- A project's contribution to cumulative impacts is considered "considerable" when the project contributes five (5) percent or more of the cumulative traffic increase as measured by the difference between existing and future cumulative (with project) conditions;
- Cause a roadway segment on the Metropolitan Transportation System to operate at LOS F or increase the V/C ratio by more than three (3) percent for a roadway segment that would operate at LOS F without the project;
- 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;
- Substantially increase traffic hazards to motor vehicles, bicycles, or pedestrians due to a design feature (e.g., sharp curves or dangerous intersections) that does not comply with Caltrans design standards or incompatible uses (e.g., farm equipment);
- Result in less than two emergency access routes for streets exceeding 600 feet in length;
- Fundamentally conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle routes); or
- Generate added transit ridership that would
  - Increase the average ridership on AC Transit lines by three (3) percent at bus stops where the average load factor with the project in place would exceed 125% over a peak thirty minute period;
  - Increase the peak hour average ridership on BART by three (3) percent where the passenger volume would exceed the standing capacity of BART trains; or
  - Increase the peak hour average ridership at a BART station by three (3) percent where average waiting time at fare gates would exceed one minute.

NOTE: This document <u>must</u> evaluate the above impacts for the following scenarios:

Existing

Existing plus Project

2010 Baseline without Project

2010 Baseline with Project

2025 Baseline without Project

2025 Baseline with Project

City of Oakland – Excerpts from Thresholds of Significance Guidelines
July 12, 2006
Page 8

1-The physical features of the project are described in "Tunnel Alternative "2N" " located on page 15 and 16 of the DED. The project construction is expected to last approximately 4.5 years. Chapter 2, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and Mitigation Measures, in the DEA/EIR discusses the environmental consequences, avoidance, minimization, and mitigation measures of the project as well as the potentially significant environmental impacts. Please see essay on "Construction Impacts" in Chapter 1. We do not expect local street closures during construction and thus a Freeway Agreement is not necessary. Freeway Agreements are required when a Caltrans project or action entails the closure, alteration or otherwise similarly affects a city or county road. (Sts & Hwy Code secs. 100.2, et. seq.)

2-Please see the essay on "The Environmental Process; Environmental Impact Statement/Environmental Impact Report (EIS/EIR) versus an Environmental Assessment/Environmental Impact Report (EA/EIR); and Criteria for Significance" in Chapter 1.

3-Please see the essay on "Project Study Area Boundaries" and Response 1, Scope of Traffic Studies in the "Traffic Operations – General Responses" essay in Chapter 1.

4-Although 2004 data were used to define current traffic conditions in the environmental document, we are assuming that this comment refers to the basis for traffic projections. The CCTA model used uses a hybrid of the 2002 and 2003 ABAG land use projections. It was the most up-to-date suitable travel demand model available when the forecasting effort began. FHWA guidelines require that regional planning agency (ABAG) approved regional growth projections be used as inputs for the assumed future year conditions. This is done to assure a consistent basis for all environmental documents in a region. Also see responses #2, Induced Travel, and #4, Truck Traffic, in the essay on "Traffic Modeling/Forecasting" in Chapter 1. The growth inducement study used ABAG 2005 projections and concluded that the project would not induce unplanned growth in the region.

5-Existing off-peak direction congestion is largely due to insufficient corridor capacity. As cited elsewhere, corridor traffic demand growth will continue to occur regardless of construction of a fourth bore. If the corridor capacity in the off-peak direction is not increased, short-term modification such as lane configuration changes will not address long-term growth. Please see response #8 in the essay on "Traffic Operations" in Chapter 1.

The MacArthur maze is outside of our project study area boundaries and was not analyzed. Please see the essay on "Project Study Area Boundaries" in Chapter 1.

6-Please see response #1 in the essay on "Traffic Modeling/Forecasting" in Chapter 1.

7-We do not agree with your comment that conclusions are reached without facts. As you noted, "This environmental significance checklist reflects the conclusions reached after the completion of the technical studies." The information from the technical studies are also the basis for the information presented in the DEA/EIR. The Initial Study Checklist was initially prepared prior to the completion of the technical studies. Following the studies, the checklist was reviewed and revised to reflect the information developed in the studies. The checklist in Appendix A of the DEA/EIR was prepared after the completion of the technical studies and thus was based on solid empirical information.

8-Rockridge/Temescal FROG Park is outside the project study area boundaries. Please see the essay on "Project Study Area Boundaries" in Chapter 1.

9- Replace the entire response with: The State's approach to operational noise abatement is to determine the receptor that would be most likely to exceed the noise abatement criteria or reach a predicted noise level determined to be significant. The rationale is that once we have determined the existence or non-existence of traffic noise impacts at these critical receptors in a given area it becomes unnecessary to analyze all the other receptors, which are physically less exposed to the freeway, and thus will have lower predicted noise levels. #320 Parkwoods has a greater exposure to the freeway than #180 Parkwoods. Our mid-day noise readings at #180 Parkwoods were substantially lower than those at #320 Parkwoods. Since traffic noise impacts have been determined at #320 Parkwoods, we do not have to analyze the noise at #180 Parkwoods as we know those predicted noise levels will be lower. It is not necessary to show traffic noise impacts at #180 Parkwoods because traffic noise impacts have already been determined to exist in the area and the next step is to analyze appropriate abatement.

In regards to the analysis of appropriate abatement, the State determines critical receptors in any given area to represent those areas. Again, as in the determination of traffic noise impact, the State does not analyze every single receptor and federal guidance does not require that every single receptor be analyzed. The fact that #180 Parkwoods was not included in the analysis does not mean that abatement is not being considered for that building, just that under the federal guidelines, if noise abatement has been shown to qualify for #320 Parkwoods, it becomes unnecessary to further analyze other residences that are more shielded from freeway noise. Please also see the essay on "Methodologies Used for the Impact Assessments/Local Ordinances" in Chapter 1.

10- Please see response #4 in the essay on "Traffic Modeling/Forecasting" in Chapter 1.

11- Trees within the western portal staging area were incorrectly counted as the design GPS file used in the field for location was corrupted ; all other areas checked were correctly counted. An additional tree survey was conducted in the western portal staging area, and trees were added to the previous count to produce an accurate count of trees impacted by the project. Further, as refinements were made to the project design, additional tree counts were conducted for areas newly included in the impact area. All native trees over 4 inches diameter at breast height were included in the tree count. The updated tree count information can be found in the final environmental document. Note that trees in both the permanent and temporary areas of impact area are counted as a loss at this stage and included in the impact analysis. However, during construction, efforts are made to save trees within the areas of temporary impact. Therefore, the actual tree loss may be less then what is included in the environmental document Tree losses will be less than significant after mitigations are incorporated.

12- Well established principles of State and Federal sovereignty and preemption preclude the application of local regulations to State and Federal activities. In regards to air quality, Caltrans addresses impacts of highway projects on air quality, and applies thresholds of significance, in accordance with the Clean Air Act and its amendments and the EPA Final Regulations (August 1997), NEPA and CEQA. The standards for the criteria pollutants are the state and federal ambient air quality standards which can be found at the BAAQMD website (http://www.baaqmd.gov/pln/air_quality/ambient_air_quality.htm). Since the Bay Area is a maintenance area for CO Caltrans analyzes CO impacts through the use of the Transportation Carbon Monoxide Protocol, which has been accepted for use by the EPA. A full description of the parameters it uses can be found in the guidance located at www.dot.ca.gov/hq/env/air/pages/coprot.htm

In regards to noise, the Traffic Noise Impact Report shows predicted noise levels and is available for review along with the environmental document. As stated above, Caltrans does not use the thresholds of significance of local agencies, but applies its own thresholds. A discussion of local noise ordinances was not included in the report as they are not pertinent to the determination of traffic noise impact.

Please see the essay on “Methodologies used for the Impact Assessments/Local Ordinances” in Chapter 1.

13- Please see the essay on “Methodologies used for the Impact Assessments/Local Ordinances” in Chapter 1.

14- Dust control will be specified in Section 10: Dust Control, of the standard specifications (http://www.dot.ca.gov/hq/esc/oe/specifications/std_specs/2006_StdSpecs/) and the feasible measures in the BAAQMD CEQA guidance will be incorporated in the contract to the extent possible. These measures will be implemented by a State contractor and monitored by State inspectors.

The statement quoted is in reference to permanent noise abatement (soundwalls) of the operational noise impacts (not construction). The soundwalls were shown in the DEA/EIR and in displays at two public hearings and the public was given an opportunity to comment on them at those meetings. The performance standards are described in the Caltrans Traffic Noise Analysis Protocol (which ensures compliance with federal noise regulations), and their effectiveness is predicted using the FHWA approved noise model (TNM2.5). The public hearings were used as a forum to discuss the noise abatement measures described in the DEA/EIR. This gave the public the opportunity to review and comment on these measures.

Please also see the essay on “Construction Impacts” in Chapter 1.

15- The document discusses the various environmental impacts and measures to avoid, minimize, or mitigate those impacts in each respective technical issue section of Chapter 2 of the DEA/EIR.

