induced growth. MTC does not use fixed vehicle trip tables in evaluating highway capacity projects. MTC does recognize that induced travel, in terms of changing departure times, changing routes, changing modes, changing destination choices, changing person trips, and changing location of residences and jobs, do occur and can be simulated. Some of the models and methodologies warrant more extensive research and testing (e.g., destination and residential location choices).

The most significant behavioral aspects of induced trips - departure, route and modal choices - are analyzed by MTC. The issue of induced growth, that is, the re-allocation of residential and commercial activities due to improved accessibility, is analyzed by ABAG using their POLIS model and accessibility data provided by MTC.

### 3. Comments on EDF Proposed Methods for Analyzing Induced Growth

The Environmental Defense Fund (EDF), in a 6/14/99 paper entitled "Induced Traffic and Induced Growth in the Sunol Grade Corridor: Evidence and Methods for Analysis", recommends methods that Caltrans should use in evaluating induced travel. There are significant flaws in using these methods as explained below.

The EDF statement refers to several reports published or presented before mid-1999. There are also references to research papers presented at the TRB 2000 annual meeting.

EDF recommends that Caltrans use travel demand elasticities provided by Hansen (4) and Noland (5). However, the authors did *not* intend for their elasticities to be used in this way. Hansen states:

"Simple models of the kind presented here cannot supplant the detailed analyses needed to evaluate specific projects. It should not be assumed that the aggregate elasticities obtained in our analysis apply equally to every urban region, let alone to any particular project. They do, however, support important generalizations about supply-demand relationships for urban roads. Ideally, these generalizations will eventually be reconciled with the more detailed predictions of disaggregate, activity-based models that are the focus of so much ongoing research."

(4)

Furthermore, we disagree with Hansen about the eventual reconciliation of elasticities based on aggregate versus disaggregate methods.

It is important to note some limitations about the models developed by Hansen, Noland and others. The Hansen models are aggregate regression models using California county-level and metropolitan-level data for the 1973 to 1990 time period. The Noland (1999) research is based on U.S. state-level data from 1984 to 1996. This style of aggregate research is included in recent papers by Noland (6), Fulton (7), Barr (1) and Marshall (8).

In both Hansen and Noland, VMT is a function of lane-miles (freeways, arterials, or both), population, personal income, population density, gasoline price, and a time lag variable.

These models *exclude*: auto ownership levels, transit service levels, congestion levels, non-gasoline pricing (tolls, parking, fares), and economic levels (e.g., total employment). The reason these variables are excluded from the models is that the data are not available for the time periods under analysis. Excluding these variables from any model to predict vehicular travel is known as a model specification error. Omitting variables such as auto ownership, transit, congestion and total employment is a fatal flaw from a transportation policy analysis standpoint.

A significant problem associated with Hansen and Noland is their use of lane-miles of highway as a surrogate for travel time changes associated with highway capacity changes. This is another form of model specification error. If a variable cannot be accurately measured, say, travel time changes due to highway capacity changes, then substitute a more readily available, and perhaps more accurate variable, in this case, lane-miles.

In the form presented, these aggregate models suggest that we could spend billions on transit systems and have extensive value pricing programs, but the models would predict precisely zero impact on changing VMT. These would not be useful models, since we do believe that transit investments and value pricing will change VMT.

The elasticities developed by Hansen, Noland and others should not and cannot be used for project-level analyses. This is known as an ecological fallacy. An ecological fallacy occurs when one makes conclusions about individuals based only on analyses of group data. Stated another way:

“Ecological fallacy consists in thinking that relationships observed for groups necessarily hold for individuals: if countries with more Protestants tend to have higher suicide rates, then Protestants must be more likely to commit suicide; if countries with more fat in the diet have higher rates of breast cancer, then women who eat fatty foods must be more likely to get breast cancer. These inferences may be correct, but are only weakly supported by the aggregate data.” (9).

Transportation planning students learn about ecological fallacy by estimating models using disaggregate, household level data; then comparing the disaggregate model to models based on the same data aggregated to travel analysis zone or super-district level. The best discussion on this particular topic is in the Horowitz, Koppelman and Lerman workbook (10). Their work suggests that elasticities based on aggregate versus disaggregate methods may be significantly different.

