



Agenda Item No. 10.A.

**Special Order of Business**

To: Board of Directors  
Meeting of October 10, 2008

From: Ewa Z. Bauer, Deputy District Engineer  
Denis J. Mulligan, District Engineer  
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Subject: **DISCUSSION REGARDING THE SELECTION OF A LOCALLY  
PREFERRED ALTERNATIVE FOR THE GOLDEN GATE BRIDGE  
PHYSICAL SUICIDE DETERRENT SYSTEM PROJECT**

**Recommendation**

The following Report is provided for informational purposes. A final report will be presented for action at the Board of Directors Meeting of October 24, 2008.

**Background**

Over the years, the Golden Gate Bridge, Highway and Transportation District's (District) Board of Directors (Board) has considered numerous approaches to reduce the number of persons harming themselves by jumping from the Golden Gate Bridge (Bridge). Through this period, the District has investigated a variety of measures, both physical and non-physical in nature, and ultimately implemented several non-physical measures that are currently in operation on the Bridge.

At its March 11, 2005, meeting, the Board adopted Resolution 2005-015 that approved proceeding with environmental studies and preliminary design work for development of a potential physical suicide deterrent system on the Bridge and established a set of assumptions and conditions to govern project development, including:

- Establishment of different design and engineering criteria calling for a physical suicide deterrent system to serve as a deterrent to suicides, recognizing the difficulty, if not impossibility, to devise any practical system that would make it physically impossible in all circumstances for suicides to occur; and,
- Required generation of financial support from external public and private sources to finance the project with the understanding that much of this work cannot begin until funds have been identified and appropriated; and,

- With the further understanding that these initial actions are being authorized to enable the Board of Directors to ultimately determine whether to proceed with construction of a physical suicide deterrent system.

At its April 22, 2005, meeting, the Board adopted Resolution 2005-033, which revised the previously adopted Board criteria for a suicide deterrent system on the Bridge. The revised criteria states that any proposed physical barrier should:

- Impede the ability of an individual to jump off the Golden Gate Bridge.
- Not cause safety or nuisance hazards to sidewalk users including pedestrians, bicyclists, District staff, and District contractors or security partners.
- Be able to be maintained as a routine part of the District's on-going Bridge maintenance program and without undue risk of any injury to District employees.
- Not diminish ability to provide adequate security of the Golden Gate Bridge.
- Continue to allow access to the underside of the Bridge for emergency response and maintenance activities.
- Not have a negative impact on the wind stability of the Golden Gate Bridge.
- Satisfy requirements of state and federal historic preservation laws.
- Have minimal visual and aesthetic impacts on the Golden Gate Bridge.
- Be cost effective to construct and maintain.
- Not in and of itself create undue risk of injury to anyone who comes in contact with the suicide deterrent system.
- Must not prevent construction of a moveable median barrier on the Golden Gate Bridge.

On June 28, 2006, the Metropolitan Transportation Commission (MTC) passed a resolution providing \$1,850,000 towards preliminary engineering and environmental studies for this project. Additional funding was provided by the City and County of San Francisco, Marin County and several interested individuals and groups. That same day the District issued a Request for Proposals to engineering, planning and architectural firms for preliminary design and environmental studies of a physical suicide deterrent system on the Bridge.

On September 22, 2006, the Board authorized the hiring of a consultant and the commencement of preliminary design work and environmental studies for a physical suicide deterrent system on

the Bridge. The first phase of this effort was wind tunnel testing and analysis of generic physical suicide deterrent systems to study conceptual designs that would allow the Bridge to remain stable in strong winds. The results of the first phase were summarized in a report and presented to the Board's Building and Operating Committee at its May 24, 2007, meeting. The *Phase I Wind Studies Report* can be viewed or downloaded at the web link below:

<http://www.ggbsuicidebarrier.org/studydocuments.asp?area=sd>

The second phase began when the District issued a Notice of Preparation of an Environmental Impact Report/Environmental Assessment (EIR/EA) on June 14, 2007, formally commencing the environmental process. The results of the wind tunnel testing were used to develop five build alternatives which are analyzed alongside the no-build alternative in the Draft EIR/EA. Thirteen months after the Notice of Preparation, on July 8, 2008, the District issued the Draft EIR/EA for public comment.