16- The EA/EIR reflects a thoughtful and complete analysis of the anticipated environmental impacts of the project as required by CEQA and NEPA. In addition, in compliance with CEQA and NEPA, mitigation measures are also fully discussed and analysis. A comprehensive discussion could be found in Volume I Chapter 2, Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures, of the Final Environmental Assessment/Environmental Impact Report. As the lead agency under CEQA, the Department has determined that the Final Environmental Assessment/Environmental Impact Report meets all the applicable CEQA requirements.

17-Please see the essays on “Alternatives Considered in the Draft Environmental Assessment/Environmental Impact Report (DEA/EIR)” and “Transit” in Chapter 1. Please see also response 6 & 8 in the essay on “Traffic Operations.”

18-Please see the essay on "Scoping Period Comments" in Chapter 1.

19- We do not expect local street closures during construction and thus a Freeway Agreement is not necessary. Freeway Agreements are required when a Caltrans project or action entails the closure, alteration or otherwise similarly affects a city or county road. (Sts & Hwy Code secs. 100.2, et. seq.) There are no plans for the Department to sign a Memorandum of Agreement with the city of Oakland, but the Department will work with the city of Oakland staff, during the development of the project bid documents, to address construction staging, detours, lane closure hours and other aspects of work within and adjacent to the City's right-of-way.

Orinda, City of - City Manager Janet S. Keeter

ORINDA

p.o. box 2000 • 14 altarinda road • orinda • california • 94563

July 12, 2006

Mr. Gregory C. McConnell,
Senior Environmental Planner
Attention: Sheryl Dorado, Associate Environmental Planner
Caldecott_Public_Comments@Dot.ca.gov
Department of Transportation, District 4, Environmental Analysis
Mail Station 8B, P.O. Box 23660
Oakland, CA 94623-0660

Dear Mr. McConnell and Ms. Dorado,

The City Council for the City of Orinda met on July 6, 2006 to review and discuss the Draft EIR for the Caldecott Tunnel fourth bore. The Council and staff noted several areas within the DEIR that need to be further addressed as noted below. However, the Council requested that I relay to you their vigorous support for the project. They referenced that 79% of Orinda voters supported Measure C, which will help to pay for the project. By reducing travel time and increasing mobility through the corridor, Orinda residents will certainly benefit from this project.

Submitted for your consideration are the following comments regarding the DEIR:

Table 2.1.1-1 Major Approved and Active Projects in the Project and Berkeley Study Areas (p. 40)

The Project Status for the Montanera and Pine Grove developments should be updated as follows: Montanera Project Status: Grading starting 2006 and home construction starting 2008. Pine Grove Status: Construction date to be determined. 1

City of Orinda General Plan (p. 42)

Discussion of the Orinda General Plan should include the General Plan designation of Highway 24 as a California Scenic Highway (Implementation Policy 2.3.2.P.3) and policies requiring development along scenic corridors to "blend with and permit the natural environment to be maintained as the dominant visual element." (Policies 2.3.2.Q-T) 2

Page 1

General Information	Administration	Planning	Parks & Recreation	Police	Public Works
(925) 253-4200 (ph)	(925) 253-4220 (ph)	(925) 253-4210 (ph)	(925) 254-2445 (ph)	(925) 254-6820 (ph)	(925) 253-4231 (ph)
(925) 254-9158 (fax)	(925) 254-2068 (fax)	(925) 253-7719 (fax)	(925) 253-7716 (fax)	(925) 254-9158 (fax)	(925) 253-7699 (fax)

Table 2.1.1-3 Existing Park and Recreational Facilities in the Project and Berkeley Study Areas (p. 44)

The location of the Orinda Community Center Park (No. 10 in the table) is incorrectly identified. The park is on Orinda Way, not on Altarinda Road. Additionally, new ball fields, located in the Gateway Valley, will be on-line by 2009. The five ball fields will be adjacent to Highway 24. 3

2.1.6 Visual / Aesthetics.

a. **East of Tunnel Landscape Unit (p. 103)**
Retaining walls both north and south of the tunnel portal are described as "introduce[ing] substantial new man-made features into this landscape unit" whereas on page 116, the same walls are said to be "partially visible" and "would result in a minimal adverse effect on overall visual quality." The conclusion on page 116 is not supported by the statement on page 103 or by the photo simulation on page 116. 4

b. **Viewpoint 5 (pp. 116 and 117)**
The proposed walls would be up to 27.59 feet tall and based on the photo simulation (Figure 2.1.6-29), the wall on the north side of the highway below the Fish Road off-ramp appears several hundred feet long. To better analyze the impacts of the walls in the East of the Tunnel Landscape Unit, additional photo simulations that show both retaining walls at the east portal should be provided and the approximate length of the retaining walls should be indicated. 5

Currently there are no retaining walls along the westbound lanes of Highway 24 in the East of the Tunnel Landscape Unit, except for the relatively short walls at the existing portals. The introduction of concrete walls over 27 feet tall and several hundred feet long in the context of the undisturbed hillsides represents a significant adverse effect on the visual quality of the scenic corridor. 6

c. **Avoidance, minimization, and/or Mitigation Measures. (pp. 122-123)**

The visual impacts created by the retaining walls should be mitigated by either 1) reducing the height and length of the wall below the Fish Ranch Road off-ramp or by 2) use of concrete sculpted and stained to give the appearance of a natural rock outcropping. 7

Trees removed in the East of the Tunnel Landscape Unit should be replaced at the ratio required by the Orinda Municipal Code which requires one 15 gallon tree for every 6-inches, or fraction thereof, of the diameter of a tree removed. 8

In addition, the health and vigor of each replacement tree and each tree to be preserved during the construction period should be guaranteed for at least two years after construction is complete. 9

Page 2

d. **Consistency with Scenic/Visual Resource Plans and Policies (p. 123)**
The Draft EIR acknowledges that the General Plans for jurisdictions in the project area set forth scenic and visual resource goals and polices yet the EIR does not list those goals and how the project is or is not consistent with them. 10

2.3.3.4 Trees and Other Mature Vegetation – Avoidance, minimization and/or mitigation measures

The comments under number 4c above regarding tree replacement apply here too.

2.2.1 HYDROLOGY AND FLOODPLAIN
2.2.1.3 AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES

"Storm runoff from this portion of the watershed, which includes the highway, is collected within a median drainage line and conveyed to San Pablo Creek near State Route 24 interchange at Orinda. This would not change with the construction of a fourth bore under either alternative 2N or 3N."

Need to discuss capacity of existing median storm drainage line, peak flow capacity of San Pablo Creek, culvert capacity impacts to upstream and downstream San Pablo Creek. The Montanera/Gateway project preliminary storm drain plan indicates that the developer intends to tie into the Caltrans storm drain system. The cumulative impacts will need to be addressed and evaluated. 11

2.2.2 WATER QUALITY AND SOTRM WATER RUNOFF
2.2.2.2 AFFECTED ENVIRONMENT

1. Impacts to existing San Pablo Creek are not addressed for either scenario 2N or 3N. 12

2. *"New drainage facilities will convey roadway storm water in the same manner that currently exists."* 13

Need description of proposed "new drainage facilities" and impacts to existing facilities.

2.1.1 CONSTRUCTION METHODOLOGY
2.4.2.3 DISPOSALS

Though it is implicit in the discussions of Tunnel Portals, it is not clear if the sequential excavation will proceed from both ends. Regardless of the answer, it is conceivable that the excavation spoils could be transported in either direction on Highway 24. As Alternative 2N would require approximately 15,000 semi-truck round trips for complete removal of the material, and Alternative 3N would require 18,750 semi-truck round trips, the actual route or routes selected to accomplish this task is of concern to Orinda. Though no potential spoil site that would logically involve trucking through Orinda was discussed in the Draft EIR, this option certainly appears open by the language in 2.4.2.3, **DISPOSALS** which makes it the

Page 3

responsibility of the Contractor to " ... *obtain clearance for disposal sites outside of the highway right-of-way....*"

The potential impacts of routing a large volume of heavy truck traffic through Orinda on either one of our major arterials (Moraga Way or Camino Pablo) needs to be discussed in this report unless it is emphatically ruled out. 14

2.4.2.4 STAGING LOCATIONS

Of the Potential Staging Locations identified in the report, the only one that appears to have any direct impact on Orinda is the set that appears on Figure 2.4.2-3. These areas are clustered around the Gateway over crossing and associated freeway ramp systems. The 7,201 square meter location to the north of the freeway was recently used by Caltrans as a staging area for work on the west side of the tunnel. Due to the freeway being depressed in relationship to this property, it is largely hidden from highway users unless they are using the ramp system or attending a performance at the nearby Bruns Amphitheatre. The areas to the south of the freeway however, would be visible from the freeway, particularly to westbound traffic. Depending on the timing of the construction, some of the residential construction planned for the Montanera project may be occupied and thus the visual, noise, dust and other impacts may be of greater import than they would appear today with the surrounding lands undeveloped.