The best that can be said about these aggregate models is that they are good, aggregate time series models making the best use of readily available information. The worst that can be said about these models is that they have fatal model specification errors.

Therefore, it is difficult to contemplate how these aggregate model elasticities could be applied to analyze induced demand at a corridor level, as they would yield specious results.

We believe that our current approach – using disaggregate travel behavior models applied at the system level – is an appropriate and thorough means for analyzing induced demand. Improvements to these disaggregate methods will always be helpful.

#### 4. References

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3. Association of Bay Area Governments. “Assessing the Future: A Sensitivity Analysis of Highway and Road Improvements on Growth in the San Francisco Bay Area.” Working Paper 91-4, ABAG, Oakland, CA, April 1991.
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January 18, 2000

Lawrence Dahms  
Metropolitan Transportation Commission  
Joseph P. Bort MetroCenter  
101 Eighth Street  
Oakland, CA 94607

Dear Larry:

As you know, we at Environmental Defense have long advocated the concept of pricing as a solution to traffic congestion. We have also sought to have the relationship between capacity expansion and sprawl taken into account in transportation planning. Recently we have focused on the Sunol Grade as an important opportunity to introduce these concepts in the Bay Area. First, we want to thank you for public comments you have made in favor of pricing concepts. Second, we write to ask you for your leadership and help in two areas: (a) obtaining broader interest in and support for pricing among the members of the Metropolitan Transportation Commission board and among other local and regional politicians; and (b) improving the technical capability of MTC to address induced growth issues, which in turn should have a major bearing on the acceptability of pricing alternatives in regional transportation planning.

We noticed your favorable remarks that "in the future you could start pricing transportation in a more rational way than we price it now" made at a conference last summer and reported in the *Chronicle* last November. We also heard your remark to Senator Perata at his Select Committee on Bay Area Transportation hearing that "pricing is the most effective approach" to congestion, although the most difficult. (We don't disagree. See Tom's interview in *Metropolitan Investment Report*, enclosed as Attachment 1).

We suggest that a way to advance consideration of pricing would be further introduction of the concept to your Board. Perhaps you could schedule informal workshops or briefings on this issue, or a series of Board presentations that could explore the pros and cons of different approaches. We note that Dennis Fay has successfully taken both approaches with the Board of the Alameda County Congestion Management Agency.

Finally, on the issue of induced growth, we have commented to Caltrans and the Federal Highway Administration that failure to consider this issue in the "Draft Proposed Negative Declaration" for the new carpool lane on the Sunol Grade would render the environmental review inadequate. See Attachment 2. The Bay Area Air Quality Management District and the U.S. Environmental Protection Agency have indicated that they view an Environmental Impact Report/Statement,

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rather than a Negative Declaration, as necessary to environmental review of the Sunol Grade capacity expansion and its effects on air quality. See Attachments 3 and 4. Part of this failure to consider induced growth is due to reliance on the MTC's "BAYCAST" model, which did not account for induced growth in this case. Were more comprehensive modeling in place, alternatives that promote efficient and equitable use of the corridor's physical capacity might well get a better hearing.

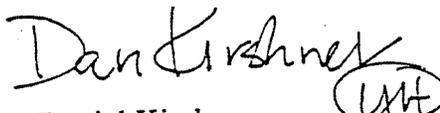
One possible long-term outcome in the case of the Sunol Grade, whether a full EIR/EIS is prepared on the current proposed capacity expansion or not, is that there be a firm commitment from the relevant agencies that the induced growth issue will be fully considered in the future. We believe this would require modification to the use – and perhaps the design – of MTC's modeling tools, including their use in analysis of the Regional Transportation Plan. We hope you could facilitate exploration of such enhancements to MTC's analyses.

Shall we meet to discuss these issues? Please give one of us a call if you are interested in discussing these matters further.

Sincerely,



Thomas J. Graff  
Senior Attorney



Daniel Kirshner  
Senior Economic Analyst

Attachments

