

# CITY OF SARATOGA DETAILED COMMENTS ON THE STATE ROUTE 85 EXPRESS LANES PROJECT INITIAL STUDY

FEBRUARY 25, 2014

## I. Introduction

The following are the City of Saratoga's comments and questions regarding the Initial Study with Proposed Negative Declaration/Environmental Assessment ("IS") for the proposed State Route ("SR") 85 Express Lanes Project ("Project") proposed by State of California Department of Transportation ("Caltrans") in cooperation with the Santa Clara Valley Transportation Authority ("VTA"). The IS concludes that the Project will have no significant adverse effects on the environment. The City agrees that if Caltrans and the Valley Transportation Authority decide to move forward with the Project they should do so in a manner that avoids all such impacts. The IS, however, does not contain sufficient information to assure the City and concerned members of the public that this will be the case. These comments discuss portions of the IS that require further information and analysis, and possibly additional project design work, to demonstrate that the Project will not have adverse impacts on our community.

## II. Understanding the Project

The City and public's ability to understand and carefully review the Project has been constrained by the lack of important information about the project and its design. The description of the Project in the IS omits numerous essential aspects of the Project that have the potential to result in impacts to the community. Examples of the omitted information are:

- Project Specifications. The IS provides no map that accurately portrays the precise locations where the widening to provide the second express lane would begin and end. All of the Project's graphics are conceptual and/or schematic. The document does not include detailed (preliminary) design drawings that would show median widths, etc.
- Location of the Project staging areas.
- Amount of cut and fill, if any, associated with the Project.
- Location of spoils and soil importation sites, and haul routes.
- Number of truck trips associated with all grading and other construction-related activities.

- Description of construction-related activities (including timeline, location, number of construction employees, types of equipment, etc.).

Without this information about the Project, the City and its residents cannot understand its potential impacts and Caltrans and VTA will not be able to balance the Project's benefits against its environmental cost and evaluate feasible alternatives and mitigation measures.

### III. **Noise Impacts**

Noise from SR 85 already far exceeds that expected at the time it was approved. Widening SR 85 will increase these noise levels throughout the Project area. The IS does not fully analyze and the Project does not fully mitigate these impacts. Please conduct the studies necessary to fully understand the scope of the Project's noise impacts and revise the Project to include measures to reduce existing noise levels or, at a minimum, ensure that the Project does not result in any increase beyond existing noise levels. Key elements of the analysis necessary are discussed below.

#### A. **The Project Does Not Mitigate its Significant Noise Impacts.**

The threshold of significance for noise impacts used by the IS appears to be "when the future noise level with the project results in a substantial increase in noise level (defined as a 12 dBA or more increase) or when the future noise level with the project approaches or exceeds the Noise Abatement Criteria ("NAC")." Approaching the NAC is defined as "coming within 1 dBA of the NAC." Applying this threshold of significance, the IS identifies segments all along the stretch of SR 85 to be widened where the long-term noise impacts associated with the Project will be significant. One of these segments (Segment 6; the IS does not present information regarding noise levels on SR 85 south of Saratoga Avenue) is located within Saratoga.

Despite the significant increase in noise levels at these locations, the Project does not mitigate these impacts. The IS selects only one noise abatement type for the Project (sound walls) and then rejects each and every one of the sound walls, stating that none of the walls meet Caltrans' feasibility and reasonableness criteria.

Caltrans and VTA should consider other feasible mitigation measures. The IS acknowledges that Caltrans has several potential noise abatement measures available to mitigate noise impacts. These include: avoiding the impact by using design alternatives, using traffic management measures to regulate types of vehicles and speeds, and acoustically insulating land uses such as auditoriums, day care centers, hospitals and libraries.

Moreover, other feasible approaches exist for reducing traffic noise impacts such as open graded asphaltic concrete or rubberized asphalt materials. These alternative

pavement options have been proven to be quite effective to attenuation noise. Rubberized asphalt, for example, can result in an average of a four dBA reduction in traffic noise levels as compared to conventional asphalt. (See “Report on the Status of Rubberized Asphalt Traffic Noise Reduction in Sacramento County, Bollard & Brennan, Inc., November 1999, attached as Exhibit A.)

**B. The Analysis of the Project’s Operational Noise Impacts is Deficient.**

While mitigation of noise impacts is essential, the mitigation must be designed based on a comprehensive analysis of noise impacts. The work in the IS must be supplemented with a comprehensive noise assessment as a first step towards identifying necessary mitigation.