2.4.4 TRAFFIC
2.4.4.2 AVOIDANCE, MINIMIZATION AND / OR MITIGATION MEASURES

A Traffic Management Plan (TMP) will be prepared to address traffic delays during construction. Preparation of the TMP will be coordinated with local partners to develop the necessary strategies to raise awareness and reduce traffic impacts. The Department will work with local agencies to minimize traffic impacts during construction for special events such as the California Shakespeare Festival in the City of Orinda.

The California Shakespeare Festival is not located in the City of Orinda; however, traffic back-ups and queuing will impact the City of Orinda with W/B traffic. 15

2.4.9 VIBRATIONS

Will there be noise generated from the vibrations? 16

2.4.8 and 3.1.3.3

What will be the results of noise complaints to the field office representatives? What will be the process for complaint resolution? 17

Appendix A pages A-10 – A-11

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XI. Noise

The City of Orinda is the community impacted the most by Highway 24 east of the Caldecott Tunnel due to the close proximity of the highway to development. The additional bore will increase vehicular capacity and thereby increase the noise levels in and near Orinda. The EIR should identify tools that can be employed by CalTrans to mitigate noise to the Downtown areas including Theatre Square and the houses near Highway 24. Noise mitigation solutions need to be evaluated and discussed including the option of a living sound wall. 18

The Environmental Significance Checklist should be amended as follows to reflect the strong concerns for noise and traffic impacts:
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?* The impact should be noted as a Potentially Significant Impact. 19

b) *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?* The impact should be noted as a Potentially Significant Impact. 20

c) *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?* The impact should be noted as a Potentially Significant Impact. 21

d) *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?* The impact should be noted as a Potentially Significant Impact. 22

Appendix A page A-12 Transportation Traffic

XV. TRANSPORTATION / TRAFFIC

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)? The impact should be noted as a Potentially Significant Impact. 23

OTHER
Additionally, the City received the following comments from Orinda residents Erik and Heather Andersen:

"I have copied below my comments that I submitted online as part of the public comment period on the Caldecott EIR. While I am in favor of the new bore, the EIR makes no mention of noise impacts to Orinda residents. I would expect that many residents of Southwood, Northwood, Brookwood, Davis, Muth, Orindawoods Drive, and the various sidestreets share this perspective. I invite you to meet me outside of Starbuck's next to Orinda Theatre and discuss this in loud voices due to the excessive noise. I suspect that the noise levels are above the 65-decibel standard set by CalTrans, but I do not have the proper instruments to take measurements 24

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using CalTrans-approved methods. Thank you for representing the interests of our neighborhoods in the EIR process."

I appreciate your attention to the aforementioned comments and invite you to contact me should you need clarification or have questions regarding this letter. I can be reached at (925) 253-4220. Thank you and best of luck with the project.

Sincerely,

Janet S. Keeter
City Manager

Cc: Representative Ellen Tauscher, 10th Congressional District
Assemblywoman Loni Hancock, 14th District
Senator Tom Torlakson, 7th District

Page 6

1-The suggested updates regarding the Wilder and Pine Grove developments have been made in the FEA/EIR.

2- Section 2.1.1.2, Consistency with State, Regional, and Local Plans, has been revised to reflect Orinda's General Plan California Scenic Highway designation for State Route 24.

3- Table 2.1.1-3, Existing Park and Recreational Facilities in the Project and Berkeley Study Areas, has been revised to include the correct location of the Orinda Community Center Park. Section 2.1.1.3, Parks and Recreation, has been revised to note the location of the ball fields.

4- The DEA/EIR text states that with the addition of the east portal north/south walls, substantial new man-made features will be introduced into the landscape. We believe that there is no conflict in the DEA/EIR conclusion. It should not necessarily be construed that a substantial man-made feature introduced into the

existing built environment would result in a substantial visual impact. Although the area surrounding the east portal has been described as rural in character, the visual character would not be considered pristine and reflects a vivid, pre-existing (substantial) modification to existing landform, i.e. visually dominant, un-vegetated, ¾:1 slopes cut into rock and benched. Numerous rock slip-outs, portal structures, freeway overpass, frontage roads and corridor-wide retaining walls are clearly visible and contribute to the visual context. We believe that the proposed north retaining wall (varying in height from 3.5-feet beginning at Fish Ranch Rd. and 25-feet (revised) at the east portal and 918-feet in length would not be entirely out of character within the existing visual context of the corridor. The south wall (RW-4) would be stepped both horizontally and vertically with approximately the same dimensions to mirror the existing concrete retaining wall adjacent to the third bore. This would be perceived as an extension of the portal complex and visually tie into the wall structure of the third bore. In consideration of the absence of sensitive receptors, i.e. residences, the motorists' fore-shortened view of the wall during east portal approach and motorists' skewed view of the north wall due to the vertical and horizontal curve alignment, we believe the visual effects of the retaining wall on the majority of viewer groups would be less than substantial.

5- Since the circulation of the DEA/EIR design refinements have been made to the north retaining wall No. 3A (RW-3A). In general, the overall retaining wall height (top of wall to roadway pavement) has been reduced by approximately 1.37 m (4.5 ft) at its highest point and up to approximately 5.6 m (18 ft) immediately adjacent to the proposed east portal. The retaining wall cannot be shortened and is approximately 286.3 m (939-ft) in length. The maximum height of the retaining wall above the freeway would be 6.85 m (22.5 ft). Although the wall configuration and surface treatment are still in the preliminary design stage, two options are being considered. The first option would consist of a stepped retaining wall (in lieu of a more natural top-of-wall profile corresponding to the adjacent slope profile grade) that would architecturally tie into the east portal structure. The second option being considered is a retaining wall that is carved and stained to resemble a natural rock surface. Computer simulations of both retaining wall options are included in the DEA/EIR.

An additional retaining wall (RW-3B) approximately 83.9 m (275 ft) long and 1.5 m (5 ft) high is proposed along the outer edge of Fish Ranch Road, adjacent to the proposed east portal structure. The proposed retaining wall system would consist of a soldier pile wall with timber lagging. The addition of this upper wall allows for a reduction in the initial height of retaining wall No. 3A for the first 75.9 m (249 ft). The slope between No.3A and 3B retaining walls would be planted with native vegetation to screen motorists' views of RW-3B.

Retaining wall No. 4 (RW-4) at the south side of the east portal cut will be approximately 13.4 m (44 ft) long with a maximum height of 7.6 m (25 ft) from finish grade. This wall would mirror the appearance of the existing wall adjacent to the third bore approach in both in configuration and proportion.

6- In consideration of the present visual quality, visual context of the specific location and visual context of the State Route 24 corridor in general (see response #4 above), potential viewer exposure, and mitigation strategies, Caltrans believes that the visual effects of the retaining wall are less than significant.

7- 1) As noted in the previous response, the height of retaining wall No. 3A (RW-3A) has been reduced; however, sight distance requirements of the new horizontal and vertical alignment preclude shortening of the wall. 2) Two design options have been developed for retaining wall No. 3A and represent two distinctly different design concepts: i.e. a retaining wall that is visually benign, architecturally pleasing and that aesthetically compliments and unifies the east portal complex as a whole, or one that is sculpted and stained to mimic and blend into adjacent natural rock surfaces so that it becomes visually subordinate to its natural surroundings. A computer simulation of each option, i.e. stepped retaining wall and carved and stained wall are included in the Final EA/EIR. It is Caltrans' experience that sculpted and stained concrete walls within a suburban setting, especially within ground-plane foreground-view situations, often times appear to be contrived and tend to draw greater public attention. The final aesthetic treatment for the retaining wall will be determined during the design stage.

8- Project impacts are entirely within Caltrans right-of-way and are not subject to local jurisdiction. However, Caltrans is a stakeholder in maintaining the scenic quality of the corridor and has considered local planning codes and guidelines when assessing mitigation measures to offset project impacts. The local code requiring the planting of one 15-gallon tree for every 6 inches or fraction thereof of diameter of trees removed is not unreasonable and the Department will meet or exceed this standard for project impacts.

9- Existing trees to remain will be clearly shown on the contract plans. Just prior to construction, areas within the construction zone will be surveyed to determine if additional tree removal can be avoided. Temporary fencing will be placed around these trees for protection against damage by Contractors' operations. Replacement landscaping within the immediate freeway corridor will be implemented as a separate contract and will include monitoring and plant establishment for a period of three years following the initial planting work.

10- The project's visual impacts were evaluated for consistency with local planning goals and policies and are addressed in the Visual Impact Assessment Technical Report (Circlepoint, June 2005) in support of the DEA/EIR. It was determined that the project was consistent with the City of Orinda's General Plan Policies regarding development within the designated State Scenic Highway. In general, Policies Q, R, and S require consideration of impacts to scenic resources and visual character/quality within the scenic corridor with the principal object of maintaining the natural environment as the dominant element.