### ***Draft EIR/EA***

Display advertisements noticing the release of the Draft EIR/EA and the public meetings were run in English, Spanish and Chinese in the *San Francisco Chronicle* (San Francisco Zones), and in English and Spanish in the *San Francisco Chronicle* (North Bay Zone). Display advertisements regarding the Draft EIR/EA and public meetings were also run in the *Marin Independent Journal*, *Santa Rosa Press Democrat*, *Napa Valley Register*, *Commuter Times*, *Ukiah Daily Journal*, *Contra Costa Times* and *San Jose Mercury News*.

Notices of Availability for the Draft EIR/EA also were mailed to interested individuals, organizations and agencies. Email notification was sent out to an "email blast" list of hundreds of individuals and organizations.

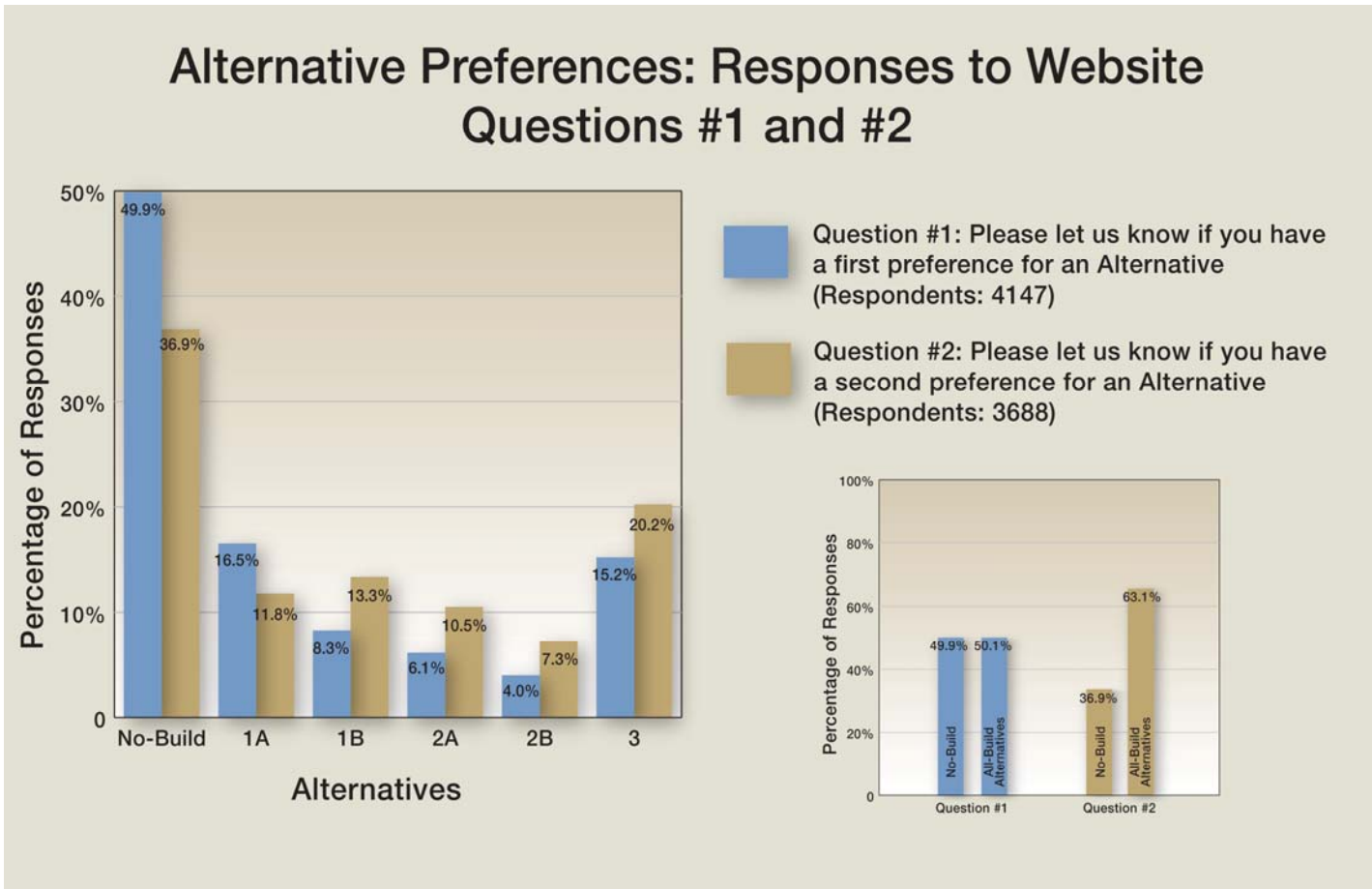
The District also received extensive media coverage regarding the project and the release of the Draft EIR/EA with numerous front page newspaper stories, plus radio and television news coverage.