**1. The Noise Assessment Must Describe the Existing Environmental Setting.**

The IS does not appear to have properly analyzed the existing noise environment. The City is in the process of updating its noise element and has taken sound measurements throughout the City. In July, 2013, noise in the SR 85 corridor (100 feet away with barrier shielding) was measured in the range of 67-71dB. (See City of Saratoga Draft Noise Element at p. 9, attached as Exhibit B.) The IS, however, reports existing noise levels between 61 and 67 db along Project segment 6 between South DeAnza Blvd. and Saratoga Avenue.<sup>1</sup> Because even a 3 dB difference is a doubling of noise effect, this is a significant difference and one with considerable implications for the remainder of the noise analysis. In addition, the IS neglects to even identify existing or projected noise levels for segment 7 between Saratoga Avenue and Winchester Blvd. Please update the noise analysis to address these issues.

For purposes of noise analyses, Caltrans categorizes land uses based on the type and level of human use. (See Caltrans Traffic Noise Analysis Protocol (“Noise Protocol”) at 6 through 12, attached as Exhibit C.) According to the Noise Protocol, noise impacts vary depending on how humans use a site. As an example, the parking lot for a place of worship is not considered to be an area of frequent use that would benefit from a lowered noise level because people only spend a few minutes there getting in and out of their cars and there would be no benefit to a lowered noise level. However, if outdoor worship services are held at this location, this would be an area where people are exposed to noise for an extended period of time and where the ability to hear is important. This then would be considered an area of frequent human use that would benefit from a lowered noise level. The Noise Protocol thus specifically acknowledges types of land uses that warrant comparatively low interior noise levels. These uses, referred to as

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<sup>1</sup> Note that even these numbers exceed the 60dB noise level used as a design standard for SR 85 when it was approved. (See City of Saratoga General Plan, Noise Element, p. 8 (1988).)

“Category D”, which includes auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recordings studios, schools and television studios, should have interior noise levels of 52 dBA.

Although the IS acknowledges generally that residences, schools, churches, and hospitals are located along the Project corridor, it does not identify the specific receptors. It does not tell the public and decisionmakers, for example, how many schools are located along the corridor or the proximity of the schools to the freeway. Are these schools already protected by sound walls? Do they have noise attenuation features such as double-paned windows? This information is essential to moving forward in developing an effective mitigation plan.

Detailed information about existing land uses is all the more important because Caltrans’ requires additional analysis of Category D land uses “after a determination has been made that exterior abatement measures will not be feasible and reasonable.” The IS concludes that there is no feasible mitigation for the Project’s significant noise impacts but fails to take the necessary next step ; i.e., examination of interior noise levels in Category D land uses. The noise impact assessment must evaluate the Project’s effect on interior noise levels and identify appropriate mitigation if noise levels exceed the required thresholds.

## **2. The Noise Assessment Must Consider Areas Beyond the SR 85 Right of Way**

The IS omits any evaluation of noise impacts beyond the highway’s immediate right-of way. By focusing only on noise receptors located immediately adjacent to the ROW, the IS fails to take into consideration phenomena such as reflective noise. Reflective noise results from sound waves reflecting off of nearby buildings and structures. (*See Sound Walls: Absorptive Versus Reflective Design and Effectiveness, Sound Fighter Systems, attached as Exhibit D.*)

As studies show, the sound waves that travel around the ends and over the tops of sound walls in particular can be significant. Reflection is a critical factor when a vehicle (such as a bus) is almost as tall as the wall or, as in many cases, taller than the wall. The sound levels at the receiver can be easily increased perhaps 3 to 5 dB, and sometimes up to 10 dB because of reflective noise. In addition, these reflections can be directed uphill causing impacts to residences located at higher elevations on the slopes surrounding the ROW. Because of this phenomenon, noise conditions at receptor locations uphill from the ROW may differ substantially from those receptors within the ROW. The noise assessment must all receptors that are likely to experience increased noise levels resulting from the proposed Project including consideration of all new Project features such as the proposed concrete median dividers.

### 3. **The Noise Assessment Must Consider Single Noise Events**

The IS does not evaluate single noise events. Motor vehicle noise is characterized by a high number of individual events, which often create a higher sustained noise level in proximity to areas sensitive to noise exposure. Buses and motorcycles, in particular, generate significantly more single noise events than other vehicle types, especially along hills where engine brakes are applied or acceleration is needed. Yet, rather than analyze how these single-noise events will impact receptors, the IS focuses only on average noise

Analyzing only average noise impacts is not meaningful because impacted residents do not hear only noise averages, but also single events. Single event noise levels have been shown to be likely to result in sleep disruption and speech interference, and heightened levels of stress and annoyance. The noise assessment must analyze these impacts together with measures to mitigate those impacts.

Finally, the noise assessment must differentiate between daytime and nighttime noise. Noise can be far more intrusive during the evening and nighttime hours when ambient noise levels are at their lowest and when residents are sleeping. Since the surrounding area is quieter at these times, the masking effect of other noise does not screen the freeway noise. This higher sensitivity to noise must be considered in the noise assessment together with an evaluation of how the increase in noise from the Project would affect receptors during these time periods.