11- The drainage trunkline within the median of State Route 24 from the East Tunnel Portals to the eastbound off-ramp to Orinda conveys the West Branch of San Pablo Creek to its confluence with San Pablo Creek at Moraga Avenue in Orinda. The West Branch of San Pablo Creek watershed area tributary to the median system is about 750 hectares. The area of the existing highway and ramps totals about 13 hectares, or 1.73% of the total watershed. The tributary paved area for Tunnel Road, Fish Ranch Road, and Gateway Blvd. is not included in the 13 hectares of paved highway surface. The additional paved highway area for the 2N Alternative is about 0.46 hectares. This represents 0.06% of the watershed for the West Branch of San Pablo Creek. The 3N Alternative would increase the paved highway area by about 0.72 hectares, or 0.10% of the watershed. The additional runoff associated with the added paved surface area is minimal and would have no significant effect on flow volume and velocity within the median system. The total watershed area tributary to the San Pablo Creek arch culvert under State Route 24 is approximately 1700 hectares. The additional paved area for the 2N and 3N alternatives represents 0.03% and 0.04% of the arch culvert watershed, respectively. The additional runoff for the 2N and 3N alternatives would have no significant effect on flow volume and velocity within the San Pablo Creek arch culvert and San Pablo Creek proper. The capacity of the existing median drainage system within State Route 24 from the East Tunnel Portals to the Orinda off-ramp, as well as impacts to the San Pablo Creek arch culvert will be analyzed during the design phase of the project. That analysis will incorporate updated rainfall intensities for the project site. Caltrans is aware of the planned future Gateway-Montenera development project. The proposed development will be required to maintain pre-development peak runoff values at the connection to the existing State drainage system. It is expected that the regulatory agencies will ensure that appropriate water quality features are provided to minimize impacts associated with the planned development.

12- The total watershed area tributary to the San Pablo Creek arch culvert under State Route 24 is about 1700 hectares. The additional paved area for the 2N and 3N alternatives represents 0.03% and 0.04% of the arch culvert watershed, respectively. The additional runoff for the 2N and 3N alternatives would have no significant effect on flow volume and velocity within the San Pablo Creek arch culvert and San Pablo Creek proper.

13- New roadway drainage facilities will consist of inlets and pipes to collect and convey roadway runoff from the new tunnel approach to the existing median drainage system.

14- At this time no nearby disposal site has been identified for the material excavated from the tunnel and selection of the disposal site will be left to Contractor. Therefore it is not possible to completely discount the possibility of truck traffic traveling through Orinda. However, typically a Contractor would use a freeway to avoid narrow streets and local congestion if possible.

15-The change regarding the location of the California Shakespeare Festival has been made in the FEA/EIR.

The impact on the theater would be positive because of improved highway access. Without the proposed project, delays in accessing the theater from Contra Costa County would increase substantially in the future as a result of westbound traffic queuing through Orinda on State Route 24 in the evening. See Table 2.1.5-5, No-Build Westbound p.m. Peak Period (2032), in Volume I for information on expected traffic speeds westbound on State Route 24 from I-680 to Orinda.

16- Audible noise is not expected from construction vibrations.

17- Please see the essay on "Construction Impacts" in Chapter 1.

18- Noise abatements are considered only at locations where noise impacts are identified within the project study area boundaries. Caltrans has no program to provide noise abatements for areas currently subject to freeway traffic noise, or where there is no new freeway or reconstruction of an existing freeway.

The project would not cause perceptible increases to noise levels at receivers outside the project study area boundaries, where the roadway configuration would remain unchanged. Generally, freeway noise reaches its highest level when the traffic is heavy and yet moves at near free-flow speed. Any heavier traffic leads to congestion and, thus, lowers the noise levels.

Spikes and fall-off of traffic noise already occurs daily along this corridor. Future traffic growth in the peak direction may heighten congestion, but will not increase the traffic noise level above what is already experienced. In the off-peak direction, traffic would increase when the current bottleneck is removed in the Build Alternatives. However, noise generated in the peak direction would still dominate in the overall noise environment. Any incremental changes to traffic in the non-peak direction would not be noticeable to any receivers. The reason for this is that every doubling of traffic volume would raise the noise levels by no more than 3dBA. An average person can barely perceive a 3dBA change in traffic noise. The addition of two or three lanes in the non-peak direction could not possibly double the total amount of traffic already using a 6-lane freeway. Since the increased traffic would be only a fraction of the existing volume, the effect would be much less than a 3dBA increase and would not be noticeable.

Caltrans has not found a living wall design that is sustainable over the long term.

19- No substantial noise increases were found according to the project's technical study. Caltrans is not legally mandated to comply with standards established in the general plans and ordinances of local agencies. Please see also the essay on "Methodologies used for the Impact Assessments/Local Ordinances" in Chapter 1.

20-Environmental studies have been conducted and the impact of exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels were not found to be potentially significant.

21- The project will not cause a permanent increase in ambient noise levels that would be considered substantial.

22- With the implementation of the measures listed in the essay on "Construction Impacts" in Chapter 1, construction noise will be no louder than the existing typical ambient noise levels at receptors near the east and west construction staging areas.

23- In comparison, we acknowledge that three of the five studied intersections in Orinda show one level of service degradation in one peak while one intersection shows one level of service improvement in one peak. It should be noted that in the additional average delay associated with those three intersections, the LOS degradation is about 2 seconds. In sum, comparing the No-Build with either Build alternatives, the average delay for the five Orinda intersections would remain unchanged. Please see response #2 in the essay on "Traffic Operations" in Chapter 1.

24- We are required to assess all noise impacts within the project study area boundaries as part of the environmental process. These areas are outside of the area of direct project-related noise impacts. Excessive noise outside the limits of this environmental document cannot be addressed or abated by this project. Please also see the essay "Project Study Area Boundaries" in Chapter 1.

Rio Vista, City of - Councilman Sanmukh Bhakta

"Sanmukh Bhakta" <councilman.bhakta@gmail.com>
07/06/2006 10:32 AM

To "Caldecott_Public_Comments@dot.ca.gov" <Caldecott_Public_Comments@dot.ca.gov>
cc
bcc
Subject Attention: Sheryl Dorado, Associate Environmental Planner

July 5, 2006
Senior Environmental Planner Gregory McConnell
Mail Station 8B, P.O. Box 23660
Caltrans District 4, Environmental Analysis
Oakland, CA 94623-0660

Dear Gregory McConnell,

Dear Mr. McConnell:

Traffic congestion is the leading concern of Bay Area residents, and the Bay Area's economic health and quality-of-life demand serious improvement to the regional transportation system. Adding a fourth bore at the Caldecott Tunnel is one of the most important projects, and I urge Caltrans to certify the project environmental document (EA/EIR) and construct the project as quickly as possible.

Rising employment and evolving commute patterns have created severe daily congestion in the off-peak direction. Addition of a fourth bore for the Caldecott Tunnel is the only effective way to provide balanced capacity in both direction, eliminating counter-commute congestion, dangerous merging, and idling emissions. The Caldecott 4th Bore is an important project that will improve regional mobility, employment access, and economic vitality. Residents and employers in Alameda and Contra Costa counties have shown strong support for the project, voting in overwhelming numbers to fund the project through two county sales tax measures and the Regional Measure 2 toll program.

The Draft EA/EIR is full and fair and includes a complete and comprehensive analysis of the project and its potential impacts to the surrounding community. Where impacts were found, the environmental document identifies appropriate and adequate mitigations. With all necessary analysis complete and traffic congestion continuing to worsen, Caltrans should approve the environmental report and quickly construct the project and any necessary mitigations.

Sincerely,

Sanmukh Bhakta, Councilman, City of Rio Vista
P O.BOX 1006
Rio Vista, CA 94571-3006

Thank you for your comments.

San Francisco, City and County of, Department of Public Health-Director of Environmental Health Rajiv Bhatia, MD, MPH

City and County of San Francisco
DEPARTMENT OF PUBLIC HEALTH

Gavin Newsom, *Mayor*
Mitchell H. Katz, M.D.,
Director of Health

OCCUPATIONAL & ENVIRONMENTAL HEALTH

July 7, 2006

VIA EMAIL: Caldecott_Public_Comments@dot.ca.gov; Sheryl_Dorado@dot.ca.gov

Mr. Gregory C. McConnell
Senior Environmental Planner
Attn: Sheryl Dorado, Associate Environmental Planner
California Department of transportation, District 4, Mail Station B
P.O. Box 23660
Oakland, CA 94623-0660

RE: Caldecott Tunnel Draft Environmental Impact Report

Dear Mr. McConnell

Please accept the following comments on the DEIR for the Caldecott Tunnel Project submitted by the San Francisco Department of Public Health.

Many cities in California appreciate the incredible environmental burden of driving on health, environmental quality, fossil fuel dependence, and the global climate. Several cities have made strong policy and program commitments to environmentally sustainable transport. For example, San Francisco and Oakland both have a Transit First Policy in their General Plans. At the State level, California has similarly recognized sustainable transportation as a key environmental goal both via the 2003 Governor's Environmental Goals and Policy Report and through innovative legislation on green house gas emissions.