The Draft EIR/EA was available online at the project website ([www.ggbsuicidebarrier.org](http://www.ggbsuicidebarrier.org)) in addition to being available at ten libraries in five surrounding counties. Also, copies of the Draft EIR/EA were provided to any individuals or organizations who requested a copy. Furthermore, a *Citizens' Guide to the Draft Environmental Impact Report/Environmental Assessment* was developed and disseminated which provided an overview of the project and key environmental considerations.

Public meetings regarding the Draft EIR/EA were held in Marin County and in San Francisco on July 22<sup>nd</sup> and 23<sup>rd</sup>, respectively. Approximately 125 members of the public attended the public meeting regarding the Draft EIR/EA in Marin, while approximately 100 attended the meeting in San Francisco.

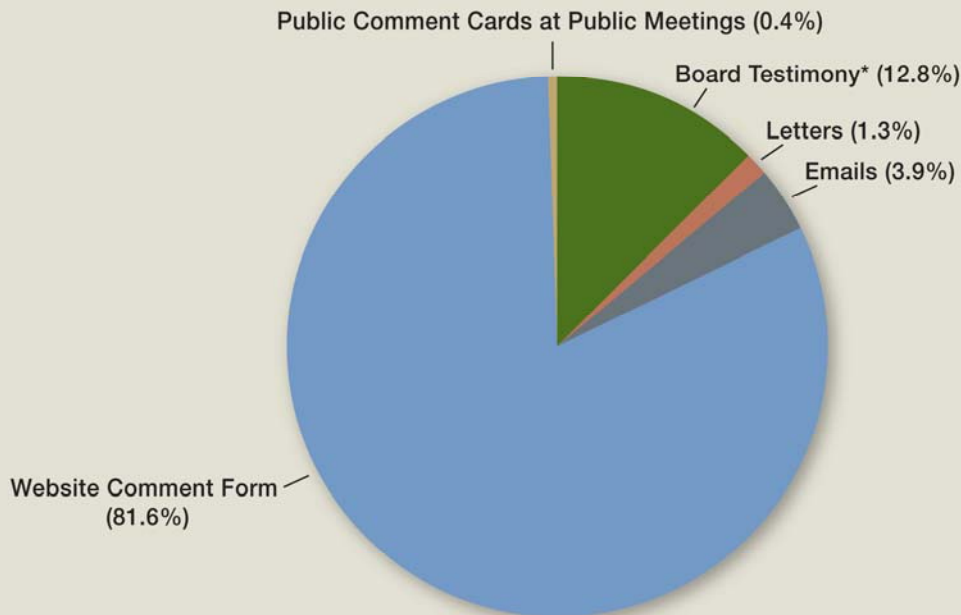
**Summary of Public Comments on the Draft EIR/EA**

In addition to the traditional means of soliciting public input, the District created an online survey which presented two questions soliciting preferences among the six alternatives (five build alternatives and the no-build alternative). In response to the survey, 4,147 answers were recorded online with approximately half of those answering favoring the no-build alternative as their first choice. The result of the online questions are depicted below:



In addition to the online survey, 3,458 separate individuals, organizations and agencies provided specific comments during the Draft EIR/EA public comment period. The vast majority of these comments, 81.6 percent, were submitted online via the project website by individuals who had also participated in the survey. Another 12.8 percent were received by means of testimony at Board meetings, the vast majority of which came via a petition with 440 signatures. The pie chart below shows the distribution of comment submittal methods.