#### C. **The Analysis of the Project's Construction-Related Noise Impacts Must be Improved.**

Construction of the Project would occur over two years, and would apparently occur near residences, schools, hospitals and businesses. The IS does not analyze the noise impacts of construction other than to conclude that noise generated by project-related construction activities would be temporary and that noise levels would not be substantially higher than its (likely understated) projections of existing hourly average traffic noise levels on SR 85. Neither residents, the City Council nor VTA or Caltrans are given specific information as to the type, severity or even the duration of the construction-related noise impacts at their specific locations. This lack of information precludes any assurance that sensitive receptors would be sufficiently protected during the Project's construction process.

According to a recent EIS/EIR prepared for another Caltrans' Project (I-5/SR-56 Interchange Project), noise levels from construction can be as high at 101 dBA at 50 feet.<sup>2</sup> A noise level of 110 dBA is as loud as the sound of a jet fly-over at 300 meters or a rock band. *Id.* p. 3.16-2. Given the potential for the ear-splitting noise levels associated

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<sup>2</sup> I-5/SR-56 Interchange Project DEIR/S, May 2012 at 3.16-28.

with the SR 85 Project construction, the proximity of sensitive receptors, and the protracted construction schedule, the IS should have made at least some attempt to evaluate the Project's construction-related noise impacts.

We note that the Federal Highway Administration ("FHWA") requires that construction noise must be considered during the development of any transportation facility, and identifies the specific FHWA model that agencies should use to predict noise levels for highway construction projects.<sup>3</sup> The noise assessment must analyze construction-related noise impacts including a description of existing ambient noise levels at receptor locations, predicted noise levels during each phase of construction at each sensitive receiver location, a comparison of noise levels during construction to the existing ambient noise levels, the establishment of appropriate significance thresholds to assess whether the increase would be substantial, and a finding as to whether noise levels would substantially increase. This type of evaluation is necessarily complex, requiring a thorough description of the type, duration, amplitude, topological conditions, relationship of sensitive receptors to construction areas, construction techniques, construction phasing, and construction durations for each highway segment.

The deficiencies in the IS extend beyond construction-related noise impacts. The document also ignores construction-related vibration impacts. In addition to contributing to high levels of annoyance, construction-related vibration also can cause substantial property damage. The noise assessment must include a comprehensive assessment of construction-related vibration impacts.

Finally, the noise assessment must include mitigation measures that will avoid all impacts associated with construction noise. The IS calls for the preparation of a construction plan to identify the schedule for major noise-generating construction activities but does not include performance criteria that will ensure that construction-related noise does not adversely impact nearby sensitive receptors. Another measure calls for avoiding the staging of construction equipment within 200 feet of residences and as far as practical from noise sensitive receptors. Yet this measure will not be effective unless the assessment identifies the specific affected sensitive receptors. Moreover, the use of language "as far as practical" is vague and unenforceable. The public requires a clear and meaningful program to avoid noise impacts from the Project.

#### IV. **Traffic Impacts**

The evaluation of the Project's traffic impacts should be revised to: (a) use correct and clearly established significance thresholds; (b) correct those analyses that are inaccurate, illogical and potentially misleading; (c) add analysis of impacts (and

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<sup>3</sup> See FHWA, Highway Traffic Noise Handbook available at: [http://www.fhwa.dot.gov/environment/noise/construction\\_noise/rcnm/index](http://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/index).

associated mitigation) to the local and regional transportation network including the transit, bicycle and pedestrian systems; and (d) describe how construction of the Project would affect Saratoga's local streets and how those effects would be mitigated. In addition, the evaluation should address the issues identified in the attached February 25, 2014 comments of MRO Engineers ("MRO Letter", Exhibit E).

**A. Significance Thresholds.**

The IS never clearly identifies thresholds of significance for the Project's transportation impacts. The document explains that the express lanes are required to operate at level of service ("LOS") C unless there is a written agreement between Caltrans and VTA that permits LOS D. The IS suggests that such an agreement exists but does not include a copy of the terms and conditions of the agreement or explanation of the reasoning used by Caltrans and the VTA governing Board in reaching the agreement.

By relying on the LOS D threshold, the IS concludes that the Project would result in relatively few impacts on SR 85's express lanes. However, if the LOS C standard were used there would be numerous additional locations that would have high vehicle densities and impaired traffic flow. From a practical perspective, it seems that the significant investment required for the project should allow operations at LOS C. If this is not the Project design, the IS should provide a clear explanation of why this is not the case and how the Project will achieve its intended benefits if LOS C is not the level of service standard.<sup>4</sup>

With regard to general purpose lanes, the IS also relies on the LOS D standard. Yet the Caltrans Guide for the Preparation of Traffic Impact Studies (December 2002) identifies LOS C as the appropriate standard for general purpose/mixed-flow lanes. In 2015 and 2035; however, the IS identifies numerous locations where general purpose lanes would operate at LOS D. (See IS, p. 2-16 through 2-24, Tables 2.1.3-5, 2.1.3-6, 2.1.3-9, and 2.1.3-10.)