The San Francisco Department of Public Health recognizes the proposed Caldecott Tunnel Fourth Bore to be a project of regional significance not only because of its potential impacts on health but also because of potential impacts on environmental quality, transportation, and land use. In addition, much of the traffic going through the tunnel has an origin or destination in San Francisco.

From our perspective, the rising cost and limited supply of fuel and the toll of automobile driving on health and the environment make it imperative that building highway capacity not always be our first choice in addressing mobility need and traffic congestion. Our comments urge the California Department of Transportation to do a more comprehensive and modern study of transportation demand reduction and alternative transport strategies as an alternatives to the construction of a fourth tunnel. We outline why believe that the 2001 MTC Caldecott Tunnel Corridor Study is not an adequate replacement for a comprehensive alternatives analysis under the requirements of CEQA. In this case, feasible alternatives to tunnel building might actually more effectively meet the project's objectives for both the peak direction and non peak direction. Savings from not building this expensive tunnel could then be used more cost-effectively improve mobility throughout the region. 1 2

1390 Market Street, Suite 210 San Francisco, CA 94102
Phone 252-3800, Fax 252-3875

I have organized these comments into the following three sections:

- Comments on the achievement on the project objectives;
- Comments on the Impact Analysis;
- Comments on the adequacy of alternatives analysis.

I Comments on the Achievement of Project Objectives

The EIR does not substantiate that it will achieve the project's stated objectives regarding delay and mobility 3

The project states as its first objective: "Reduces delays in the vicinity of the tunnel, through the year 2032" and "Improves mobility of the traveling public and emergency crews." However, the majority of congestion as measure by vehicle delay occurs in the peak hour and peak travel directions—westbound in the morning and eastbound in the evening. Building additional tunnel capacity will not improve travel in the peak direction where the overwhelming majority of vehicle delay occurs. The DEIR acknowledges that the project will not provide any meaningful reduction in delay or increase in mobility in the peak hour direction.

1. The EIR should clearly acknowledge that the project does not achieve these two objectives for the majority of users of the SR 24 facility.
2. The EIR should quantify the absolute number and proportion of current and future SR 24 facility users benefiting from the project 4
3. A more accurate description of the project objectives related to mobility and delay might be: "reduce delay for [*the expected number*] peak hour vehicle drivers driving in the reverse-commute direction on SR 24."

The project does not substantiate the relationship between vehicle accidents on SR 24 and injuries

The DEIR enumerates 160 accidents which occurred in the limits of the project between April 1, 2001, and March 31, 2004, including injury accidents and 1 fatal accident. 5

1. The DEIR does not specify the number of accidents on the approach to or within the tunnel
2. The DEIR does not specify the number of accidents in the reverse-commute direction
3. The DEIR does not specify the mechanism of injuries in the reverse-commute direction
4. The DEIR does not specify the number of injuries suffered by Cal-trans Workers

The project does not substantiate claimed reductions in accident rates, accident severity, or accident costs 6

The DEIR further claims that project will reduce accidents and their severity

1. The DEIR does not estimate or enumerate the number accidents and injuries prevented by the project.
2. The DEIR does explain how accidents will be prevented or provide any evidence or analysis substantiating the safety effects of tunnel capacity expansion.

2

II Comments on the Environmental Impact Analysis

Traffic analysis does not include an analysis of induced demand which may negate the limited reverse-commute benefits over the long run 7

The analysis in the DEIR considers traffic on the facility related to increased regional economic growth and land use development but does not consider traffic due to induced demand. In summary, research on induced demand on transportation facilities shows that increases in road miles constructed translates into proportional increases in vehicle miles traveled. Long-run elasticity estimates and other conclusions from empirical research reported by the USEPA suggest that induced demand can negate any short-term benefits to congestion on SR 24 in the reverse-commute directions in a matter of a few years.[1] [2] Survey research conducted by the MTC Caldecott Corridor Study (2001) provides support for induced demand by identifying reverse commute auto travel times as a primary motivation for travel behavior choices.

1. The EIR should analyze how induced demand related to reductions in delay could change vehicle volumes on the SR 24 in the long run.
2. The EIR should evaluate whether the tunnel project might reduce BART and other public transit use due to induced demand
3. The EIR should analyze if mode share changes might affect long run feasibility of existing transit services.
4. The EIR should estimate the net effects of induced demand, reduced transit use, and potential service-related mode shifts on regional VMT, air quality, energy use, and greenhouse gases.

Ensure that the study include all areas affected by the project including the Bay Bridge and US 101 in San Francisco. 8

A significant share of the traffic on SR 24 through the tunnel has origins or destinations in San Francisco. If the project causes induced demand on SR 24 in the reverse commute direction, some of the induced demand would be originating or arriving in San Francisco.

- The EIR should estimate proportion of AM peak hour eastbound SR 24 vehicle volume originates in San Francisco
- The EIR should estimate the proportion of the PM peak hour westbound SR 24 vehicle volume has destinations in San Francisco
- The EIR should analyze project traffic impacts on the Bay Bridge, US 101, and San Francisco due to projected vehicle volume growth and project related induced demand

1 Our Built and Natural Environments: A technical review of the interactions between land use, transportation, and environmental quality. USEPA Washington DC 2001.

2 The Land Use—Air Quality Linkage: How land use and transportation affect air quality. California Environmental Protection Agency. 1997

3

The project will contribute to an increase in vehicle volume on the facility and thus increase the rate of accidents and injuries 9

Empirical research consistently shows that the number vehicle accident rates increase in proportion to vehicle volume on any given road facility.[3] This project will increase vehicle volume on SR 24. The increase in vehicle volume will result in an increase in the crude accident rate per unit time.

1. The EIR should analyze the impact of vehicle volume on the **total number** of accidents, injuries and fatalities on the roadway, by creating a road safety function for this roadway based on empirical data. *The number of accidents per vehicle trip or mile is not an appropriate metric for the cumulative human health burden of roadway accidents.*

The project may contribute to an increase in accidents on the facility due to an increase in vehicle speed 10

This project will increase speed between SR 13 and Fish Ranch Road in the eastbound and westbound direction in the reverse commute directions during peak travel times. Research shows that vehicle accident rates increase in proportion to speed.[4] The project has the potential to increase accidents by increasing speed.

1. The EIR should analyze the impact of vehicle speed on the **total number** of accidents, injuries and fatalities on the roadway based on available empirical research. *The number of accidents per vehicle trip or mile is not an appropriate metric from the cumulative human health burden of roadway accidents.*

The project may contribute to an increase in the severity of vehicle injuries due to an increase in vehicle speed on the facility 11

Vehicle accident severity and injury fatality rates are proportional to vehicle speed. Research shows that, on average, each 1mph change in speed may change accident frequency by 5%.[5] This project will increase speed between SR 13 and Fish Ranch Road in the East bound direction in the AM peak travel hours. The tunnel project has the potential to significantly worsen accident severity on SR 24 at the Caldecott tunnel.

1. The EIR should analyze the impact of vehicle speed on the **distribution** of severe accidents, injuries and fatalities on the roadway based on available empirical research. *The number of severe accidents per vehicle trip or mile is not an appropriate metric for the cumulative human health burden of roadway accidents.*

3 Lord D, Manar A, Vizioli A. Modeling crash-flow density and crash-flow-V/C ratio relationships for rural and urban freeway segments. Accident Analysis and Prevention 2005; 37: 185-199.

4 Synthesis of Safety Research Related to Speed and Speed Limits. Federal Highway Administration. 1998.

5 Taylor M, Lynam D, Baruay A The effects of drivers speed on the frequency of road accidents. Transport Research Laboratory. TRL Report 421 Crowthorne, UK, 2000.

4

This project will increase air quality and health hazards on sensitive receptors such as Chabot School 12

Vehicle emissions are associated with increases in acute and chronic respiratory disease among people living near roadways. [6 7 8 9] The California Air Resources Board recently published guidelines which aim to decrease exposure to criteria air pollutants and toxic air contaminants related to vehicle air emissions. [10] The CARB handbook bases its land use guidelines both on the long term lung cancer risks as well as short term health effects, including reduced lung function[11], bronchitis, asthma, and cardiovascular mortality.[12] These non-cancer health effects are not related exclusively to diesel exhaust particulates but also to non-diesel particulates from gasoline fueled cars and trucks.

1. The EIR should identify any existing sensitive populations and existing or sensitive uses for poor air quality (e.g. schools, child care facilities, residences). Sensitive receptors in proximity to the SR 24 corridor include Chabot School, Claremont School, Chabot Field, Frank Ogawa Fields, Frog Park, and Rock La Fleche School, as well as numerous day care facilities. These sensitive receptors are already located in areas where fine and ultra fine particulate matter from vehicles on SR 24 already creates a risk to health. Tunnel building will increase vehicle trips through the tunnel via induced demand and increase not decrease exposure fine and ultra fine particulate pollution to sensitive receptors the immediate area.
2. The EIR should analyze existing particulate levels using field measures or available modeling techniques.
3. The EIR should provide quantitative estimates of increases in vehicle emissions, including PM 10, PM 2.5, and ultra fine particulates in areas adjacent to the project which will bear project-related increases in vehicle trips.
4. The EIR should determine whether these changes in local air emissions might result in any adverse impacts on human health or childhood development in populations.[13]
5. The project should analyze appropriate mitigations in areas where exposure due to freeway emissions is greater than background exposure levels distant from the freeway. Examples of

6 Brunekreef, B. et al. "Air pollution from truck traffic and lung function in children living near motorways." Epidemiology. 1997; 8:298-303.