## Distribution of Submittal Methods by Commenters

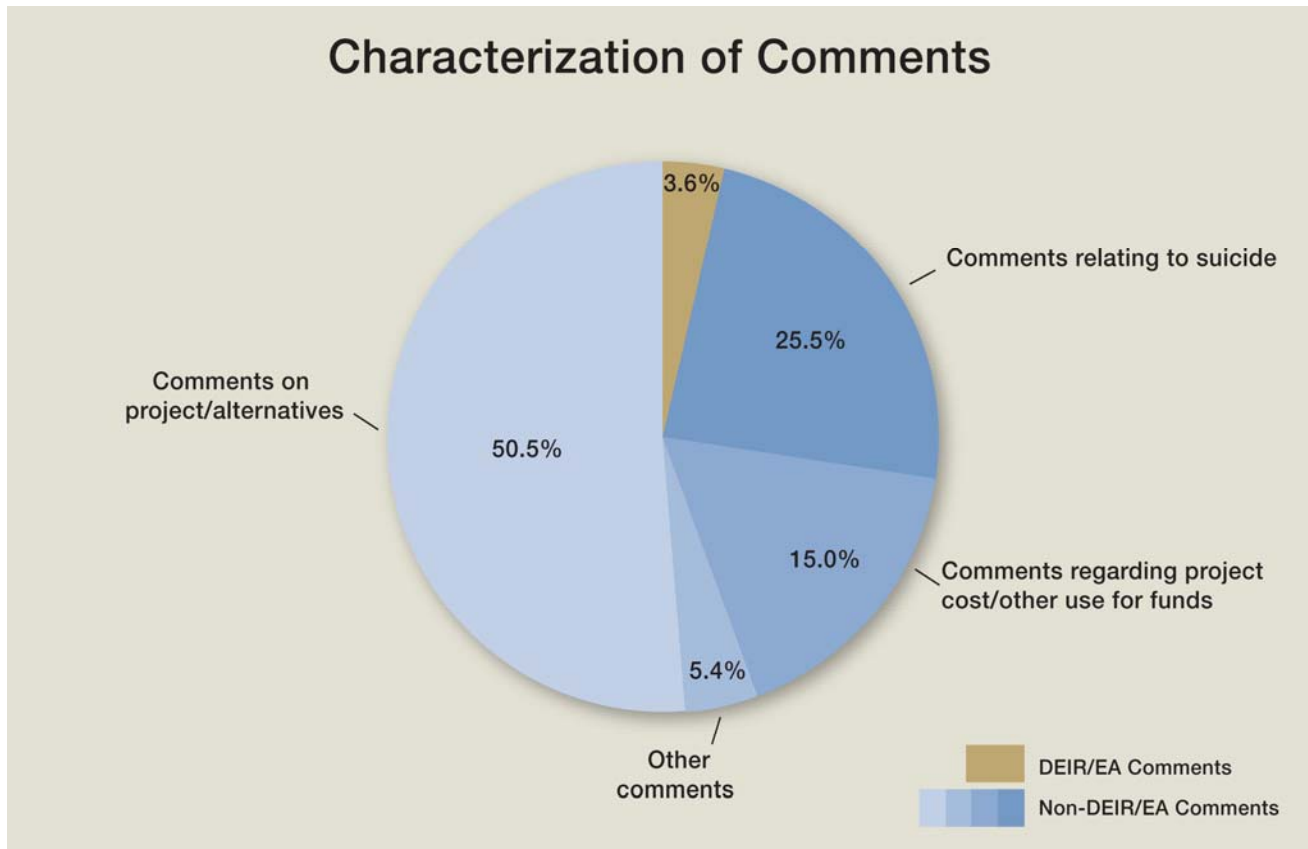


\*The majority of the Board Testimony was received in the form of a petition.

The 3,458 individuals, organizations and agencies provided 5,870 discrete comments.

- 1,497 comments were general comments about suicide. These comments typically either stated that individuals will commit suicide somewhere else if a barrier is built on the Bridge; or they stated that suicide is an impulsive act so a barrier on the Bridge will save lives.
- 2,965 comments pertained to project alternatives. These comments typically stated the reasons why the commenter liked or disliked a particular alternative, or they presented different ideas for alternatives.
- 878 comments pertained to the project cost or alternative uses for that sum of money. These comments typically either suggested that: the project funding should be redirected to mental health counseling; the expenditure of funds on this project was poor use of public funds; or, the project funding should be spent on the Moveable Median Barrier Project instead of being used to build a suicide deterrent.
- 212 comments pertained to the adequacy of the Draft EIR/EA. These comments, in general, stated that either the no-build alternative was not adequately considered, or that the commenter supported performing additional bird studies. A few of these comments addressed historic and cultural preservation issues.

The chart below depicts the distribution of the various types of comments.



The public comment period for the Draft EIR/EA formally closed on August 25, 2008.

#### ***Summary of Agency Comments on the Draft EIR/EA***

A total of nine public agencies submitted comments:

State Clearinghouse – The State Clearinghouse submitted a letter which stated that no state agencies submitted comments by the close of the review period.

San Francisco Planning Department – The Planning Department recommended expanding non-physical measures to deter suicides at the Bridge. The Planning Department also stated that if a build alternative is selected, it preferred the net, but recommends a detailed color study for the netting material.