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<sup>4</sup> This should be done based projections of actual use patterns, not artificial design constraints. It appears that instead of modeling the actual travel demand on the express lanes in 2015 and 2035, the travel demand forecasts were structured so as to preclude the express lanes from carrying more than 1,650 vehicles per hour, apparently to ensure compliance with the statutory requirements established in AB 2032. (See DKS/URS Report , p. 28 assuming without explanation that the maximum volume will be limited to 1,650 vehicles per hour per lane on the express lanes.) Instead of artificially limiting travel demand forecasts the IS should include an unconstrained traffic projection. The actual traffic volumes in the express lanes could be substantially higher than the IS indicates, which would lead to levels of service in those lanes that are much worse than disclosed in the IS.

Regardless of the LOS standard that is used, there is clear evidence that numerous segments of SR 85 – both express and general purpose lanes – would operate at deficient levels of service, i.e., LOS E or LOS F upon completion of the proposed Project. See IS Table 2.1.3-10, p. 2-24. These are significant effects caused by the Project for which the IS identifies no mitigation. If Caltrans and VTA move forward with the Project it should be only after it has been redesigned to avoid these significant impacts.

## **B. Improved Analysis**

In several instances the traffic impact analysis in the IS is incomplete or illogical. This raises questions in the public’s mind regarding the accuracy of those parts of the analysis in particular and of the analysis in the document as a whole in general. Several examples are listed below.

### **1. The IS Does Not Properly Address Existing Traffic Operations at the SR 85/I-280 Interchange.**

The IS incorrectly characterizes SR 85 traffic operations near I-280 as being at an acceptable level of service. This finding differs significantly from the experience of motorists who drive through this area on a daily basis. SR 85 near Stevens Creek Boulevard and the I-280/SR 85 interchange is already a major bottleneck. The typical delay traveling north on SR 85 to northbound I-280 is about 15 minutes. Widening SR 85 south of this interchange will encourage additional traffic on SR 85 and, therefore, intensify congestion at the I-280/SR 85 interchange. The IS does not acknowledge the potential for this adverse impact, let alone evaluate methods for alleviating this congestion on and approaching the interchange as well as in the proposed express lanes south of the interchange.

### **2. The IS Overstates the Project’s Benefit With Regard To Travel Speeds on SR 85.**

The IS identifies SR 85 travel time and speed through the study area under No Build and Build conditions for the express lanes and general purpose lanes. As discussed in the MRO Letter, when the travel time results are compared to the travel speed results, inconsistencies are apparent that call into question the accuracy and validity of the IS analysis.

Peak-period travel speeds should be somewhat higher than peak-hour speeds, because the former includes two or three hours of lower traffic volumes (and higher speeds) in addition to the “worst-case” peak hour. In many cases, however, the data in the IS are illogical and misleading because the peak-period speed is less than either of the peak-hour values. This does not make sense. Travel speed data for the AM peak in 2015, the northbound (peak direction), for example, are particularly questionable. Under No Build conditions, the peak- hour travel speed is shown as 35.0 MPH in the general

purpose lanes and 56.2 MPH in the HOV lanes. In contrast, the peak-period speed is shown as 37 MPH, which is approximately the same as the peak-hour general purpose lane value. The same is generally true under Build conditions.

**3. The Level of Service Analysis Results Are Illogical and, Therefore, Are Likely Inaccurate.**

The conclusions of the IS as to how SR 85 would operate upon completion of the Project are questionable. As discussed in the MRO Letter, under 2015 Southbound conditions, the IS indicates that the HOV/express lanes on three segments of southbound SR 85 would have substantially improved levels of service under Build conditions in the PM peak hour, even though they are in the portion of SR 85 that currently has one HOV lane and will continue to have only one express lane. This is illogical, because implementation of the SR 85 express lanes project will allow additional motorists (i.e., toll-paying SOVs) to use this single lane, which should result in higher lane density and, therefore, equal or lower level of service. This illogical result raises questions as to the credibility of all of the level of service analysis results. The inaccuracies could stem from the flawed travel demand forecasts or from the LOS calculation process. In either event, the results must be reviewed and corrected.

**C. The IS Does Not Analyze the Project's Impacts to the Local and Regional Transportation Network including Bicycle and Pedestrian Systems.**

Saratoga and its residents are concerned not only with the impacts of the project to the operation of SR 85 but also of the project's effects on traffic and transportation on Saratoga streets, bike paths, and trails. The only level of service information in the IS is for those segments of the freeway proposed to be widened, there is no discussion of the transportation impacts of the Project outside the narrowly defined SR 85 corridor.