7 Kim, J. et al. "Traffic-related air pollution and respiratory health: East Bay Children's Respiratory Health Study." American Journal of Respiratory and Critical Care Medicine 2004; Vol. 170. pp. 520-526.

8 English P., Neutra R., Scalf R. Sullivan M. Waller L. Zhu L. "Examining Associations Between Childhood Asthma and Traffic Flow Using a Geographic Information System." (1999) Environmental Health Perspectives 107(9): 761-767.

9 Lin, S. et al. "Childhood asthma hospitalization and residential exposure to state route traffic." Environ Res. 2002;88:73-81.

10 California Environmental Protection Agency Air Resources Board Air Quality and Land Use Handbook: A Community Health Perspective May 2005.

11 Venn. etal. "Living near a main road and the risk of wheezing illness in children." American Journal of Respiratory and Critical Care Medicine. 2001: Vol.164, pp. 2177-2180

12 Peters, A , et al, "Increased particulate air pollution and the triggering of myocardial infarction." Circulation, 103:2820-2815 (2001)

13 Analysis of health impacts is necessary to evaluate the full significance of environmental effects. Section 15065 of the regulations for the California Environmental Quality Act (CEQA) mandates an environmental impact report (EIR) to analyze any "...environmental effects of a project [that] will cause substantial adverse effects on human beings, either directly or indirectly. CEQA guidelines section 15126.2, subdivision (a) requires an EIR to discuss "health and safety problems caused by the physical changes" that the proposed project will precipitate. A recent Court of Appeals ruling in Bakersfield Citizens for Local Control vs. the City of Bakersfield underscores the necessity of health analysis in an EIR prepared under CEQA. Analysis of health impacts is necessary to evaluate the full significance of environmental effects.

5

mitigations would include building ventilation and filtration systems for existing schools and planned school construction.

Limited and competitive funding for transportation infrastructure could harm environmental quality by limiting funding for environmentally preferable alternatives 13

Any potentially significant environmental effects indirectly related to social or economic effects of a decision must be analyzed under CEQA. The project has significant committed revenues to the Caldecott Tunnel Project but will require additional funding to enable construction. The use of limited transportation infrastructure funding resources for this project will involve trade-offs with other regional and local transportation projects. Many competing projects could facilitate reductions in vehicle travel, resulting in improvements in environmental quality. The Caldecott project might thus indirectly result in adverse environmental quality impacts by limiting future available funding for environmentally beneficial transport projects.

1. The EIR should identify all sources of committed funding for the project, the likely sources of shortfall funding, and the potential alternative uses these sources of funding.
2. The EIR should estimate the effects of both committed project and additional project funding on the implementation of other potential mass transit, bicycle, pedestrian, and other smart growth projects that have been identified through regional planning but not funded.
3. The EIR should estimate the indirect effects on regional VMT, air quality, energy use, and greenhouse gases of using limited funds for this project relative to alternative transportation infrastructure uses.

III Comments on the Adequacy of the Alternatives Analysis

A comprehensive set of alternatives to tunnel building could provide a cost-effective and environmentally sustainable means of achieving the project objectives 14

The limited ability of the Caldecott Tunnel Project to meet its stated objectives and the known environmental quality costs of highway facility building,d emands that Cal Trans consider of a more comprehensive set of alternatives, especially any alternatives which may be more cost-effective and /or more beneficial to the environment. The EIR judged the infeasibility of highway operations and mass transit alternatives based solely on the conclusions of the 2001 MTC Route 24 / Caldecott Tunnel Corridor Study.

1. The analysis of alternatives DEIR is not adequate because did not evaluate several feasible model practices for improving highway operations and reducing vehicle demand on roadways.
2. This MTC study itself is inadequate because the scope did not include known feasible and potentially effective alternatives.
3. The conclusions of the MTC study based on survey and other information from 1999-2000 may not be valid for 2012 to 2032. Many emerging factors have and will influence travel behavior (e.g., change in fuel prices) in the future.
4. Furthermore, the MTC study is inadequate because was not conduced subject to the participation requirements required under CEQA.
5. An alternatives analysis should consider future scenarios in which the costs and constraints on driving are different than those today.
6. An adequate contemporary EIR analysis should consider all feasible alternatives to improve traffic flow, reduce delay, incentives mobility options, and improve environmental quality.

6

Comprehensive use of a package of alternatives could achieve the project objectives to a greater degree than the current proposed project. At a minimum, the EIR should conduct an analysis based on a comprehensive mix of the following listed operational and mass transit improvements.

Short or long term highway operations improvements

- ***Reverse Commute Metering lights:*** The installation of metering lights across all lanes of the freeway upstream of the merge could create more efficient and freer flow of traffic through the merge. This principal has been effectively used westbound at the Bay Bridge for a number of years. 15
- ***Reduction of allowable vehicle speeds to 45 mph.*** Speed-flow relationships for roadway facilities show that with increasing speeds above a moderate speed (e.g. 30 mph) the capacity of the roadway diminishes, demonstrated in a reduction in the hourly vehicles per lane. In other words, roadways with slower but more uniform speeds can accommodate a greater density of vehicles. Slower speeds may also alleviate merging issues a primary cause of the non-commute backup. The facilitation of merging through a combination of metering and staged speed reductions may mitigate congestion. Reducing the speed along the corridor may increase road capacity and safety and should be evaluated a part of a comprehensive package of alternatives. 16
- ***HOV Bypass Lanes:*** A HOV bypass lane could allow HOV vehicles to bypass the metering lights. The HOV lane should begin sufficiently upstream to allow safe merges into the HOV lane. (The MTC study considered a limited HOV lane) If it creates a successful incentive, an HOV lane would also reduce vehicle volume. 17

Given the stated objective of the project is to improve travel quality on SR 24 in all direction Metering lights, Speed reductions, and Bypass Lanes alternatives should be considered for both the peak and non-peak directions.

- ***Paid toll lanes with peak demand congestion pricing***: Paid toll lanes could be implemented in one direction of SR 24. The EIR should review evaluation studies of the effects of toll lanes on roadway demand. For example, research conducted by Deakin and Harvey for the State of California Air Resources Board demonstrated that on average a 8-19 cent per mile charge for a road facility results in a 5-10% congestion reduction and a 1.5 to 3 % VMT reduction. [14] 18

Transit Alternatives could facilitating mode shift to transit by improving travel time, cost, an accessibility for transit users

- ***Employer Transit Subsidies*** Public subsidies could be offered to reduce or eliminate the public costs of reverse commute transit Savings from not building a tunnel could subsidize employer transit subsidies. 19
- ***Employer shuttle buses*** from the Walnut Creek, Pleasant Hill, and Concord BART stations will serve growing employment centers as well as travel from nearby neighborhoods to employment centers. The routes could be planned to efficiently serve

14 Deakin E. Can Transportation Pricing Strategies be used for Reducing Emissions? California Environmental Protection Agency 1998.

7

multiple destinations. Savings from not building a tunnel could subsidize these shuttle buses

- ***Employer Vanpools***: Public subsidies could be offered for vanpool service through the tunnel for Contra Costa workers that reside in Western Alameda County. This service can also help avoid the need to increase parking at BART stations. Savings from not building a tunnel could also subsidize vanpools.

By reducing travel costs to Contra Costa employment centers, the tunnel compromises the environmental benefits of planned development in Oakland which aims to allow more helping people live close to their jobs. 20

Many California's State land use and environmental policy goals aim to reduce the proportion of travel by automobile. However, this project would reduce the effective costs of automobile travel (combined time and money) and increase the mode share for automobiles on the facility.

1. The EIR should evaluate the project's consistency with the State's land use goals under AB 857 [15] and environmental policy goals[16], including its objectives to increase jobs housing balance and reduce the frequency and distance of vehicle commutes.
2. The EIR should specifically explain the need for the project given an adequate supply of housing relative to jobs exists on the east side of the tunnel.
3. The EIR should specifically evaluate whether reductions in relative travel cost might increase cause people with jobs on the east side of the tunnel to increase their preferences for hosing on the west side of the tunnel. This might increase housing demand and price on west of the tunnel.
4. The EIR should evaluate how the project might influence the viability of mixed use development and transit oriented development in the region.
5. The EIR should evaluate and estimate the effects of any housing choice decisions and land use development decisions related to the tunnel construction on regional VMT, air quality, energy use, and greenhouse gases.

Thank you for your attention and response to these comments.