San Francisco Bay Trail/Association of Bay Area Governments – According to the San Francisco Bay Trail, all of the build alternatives have negative impacts on the Bay Trail; Alternatives 1A, 1B, 2A and 2B have serious, unmitigateable visual, cultural, and recreational impacts and should not go forward. The net has the least egregious impacts to views and aesthetics from the Bridge. The San Francisco Bay Trail contends that project requires a Bay Conservation and Development Commission (BCDC) permit.

National Park Service, Golden Gate National Recreation Area (GGNRA) – Considering all factors, cultural, scenic and biological, the GGNRA supports Alternative 3, the net system.

BCDC – BCDC is concerned about the potential impacts that a suicide barrier may have on the appearance, design and scenic views of the Bay from the Bridge. Alternative 3, the net, and the no-build are the alternatives most consistent with the goals and objectives of BCDC’s regulations and Bay Plan. BCDC believes that the District must obtain a permit from BCDC before commencing any work.

California Highway Patrol (CHP) – The CHP has significant concerns with alternative 3, the net. CHP is concerned for individuals who fall into the net and about the safety of rescuers who would perform recovery of individuals who have landed in the net. CHP is also concerned about impacts to the flow of traffic on the Bridge resulting from incidents in the net and prefers other build alternatives to the net.

Marin County, Department of Public Works – Marin County expressed that pedestrian and bicycle access should be maintained during construction.

Marin Mental Health Board – The Marin Mental Health Board supports a sidewalk toll to offset the cost of suicide prevention. They believe that the Draft EIR does not consider an alternative that uses a transparent material and that the “true cost” of the no-build alternative is not disclosed in the Draft EIR. They also state that the net alternative is the most promising of the alternatives in the Draft EIR.

San Francisco Mental Health Board – The San Francisco Mental Health Board supports building a physical suicide deterrent on the Bridge.

### ***Operations, Maintenance and Emergency Response Impacts***

The introduction of any of the physical suicide deterrent system build alternatives will have an impact on Bridge maintenance and operations. These impacts can be mitigated through a combination of new equipment and staff resources. The purchase of the equipment can be included in the capital budget for the project, while the additional staff costs will require an increase to the annual operating budget.

The installation of taller railings will impact access to under-bridge maintenance activities. It will take longer for Bridge forces working at under-bridge locations to reach the work locations. The time it takes to put on a safety harness, unlock the gate, tie-off, climb or walk through the gate, and walk along the truss top chord to reach the outer scaffold location represents a decrease in productive time as compared to the existing situation. This decreased production corresponds to increased annual operating costs.

The combination of wind fairings with taller railings introduces an additional cost for those build alternatives with both features, because workers will be prevented from accessing the two of the four maintenance scaffolds from the west sidewalk and will need to use the east sidewalk as

opposed to the current situation. The east sidewalk is congested with pedestrians and bicycles, so the travel time to the work locations increases.

The net alternative requires additional staff resources each time the outer maintenance scaffolds are moved. The District will also need to periodically practice retrieval operations in order to be adequately prepared in the event someone were to jump into the net. Such periodic training has an associated operating cost as it results in lost productivity.

Transparent panels, winglets and the nets all introduce new cleaning requirements which require additional staff resources.

The annual cost of these operations and maintenance impacts, based on current salary and benefit rates for the specific job classifications impacted, are as follows:

Alternative 1A	\$465,589 per year
Alternative 1B	\$428,693 per year
Alternative 2A	\$465,589 per year
Alternative 2B	\$428,693 per year
Alternative 3	\$ 78,016 per year

The *Golden Gate Bridge Physical Suicide Deterrent System Operations, Maintenance and Emergency Response Report (Maintenance and Operations Report)* which provides a detailed discussion regarding these projected costs and is attached (Attachment 3).

Based on the findings in the *Maintenance and Operations Report*, the Director of Risk Management and Safety, the Bridge Manager and the District Engineer concur that among the build alternatives, Alternative 3's net system offers the least risk of injury to District employees.

### ***Additional Information***

1. There have been many studies performed and papers written on the effects of physical suicide deterrent systems. The Board requested a summary of relevant papers. In lieu of staff preparing summaries of published technical studies regarding this topic, staff has attached to this report opposing positions as put forth by various university professors.