**1. Impacts to Local Streets.**

The MRO Letter shows travel demand forecasts revealing substantial changes in traffic patterns at many SR 85 access locations, yet the IS fails to analyze how these changes will affect local traffic patterns.<sup>5</sup> For example, the Project will result in the addition of hundreds of vehicles to various freeway ramps and street segments in and near Saratoga in 2015 and 2035. The IS completely ignores both this substantial increase in traffic and the potential for significantly increased congestion and delay at these

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<sup>5</sup> The travel demand forecasts are not included in the IS itself. They can only be found by searching through the sizable quantity of ancillary material on the Caltrans District 4 website. The DKS/URS traffic operations analysis document is not even attached to the IS as an appendix.

locations. Even under current conditions, the City's General Plan notes that "increased congestion on some of the major roadways, especially near the SR 85/Saratoga Avenue interchange, has led to increased diversion through neighborhoods." (City of Saratoga General Plan, Circulation Element, p. 4 (2010).)

These ramps and intersections are integral components of the local and regional circulation system. Therefore, to evaluate the Project's traffic impacts, the public, City, Caltrans and VTA need information on the "before" and "after" travel patterns on local street intersections, street segments, freeway ramp terminal intersections, freeway ramps, and freeway mainline segments throughout the region. It appears that there is a real potential exists for some of these ramps and intersections to operate at deficient levels of service as a result of the Project. For example, there is no discussion in the IS of the likely impacts of limiting access to the existing carpool lane for HOVs entering from Saratoga. By requiring carpools to wait to enter the express lane until reaching an authorized entry point, the Project could reduce the level of carpooling in Saratoga, thereby increasing traffic on City streets as well as on SR 85 and its approach ramps. The City requests a full analysis of these potential impacts including design of feasible mitigation for impacts identified.

## **2. Impacts to Public Transit, Bicycle, and Pedestrian facilities.**

Just as it omits discussion of impacts to City streets, the IS does not consider impacts to public transit, bicycle, and pedestrian facilities. The Project would impact public transit both directly and indirectly. Based on assurances when SR 85 was approved, the City has long anticipated the development of a light rail transit system within the SR 85 median. By substantially reducing the width of the highway's median, the proposed Project would likely preclude the development of light rail within the highway's median. Caltrans must disclose whether the Project would preclude development of a light rail system within the SR 85 median.

The Project would use funding to widen the highway that could otherwise be invested in public transportation. A substantial amount of funding is necessary to compensate for the region's long-term dependence on the automobile. Consequently, the region has an extensive highway system but an incomplete transit system. Without a comprehensive, well-integrated transit system, public transportation will never be able to become a truly viable alternative to the automobile in meeting the region's transportation mobility needs. Please analyze how the Project will affect VTA's ability to expand and improve its public transit system.

In performing this analysis, please consider whether increases in highway infrastructure will undercut transit ridership. Generally speaking, traffic congestion provides a significant incentive to seek alternative modes of transportation. High-quality public transportation tends to attract travelers who might otherwise drive. Once highways

are widened, however, traffic congestion eases, travel speeds increase (at least for some period of time), and travelers again begin to drive.

The Project also has the potential to adversely affect pedestrian and bicycle use. The City of Saratoga's Circulation Element calls on the City to improve the transportation system by balancing the needs of bicyclists, pedestrians, and transit users with considerations for safe vehicular travel and to promote a healthy and active community by providing transportation opportunities for bicyclist and pedestrians. Please review the Project in light of these policies and include measures to offset any adverse impacts.

**D. The IS Does Not Analyze or Mitigate the Project's Construction-Related Transportation Impacts.**

Construction of the proposed Project is expected to span at least two years. In light of the massive scale and prolonged duration of such a construction project, the City, its residents, VTA and Caltrans must have a clear and comprehensive analysis of what are certain to be extensive local and regional traffic impacts during construction. Traffic patterns will be impacted from lane closures, rerouting of traffic, delivery of materials, hauling of excavated material, and construction employees commuting to/from the job site.

The IS does not include this information and instead references a future "Traffic Management Plan" to minimize the expected traffic delays and closures. This plan should not be deferred but should be developed as a part of the Project to ensure that the project is designed in a manner that will allow construction to proceed without any significant impacts.

**V. Visual Impacts.**

SR 85 cuts through the heart of the Saratoga community. The design of the freeway and the proposed Project are critical elements to the quality of life of Saratoga residents. Accordingly, a thorough assessment of the Project's potential impacts is essential. The accepted approach to analyzing visual and aesthetic impacts is as follows:

- Describe the criteria for significance thresholds.
- Characterize the existing conditions of the project site and the surrounding area by photograph and description, and select key viewpoints within the area, including scenic corridors and landscapes.
- Use photomontages or visual simulations, to illustrate the change in character of the project site before and after project implementation.