Sincerely,

Rajiv Bhatia, MD, MPH
Director of Environmental Health

15 California Assembly Bill 857

16 Governor's Environmental Goals and Policy Report. Sacramento: Office of Planning and Research, 2003.

8

1- Please see the essay on "Alternatives Considered in the Draft EA/EIR" in Chapter 1.

2- The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating and financing agency for the nine-county San Francisco Bay Area. MTC functions as both the regional transportation planning agency—a state designation – and, for federal purposes, as the region's metropolitan planning organization (MPO). As such, it is responsible for regularly updating the Regional Transportation Plan (RTP), a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle and pedestrian facilities. The Commission also screens requests from local agencies for state and federal grants for transportation projects to determine their compatibility with the plan. The Caldecott Improvement

Project is included in the Regional Transportation Plan (RTP). At the federal level, the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) and its successor, the Transportation Equity Act for the 21st Century (TEA-21), empowered MPOs like MTC to determine the mix of transportation projects best suited to meet their region's needs.

Please see the essay on “Transit” in Chapter 1 for additional discussion on how transportation funds are distributed in the region.

3-Please see essay on “Purpose and Need” in Chapter 1.

4- The operational study results included the delay reduction and time saving in the off-peak direction. Although the results were not presented in terms of "absolute number and proportion", the benefit of constructing a fourth bore has been quantified in other terms.

It is true that the project reduces delay only in the off-peak direction and that there are more travelers traveling in the peak direction. However, the off-peak direction delays are already serious and are projected to grow increasingly worse in the future. This project will allow full use of all of the existing lanes of State Route 24 and solve the congestion concerns for the foreseeable future. In contrast, addressing the peak direction congestion problems would require corridor length improvements on State Route 24 between Routes 580 and 680 at a much larger cost and possible environmental impact.

5- The accident data used in this response were obtained from Caltrans Accident Surveillance and Analysis System (TASAS) for the three years period between January 1, 2003 and December 31, 2005.

There were a total of 168 injury accidents in the vicinity of Caldecott tunnel (Ala 24 PM5.3 to CC24 PM 1.3). 72.7% of the accidents (122) occurred outside the tunnel and 27.3% (46) occurred inside the tunnel.

Accidents involving injury for the reverse commute directions were:

a.m. Peak Period - 6 a.m. to 9 a.m. (total 4 hours)

Reverse commute direction: Eastbound

Total number of injury accidents: 9

The accident collision types are as follows:

A. Head-on (0.0%)	B. Sideswipe (0.0%)
C. Rearend (44.4%)	D. Broadside (0.0%)
E. Hit Object (33.3%)	F. Overturn (11.1%)
G. Auto Pedestrian (0.0%)	H. Other (11.1%)

p.m. Peak Period - 3 p.m. to 6 p.m. (total 4 hours)

Reverse commute direction: Westbound

Total number of injury accidents: 24

The accident collision types are as follows:

A. Head-on (0.0%)	B. Sideswipe (16.7%)
C. Rearend (75.0%)	D. Broadside (0.0%)
E. Hit Object (8.3%)	F. Overturn (0.0%)
G. Auto Pedestrian (0.0%)	H. Other (0.0%)

The number of injuries suffered by Caltrans workers is not available.

6- Following are the accident data for State Route 24 within the project limits (Ala-24-PM R5.282 to CC-24-PM 1.30, including ramps).

			Actual Number			Actual Rates	Average Rates		
Year	Total	Fatal	Injury	Fat.	F+I	Total	Fat.	F+I	Total
01/01/03-12/31/05	649	0	168	.000	.43	1.66	.008	.34	1.04

The accident collision types are as follows:

A. Head-on (0.0%)	B. Sideswipe (27.7%)
C. Rear End (55.9%)	D. Broadside (1.5%)
E. Hit Object (16.6%)	F. Overturn (1.7%)
G. Auto Pedestrian (0.0%)	H. Other (0.8%)

43.8%(284) of the accident occurred going eastbound and 56.2% (365) going westbound.

Rear-enders and sideswipe type collisions, which generally are due to driver's inattention, unsafe speeds, and lane changing in recurring traffic congestion, account for 83.6% of all the accidents. The accident rate in this section of State Route 24 (1.66) is equal to 160% of the average for similar highway facilities (1.04). "Similar Facilities" is based on the similar "Highway Type" (Freeway, Expressway or Conventional Highway; number of lanes), Design Speed, Average Daily Traffic (ADT), and the areas in which the highway is located (Rural, Suburban or Urban).

The accident data shown above indicate that congestion is a significant factor contributing to the high accident rate on State Route 24 within the project study area boundaries. The proposed tunnel project will reduce congestion within the vicinity of the tunnel, and as a result, will reduce the number of congestion type of accidents.

7- Please see responses #2 and #3 in the essay on "Traffic Modeling/Forecasting" in Chapter 1.

8- The origins and destinations of traffic using State Route 24 do not have any effect upon the environmental consequences of the project. The origins and destinations of the travelers using this project will be dispersed throughout the Bay Area and beyond.

The travel demand model used for this project projected a maximum increase in traffic of 3.2% on the Oakland Bay Bridge due to the construction of a two-lane fourth bore at the Caldecott Tunnel. This very small increase is within the limits of precision for traffic forecasting and demonstrates that construction of the fourth bore will not have a significant effect on the traffic levels on the Oakland Bay Bridge.

Please see response #1 in the essay on "Traffic Operations" in Chapter 1.

9- As indicated in the response to question #6 (above), the accident rate for State Route 24 within the project limits is equal to 160% of the average for the similar highway facilities (1.04). This high accident rate is due to congestion. The proposed project will reduce congestion, and as a result, will reduce the number of congestion type of accidents.

The slight increase of traffic volume due to this project could theoretically cause a slight increase in the number of accidents. However, the benefits of reduced congestion type accidents and accident rate will be greater than the negative impact of the traffic volume increase.

10- The low vehicle speed in the reverse commute direction during peak traffic time is caused by congestion. As noted from the accident data in our response to question #6 (above), congestion will increase the number of congestion type accidents and increase the accident rate.

The proposed project will significantly reduce congestion, and as a result, will increase vehicle speed in the reverse commute direction during peak traffic time to close to normal travel speed.

Reducing congestion will reduce congestion type accidents and the accident rate; our experience indicates it will not increase the number of accidents or their severity.

11-See our response to question #10 above.

12- Alternative 2N, the Preferred Alternative, of this project is included in the 2007 Transportation Improvement Program (TIP)(which conforms to the State Implementation Plan (SIP)) and the 2005 Regional Transportation Plan (RTP), and thus is in conformance with all related federal air quality requirements. These requirements are designed to be protective of human health, so no identification of any specific sensitive group

is required and no special mitigations are mandated. In regards to particulates, the Bay Area is in attainment for PM2.5 (Annual Arithmetic Mean and 24-hour) and PM10 (Annual Arithmetic Mean). It is unclassified for PM10 (24-hour). No quantification of PM2.5 is required and there currently is no approved methodology for quantification of PM10.

13- A large percentage of the current funding for the project is from Contra Costa County. The Contra Costa Transportation Agency has determined its priority projects, and this project is considered a high-priority project because of its benefits for the State Route 24 corridor.

Please see the essay on “Funding” in Chapter 1.

1. Effect of funding the Tunnel on other projects: The Caldecott Tunnel Improvement project is one of four projects currently identified along State Route 24 in the financially constrained element of the Regional Transportation Plan (T2030) for Contra Costa. The other projects are titled "Major Streets Widening, Extensions and Interchange Improvements", "Gateway Lamorinda Traffic Program", and "State Route 24 EB Auxiliary lane at the Orinda exit. "The first two are funded by specific earmarks in Measure J/Measure C and are not affected by the Tunnel funding. The third project is not likely to proceed due to community opposition. No specific transit, pedestrian/bicycle, or smart growth projects are listed along State Route 24 in MTC's Regional Transportation Plan. A 2001 study completed by MTC recommended completing an environmental document for the Caldecott Tunnel fourth bore because it had the most potential to eliminate both off-peak direction as well as weekend congestion.

2. Estimate of indirect effects of the Tunnel: Identified project funds such as RM2 and -Measure J cannot be used on different projects along State Route 24 without amending the Measure J expenditure plan or RM2 legislation. In addition, no specific transit, pedestrian/bicycle, or smart growth projects are listed for State Route 24 in MTC's Regional Transportation Plan - Contra Costa.

3. The No-Project Bay Area wide projected weekday vehicle miles traveled (VMT) is 80,410,808 vehicle miles traveled. The two-lane bore projected VMT is 80,251,260 vehicle miles traveled. The small decrease in VMT with Alternative 2N, the Preferred Alternative, is likely due to travelers taking advantage of the decreased congestion in the Caldecott Tunnel to take more direct routes to their destination.

The Preferred Alternative (Alternative 2N) of this project is included in the 2007 Transportation Improvement Program (TIP) (which conforms to the State Implementation Plan (SIP)) and the 2005 Regional Transportation Plan (RTP), and thus is in conformance with all related federal air quality requirements. The analysis done by the MTC takes into account increases in vehicle emissions region-wide, not just from this project.