Prof. Garrett Glasgow is a political science professor at UC Santa Barbara who believes that suicide barriers are not proven to save lives and has referred to the District's project as a suicide diversion project. Attached is his letter regarding the draft EIR/EA as well as a study that he prepared for Caltrans (referenced on page 2 of his letter). Prof. Glasgow offers evidence to support his argument; his paper cites numerous published papers regarding suicide (Attachment 4).

Prof. Anne Fleming and Prof. David Elkin are medical doctors and professors at UC San Francisco, School of Medicine, Department of Psychiatry, who vehemently disagree with Prof. Glasgow. Attached is their letter, which cites many of the same published papers cited by Prof. Glasgow, and rebuts Prof. Glasgow (Attachment 5).

These two sets of documents provide a summation of the technical studies regarding this matter as well as differing interpretations of these studies.

2. One of the Board criteria addresses compatibility of any physical suicide deterrent system with the proposed moveable median barrier on the Golden Gate Bridge. As a follow up to this criteria, it was requested that a photo simulation be prepared showing the moveable median barrier with a physical suicide deterrent. Attached are two photo simulations. The first shows the existing Bridge with the moveable median barrier; this represents the no-build and net alternative. The second photo simulation shows the moveable median barrier with alternative 1A (Attachment 6).
3. Our Attorney was requested to provide advice regarding any significant legal issues associated with both the no-build and the build alternative. With respect to the primary issues that may arise, he has counseled us as follows:
  - In *Milligan v. Golden Gate Bridge*, a published opinion of the California Court of Appeal, First Appellate District, the court upheld a lower court ruling that those who use the Bridge to take their lives fail to use the Bridge with due care for the purpose for which it was intended. Accordingly, the court held that the District is not liable for death or injury to any person who jumps off the Bridge to commit suicide and is under no legal obligation to erect a suicide deterrent.
  - If the Board decides to build a suicide deterrent, potential liability remains fundamentally unchanged. Although some might argue that by installing a "suicide deterrent," the District is assuming a duty to protect against injury or death to those jumping, neither federal or state law likely would support such a claim. Raising the railing or installing a net will not change the fact that anyone who jumps off the Bridge is not using the Bridge with due care for its intended purpose. Additionally, a design immunity defense should be available to the District if litigation arises challenging the sufficiency or adequacy of any of the build alternatives to deter suicides caused by jumping from the Bridge. Design immunity protects the District so long as the new railing or net design is a reasonable one, and the Board or the Chief Engineer approves that reasonable design before construction.
  - One area of potential risk relates to the potential for injury incurred by those attempting to rescue individuals who have climbed over a taller railing or jumped into the net. District employees injured in the course and scope of their employment while attempting to prevent suicidal acts will be entitled to coverage under workers' compensation. This is a risk the District has faced over a period of time based on existing conditions on the Bridge. Depending on the specific design solution and operating plan adopted for any build alternative selected by the Board, this particular risk could be exacerbated but would not fundamentally change. As those decisions are made, guidance will be provided concerning ground rules for rescuers as a means of mitigating that risk to the maximum extent possible.

*Next Steps*

At this juncture, the environmental process requires the selection of a Locally Preferred Alternative (LPA). The selection of the LPA will provide direction for: the preparation of written responses to comments; the negotiation and execution of a Memorandum of Agreement (MOA) to mitigate the adverse effects the LPA has on the historic property; and, the preparation of any additional required studies for the LPA (for example, evaluate the potential for bird collisions). The responses to comments, MOA and additional studies will be incorporated into the Final EIR and Findings of No Significant Impacts (FONSI), which is anticipated to be completed by April 2009.

The next steps after the selection of the LPA and the preparation of the Final EIR/FONSI are the release and certification of the Final EIR/FONSI and adoption of the project. Additionally, the Board will certify that the Final EIR complies with the California Environmental Quality Act (CEQA) and will make Findings and adopts a Statement of Overriding Considerations. Caltrans, as assigned by the Federal Highway Administration (FHWA), will issue a FONSI. However, this can only occur if the project is funded as demonstrated by the project's inclusion in MTC's fiscally constrained Transportation Improvement Program (TIP) or Regional Transportation Plan (RTP).

- Attachments:
- 1) The Alternatives
  - 2) Environmental Timeline
  - 3) Operations, Maintenance and Emergency Response Report
  - 4) Correspondence from Prof. Garrett Glasgow
  - 5) Correspondence from Prof. Anne Fleming and Prof. David Elkin
  - 6) Moveable Median Barrier rendering