- Identify feasible mitigation measures and alternatives to reduce or eliminate significant impacts.
- Where mitigation measures are proposed, use the simulations to illustrate the change in character before and after project mitigation measures are imposed (e.g., landscaping at various stages of growth, setbacks, clustering, reduced scale and height, building color modification).

The IS lacks much of this information, making it nearly impossible to evaluate the Project's visual impacts. The document contains no thresholds of significance and, therefore, provides no standard by which to judge the significance of the Project's impact on visual resources. It does not adequately characterize the existing setting because it omits photographs of SR 85 within Saratoga, focusing primarily on locations within and adjacent to San Jose. The IS does not include any before/after simulations; therefore, neither the public nor decision makers have sufficient information about how the character of the setting will be altered upon completion of the Project. Thus, while the IS acknowledges that the appearance of SR 85 will change, through pavement widening, bridge widening, installation of project signs, toll structures and lighting, the IS lacks a visual representation of any of these features. Consequently, when the IS concludes that the Project is expected to have little, if any, effect on visual quality, it lacks the evidentiary support to reach this conclusion.

The Project would pave the SR 85 median through Saratoga yet there is no information about trees or ornamental landscaping in this location. In addition, an auxiliary lane would be added, the highway would be widened outside the current lanes, existing abutments would be removed and new retaining walls would be constructed. Rather than graphically show these changes, the IS simply concludes that these changes would be visually compatible with the existing freeway corridor and that there would be "a low level of change" to the existing corridor. But what the term "low level of change" means as a practical matter is not explained.

In addition, the IS fails to inform the public of the effect that the new signs (including dynamic message signs) and toll structures would have on existing views. The Project would add 15 sets of overhead signs and toll structures. These would be installed in the median on cantilever structures and the tops of the signs and toll structures would be approximately 26 feet in height. Here too, the document simply states that the "signs would introduce a low to moderate level of change to the existing environment" and that views of these project features would not "be highly conspicuous." But because the IS does not include any criteria for assessing a change in visual character or show "before and after" photographs, the phrases "low to moderate" and "not highly conspicuous"

have no context.<sup>6</sup> This is very important, because SR 85 is below grade by as much as 25 feet, in many segments between I-280 and SR 87. Upon completion of the Project, the signs and toll structures may starkly interfere with existing views or abruptly change the character of the community.

The analysis of light and glare impacts needs considerably more information to be useful in gauging the effects of the Project. Mast-arm luminaires would be mounted on the median barrier along each of the 15 express lane access zones on SR 85. At each access zone, approximately seven luminaires would be placed in the median over a distance of 2,000 feet (one luminaire every 250 to 400 feet). The number of luminaires would increase if the access zone is longer than 2,000 feet, to maintain a spacing of one luminaire every 250 to 400 feet. The luminaires would be 35 to 40 feet tall. Although this Project would result in a substantial increase in light sources, the IS provides no reasoned analysis of how these light sources would affect light and glare. The IS never attempts to describe how this increase in lighting would compare with existing lighting or whether it would adversely affect nighttime views in the area. Here too, the IS simply concludes that light and glare on the surrounding uses would be “minimal.” These broad statements provide little meaningful information to the public or to VTA and Caltrans to assist in developing effective mitigation. What the label “minimal” means, as a practical matter, is not explained. Minimal compared to what benchmark? Because the highway is below grade in Saratoga, the 40-foot-tall light structures could flood surrounding properties with light and glare.

## VI. **Air Quality Impacts**

Given the region’s serious air pollution problem, Saratoga is concerned that the Project be designed to improve rather than worsen air quality. The Project area does not attain federal standards for ozone and fine particulate matter (PM<sub>2.5</sub>). For the state standards, which are more stringent than the federal, the region does not attain the ozone, PM<sub>2.5</sub>, or inhalable particulate matter (PM<sub>10</sub>) standards. The analysis is insufficient to fully understand the Project’s impacts and design strategies to avoid those impacts. The most serious issues with the air quality analysis are described below.

### A. **The IS Does Not Describe The Project’s Environmental Setting.**

The IS contains no information regarding the number of people who live within the SR 85 study area, or more importantly, who live within a mile of the freeway. Studies

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<sup>6</sup> The IS does include “representative” photographs of signs and toll structures from another Bay Area freeway. While it is helpful to see the design of these structures, such representative photographs cannot replace an analysis of how these structures would appear throughout Saratoga.

indicate that living close to high traffic and the associated emissions may lead to adverse health effects beyond those associated with regional air pollution in urban areas.