As noted in Section 2.2.9 on the FEA/EIR, the CEQA Guidelines state that EIRs are required to include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy. NEPA (42 USC Part 4332) requires the identification of all potentially substantial impacts to the environment, including energy impacts. When balancing energy used during construction and operation against energy saved by relieving congestion and other transportation efficiencies, the project would not have substantial energy impacts.

While climate change has been a concern since at least 1988 as evidenced by the establishment of the United Nations and World Meteorological Organization’s Intergovernmental Panel on Climate Change (IPCC), the

efforts devoted to "greenhouse gas"1 (GHG) emissions reduction and climate change research and policy has increased dramatically in recent years. In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with GHG emissions and climate change at the state level. AB 1493 requires the Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions; these regulations will apply to automobiles and light trucks beginning with the 2009 model year.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's greenhouse gas (GHG) emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) by the year 2050 to reduce GHG emissions to 80% below the 1990 levels. In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that ARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-17-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team. Caltrans strives to be a good steward of the environment and as a member of the executive branch of the state government, shares your and our governor's concerns regarding greenhouse gasses and global warming. This is reflected in our Director's Policy DP-23 which states, "(Caltrans) Coordinates with external agencies on cross-agency policy framework and provides support for clean transportation and (the) State's effort on climate change and global warming." The Department and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, the Department has created and is implementing the Climate Action Program at Caltrans (December 2006).

One of the main strategies to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 mph. Relieving congestion by enhancing operations and improving travel times in high congestion travel corridors will lead to an overall reduction in GHG emissions. A transit alternative was analyzed in the *Route 24/Caldecott Tunnel Corridor Study* conducted by the Metropolitan Transportation Commission. The transit alternative alone would not meet the purpose and need of this project (see the essay on "Transit" in Chapter 1). In addition, by helping improve the state highway system infrastructure, the project will increase efficiencies for future motor vehicles which we assume will be fueled by less polluting petroleum-based fuels or other less polluting technologies.

The Caldecott Improvement Project will add a minimal amount of new impermeable surface area to an already urbanized area, which could theoretically add to global warming by increasing the heat island effect. However, trees reduce the heat island effect through the natural cooling process of shading and reducing evapotranspiration. Native trees removed by the project will be replaced at a 3:1 to 5:1 ratio, providing shade. Given the small amount of impermeable surface area to be added in an already urbanized setting, and the replacement of native trees and shrubs, the Caldecott Improvement Project is not expected to add to any existing heat island.

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[1] Greenhouse gases related to human activity include: Carbon dioxide, Methane, Nitrous oxide, Tetrafluoromethane, Hexafluoroethane, Sulfur hexafluoride, HFC-23, HFC-134a*, and HFC-152a*.

The amount of carbon dioxide produced by a given gasoline or diesel fueled motor vehicle is directly proportional to the amount of fuel that it burns. Motor vehicles get considerably better mileage and burn less fuel per mile traveled when they can travel at a uniform speed rather than in the kind of stop and go conditions caused by traffic congestion. Therefore, the reduction in congestion accomplished by this project should result in a reduction in the amount of carbon dioxide produced by motor vehicles.

As noted above, the project will provide a slight decrease in Bay Area wide projected weekday VMT. This coupled with the fact that vehicle emissions will decrease as a result of congestion relief, i.e. there will be more free flowing traffic and fewer engines idling while queuing up outside the tunnel portals thus producing fewer "greenhouse gasses", indicates that the project will have a beneficial effect by reducing "greenhouse" gasses and any resultant climate changes.

14- Please see the "Transit" and "Alternatives Considered" essays in Chapter 1 in the DEA/EIR.

15- Please see responses #5 and #6 in the essay on "Traffic Operations" in Chapter 1.

16- Reducing speed will not address insufficient capacity and long-term issue. It is true that as a highway carries more traffic the vehicle speeds will be reduced. This is because drivers reduce their speeds to compensate for vehicles becoming more closely spaced. However, artificially reducing the speed limit will have no effect on the highway's ultimate capacity.

Please see response #8 in the essay on "Traffic Operations" in Chapter 1.

17- Please see responses #5 and #6 in the essay on "Traffic Operations" in Chapter 1.

18- Please see responses #5 and #9 in the essay on "Traffic Operations" in Chapter 1.

19- Please see essays on "Transit" and "Scope of the Project" in Chapter 1.

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1. The proposed project is consistent with State planning priorities as described in the *Governor's Environmental Goals and Policy Report* (EGPR), November 2003. The project would primarily improve highway access for a) those living on the west side of the tunnel to jobs and services on the east side of the tunnel and b) those living on the east side of the tunnel to services on the west side of the tunnel. A study of the potential growth inducement impacts of the project was conducted in support of the EA/EIR. The study applied a methodology based on changes in accessibility to jobs, supplemented with review by a panel of regional economics and real estate professionals. The growth study and its expert panel concluded that the improved access from the project would make infill development on the west side of the tunnel slightly more attractive than under no-project conditions, and that the project would improve quality of life for those living on the east side of the tunnel. These results are summarized in Section 2.1.2, Growth, of the environmental document and in the supporting technical report, *Growth Inducement Analysis for the Caldecott Improvement Project, Final Report*. The growth study also concluded that the proposed project would not induce unplanned growth or cause housing to develop farther from jobs, but that it would support growth as currently planned by jurisdictional entities within Alameda and Contra Costa Counties. Based on these findings, the proposed project would be consistent with EGPR goals and policies that promote infill development and discourage sprawl.

   Section 2.1.1.2, Consistency with State, Regional, and Local Plans, documents the consideration of local and regional plans as required by the EGPR. Based on regional vehicle miles of travel (VMT) projections summarized in Traffic Comment Response C, regional VMT would decrease 0.2 percent with the proposed project, suggesting that the project would not increase the frequency and length of commute trips. The project would not have an important effect on BART ridership, and the mode split in the corridor would not change materially (se response #3 in the essay on "Traffic Modeling/Forecasting" in Chapter 1. The proposed project could have slightly positive effects on the jobs/housing balance by making infill housing more attractive on the west side of the tunnel and jobs more accessible on the east side of the tunnel as described in the previous paragraph.

2. As summarized above, the proposed project would not induce unplanned housing growth on the east side of the tunnel. By improving accessibility to jobs on the east side of the tunnels, the proposed project would sustain the economic vitality on the east side of the tunnel, thus increasing the supply of jobs on the east side and improving the jobs/housing balance. The growth study's expert panel expressed their concern that increased delay without the project could depress the economic vitality of the Lamorinda area, thus decreasing the number of jobs east of the tunnel and worsening the jobs/housing balance. It is also worth mentioning that the proposed project would improve weekend and off-peak access from areas east of the tunnels to the west side, facilitating shopping and recreational trips to Oakland and Berkeley that are now limited by traffic congestion and delay.

3. As summarized above, the growth study found that improved accessibility from the project would likely make infill housing at the west end of the tunnel slightly more attractive. All other things being equal, the improved accessibility could also make the housing close to the west end of the tunnel slightly more expensive. The improved accessibility to Contra Costa County jobs would not undermine the environmental benefits of infill housing in Berkeley and Oakland, however, because improved access to jobs in the State Route 24 corridor east of the tunnel would constitute only a slight change from the no-project situation. That is, if residents of planned development in Oakland were going to negate the benefits of living close to jobs in Oakland by choosing jobs farther away, they would able to do so just as easily without the proposed project as with it because the difference in accessibility to jobs in the region, as measured by highway travel time, would be slight. Please see the technical growth report for a description of how the accessibility indices between sample housing locations and jobs in the Bay Area were computed.

4. As documented in *Growth Inducement Analysis for the Caldecott Improvement Project, Final Report*, a planner on the growth study's expert panel discussed how state and metropolitan planning requirements and incentives for transit oriented development (TOD) will likely change design of communities. TOD and related expansions in transit service could result in more people living and working near transit and commuting by transit. This could lead to future implementation of express bus or bus rapid transit (BRT) in the State Route 24 corridor [which would be facilitated by the proposed fourth bore project's improved accessibility]. TOD initiatives would also enhance the appeal of intensification redevelopment in Berkeley and Oakland. As noted above, the improved accessibility that would result from the project would likewise enhance the attractiveness of infill housing in Oakland and Berkeley, including TOD and mixed use development. Thus the proposed project would support mixed use development and TOD on the west end of the tunnel and could potentially support it on the east end by facilitating express bus or bus rapid transit (BRT) in the State Route 24 corridor.

5. As noted above, the effects of the project on residential growth would be supportive of planned land use and would not induce unplanned growth. The growth study found that the effects of the project on choice of residential location would be small because other factors are more important than accessibility in determining housing location. For example, young professionals may choose to live on the west side of the tunnel because of the urban amenities, while families with children may choose to live on the east side to enjoy higher quality schools. Given the small, secondary effect of a modest project-induced reduction in travel time on housing location choice, there would be little if any tertiary impact on VMT, air quality, energy use, and greenhouse gases, see response #13 above.

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