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. The Bay Area Air Quality Management District (“BAAQMD”) includes in its list of sensitive receptors, residences, schools, playgrounds, childcare centers, convalescent homes, retirement homes, rehabilitation centers, and athletic facilities. Sensitive population groups include children, the elderly, and the acutely and chronically ill, especially those with cardio-respiratory diseases. Residential areas are also considered to be sensitive to air pollution because residents tend to be home for extended periods of time, resulting in sustained exposure to any pollutant present. Although Caltrans would widen SR 85 and bring the highway even closer to established neighborhoods, the IS does not quantitatively, or even qualitatively, identify the number and type of sensitive receptors that would be affected by this proposed Project. Such information must be provided so that the public and decision-makers can understand who will be at particular risk due to poor air quality caused by the Project.

**B. The IS Does Not Analyze Whether The Project Would Conflict With Or Obstruct Implementation Of The Applicable Air Quality Plan Or Whether It Would Violate Any Air Quality Standard.**

The IS cites two reasons for its lack of an evaluation as to whether the Project would conflict with the applicable air quality plan or violate any air quality standard. First, it asserts that the Project will not interfere with the adoption of the BAAQMD’s 2010 Clean Air Plan. Second, it states the Project is included in the Bay Area’s Regional Transportation Plan (“RTP”) and that since the RTP has undergone regional evaluation for conformity with federal air quality standards, including ozone, the Project would result in no ozone impacts. The document makes no attempt to provide the necessary facts and analysis to support its conclusions. It presents no evidence, for example, to support its claim that the Project will not interfere with the 2010 Clean Air Plan.

If Caltrans intends to rely on the Project’s inclusion in the RTP and that Plan’s federal conformity evaluation, the IS must discuss this evaluation and explain how the Project fits in with the evaluation. The RTP, a part of the “Plan Bay Area” adopted by the Metropolitan Transportation Commission and Association of Bay Area Governments, is the subject of at least three lawsuits challenging the adequacy of the environmental analysis for the RTP.<sup>7</sup> The IS should disclose whether any of these suits address the

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<sup>7</sup> See Alameda County Superior Court “Domain Web” (<http://www.alameda.courts.ca.gov/pages.aspx/domainweb>) and search for case numbers RG13690631, RG13692098, and RG13692189.

adequacy of the RTP EIR's air quality analysis. Finally, the IS must evaluate whether the Project's federal conformity determination is sufficient to demonstrate that the Project would not violate any state air quality standard since those standards are more stringent than the federal standards.

**C. The IS Erroneously Concludes that the Project Will Not Have Any Significant Impacts Due to Emissions of Mobile Source Air Toxics.**

The IS states that the Project will cause emissions of mobile source air toxics ("MSAT") to increase over existing conditions. The IS then summarily concludes that the Project would not have an adverse impact on MSAT emissions. However, the question is not whether the Project would have an adverse impact on MSAT emissions but whether it would have an adverse impact on nearby sensitive receptors. The IS does not evaluate this potential impact, claiming that there are no available tools to enable prediction of the project-specific health impacts of the emissions changes associated with the Project.

This is not the case. Agencies regularly conduct health risk assessments for road projects. The American Association of State Highway and Transportation Officials ("AASHTO") has prepared guidelines on available analytical models and techniques to assess MSAT impacts. See AASHTO, *Analyzing, Documenting, and Communicating the Impacts of Mobile Source Air Toxic Emissions in the NEPA Process* (March 2007), attached as Exhibit F. These AASHTO Guidelines include over 200 pages of detailed procedures, and were designed specifically to assist transportation agencies in the evaluation of the potential health impacts caused by exposure to toxic air pollutants emitted from surface transportation sources. The AASHTO Guidelines explain that modeling tools are widely available that are capable of predicting MSAT impacts from transportation projects and that there are a variety of air quality dispersion models applicable to transportation projects. Caltrans could use AASHTO's Guidelines as a starting point for preparing its own analysis of the health impacts of the Project. In fact, Caltrans has acknowledged that health risk assessments are feasible for road projects: <http://www.dot.ca.gov/hq/env/air/pages/msat.htm>.

**D. The IS Fails to Adequately Analyze the Project's Impact on Climate Change.**

While the IS includes a discussion of the Project's impacts on climate change, the analysis is perfunctory and potentially misleading. The analysis focuses its efforts on a lengthy discussion about the Project's potential to increase average vehicle speeds and thereby reduce carbon emissions. The IS calculates only a portion of the carbon emissions for which the Project will be responsible, however, leaving open the possibility that the project will actually lead to an increase in carbon emissions.

**1. The IS Incorrectly Focuses on Increased Travel Speeds.**

The IS includes a lengthy discussion on the Project's potential to increase average vehicle speeds as a way to reduce carbon emissions. It downplays the role that the Project's increase in vehicle miles traveled ("VMT") will play in increasing greenhouse gas ("GHG") emissions. As AASHTO recognizes, the only way that California will be able to achieve sustained reductions in GHG emissions is by reducing VMT. Recognizing the unsustainable growth in driving, AASHTO, which represents state departments of transportation throughout the country, is urging that the growth of vehicle miles traveled be cut in half. (See "Growing Cooler: Evidence on Urban Development and Climate Change," Urban Land Institute (2007).)

Focusing on vehicle speeds is an unrealistic approach to controlling GHG emissions. The increased speeds that accompany highway expansion are short-lived since increased capacity attracts additional motorists, resulting in even greater levels of congestion. In any event, Caltrans cannot rely on the travel speed data identified in the IS since, as the MRO Letter explains, this data is inaccurate.

**2. The IS Fails to Properly Quantify the Project's Emissions Contributing to Climate Change.**

The estimate of the Project's carbon emissions in the IS only tells a small part of the story of the Project's contribution to climate change. The document includes calculations of the amount of emissions attributable to peak hour speeds and VMT, and then apparently uses these figures to develop a rough estimate of total emissions. This approach omits a number of the Project-related emissions thereby understating its effects on climate change.

The IS explains that it did not include in its emission calculation life-cycle emissions associated with manufacturing and lifecycle of its building materials, the production and distribution of the fuel, and fuel additives like ethanol prior to combustion in the vehicle. Nor does the IS emission calculation include gases other than carbon dioxide in its calculation of GHG emissions. Greenhouse gases that were not considered include, but are not limited to, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The IS also does not include black carbon emissions, which are produced by burning fossil fuels such as diesel fuel. Caltrans must inventory all of the Project's emissions, including life-cycle emissions, other gases, and black carbon.

**3. The IS Fails to Arrive at a Conclusion as to Whether the Project's Contributions to Climate Change Would Be Significant.**

Although the IS acknowledges that the "Build" emissions would be higher than the "No Build" emissions in 2015 (p. 2-137), the document stops short of identifying the

Project's impact on climate change as significant. This undermines the IS conclusion that the Project has no significant impacts. For this assertion to be supported, the IS must determine whether or not this Project's climate change impacts are significant. The first step in any discussion of an environmental impact is to select a threshold of significance. The IS does not include a threshold.

The California Air Pollution Control Officers Association's ("CAPCOA")<sup>8</sup> has determined that only thresholds of zero emissions or of 900 tons of CO<sub>2</sub> equivalent ("CO<sub>2</sub>e")<sup>9</sup> emissions had "high" effectiveness in reducing GHG emissions and "high" consistency with the emission reduction targets set forth in AB 32 and Executive Order S-3-05. The Project, with its yearly emissions of more than 2,500 tons per year of CO<sub>2</sub>e (p. 2-138), is well above the CAPCOA threshold.<sup>10</sup> This indicates its contribution to global warming should be considered significant and the Project revised to include mitigation to avoid that impact.

The IS includes some measures to reduce climate-related impacts, these measures are vague, undefined and unenforceable. Dozens of potential mitigation measures, at least, are available to reduce the Project's greenhouse gas emissions. A small sampling includes:

- Require all aspects of the Project to be "carbon neutral" through a combination of on-site and off-site measures. An important aspect of this mitigation could be the adoption of an off-set requirement for any reductions that could not be achieved directly. Emissions could be offset either through contributing to the financing of sustainable energy projects or through the purchase of carbon credits. The programs are increasingly common and thus raise no issue of infeasibility.
- Require that off-road diesel-powered vehicles used for construction be new low-emission vehicles, or use retrofit emission control devices such as diesel oxidation catalysts and diesel particulate filters verified by the California Air Resources Board.

In addition to the mitigation measures identified above, Caltrans should also consider the mitigation measures proposed in CAPCOA's publication.

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<sup>8</sup> CAPCOA is an association of air pollution control officers representing all local air quality agencies and air districts in California.

<sup>9</sup> Carbon dioxide equivalents (CO<sub>2</sub>e) provide a universal standard of measurement against which the impacts of releasing different greenhouse gases can be evaluated. As the base unit, carbon dioxide's numeric value is 1.0 while other more potent greenhouse gases have a higher numeric value.

<sup>10</sup> This figure was arrived at by comparing 2015 "Build" and "No Build" emissions.

## List of Exhibits

Exhibit A:	Report on the Status of Rubberized Asphalt Traffic Noise Reduction in Sacramento County, Bollard & Brennan, Inc.
Exhibit B	City of Saratoga Draft Noise Element (December 22, 2013)
Exhibit C:	Caltrans Traffic Noise Analysis Protocol (2011).
Exhibit D:	Sound Walls: Absorptive Versus Reflective Design and Effectiveness, Sound Fighter Systems.
Exhibit E:	February 25, 2014 comments of MRO Engineers.
Exhibit F:	AASHTO, <i>Analyzing, Documenting, and Communicating the Impacts of Mobile Source Air Toxic Emissions in the NEPA Process</i> (March 2007).

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