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The Making and Un-Making of the San Francisco-Oakland Bay Bridge:
A Case in Megaproject Planning and Decisionmaking

by

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UNIVERSITY OF CALIFORNIA, BERKELEY

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Professor Martin Wachs, Chair

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Professor Paul Groth

Fall 2005

The Making and Un-Making of the San Francisco-Oakland Bay Bridge:
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by

Karen Trapenberg Frick

Abstract

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Karen Trapenberg Frick

Doctor of Philosophy in City and Regional Planning

University of California, Berkeley

Professor Martin Wachs, Chair

After over a decade of debate, construction of the San Francisco-Oakland Bay Bridge's eastern span finally began in 2002 at a current approximate cost estimate of \$6 billion. The intense and controversial debate ranged from whether the bridge should be seismically retrofitted or replaced, how it should be designed, where it should be located, and how it should be funded. Decisions on these issues provided fertile ground for a highly contested process as public agencies at every level of government and mobilized groups and citizens participated and significantly altered the decisionmaking process. The design process also signified a fundamental change in how state and regional agencies plan and manage projects of this magnitude. This dissertation provides a detailed history and analysis of the new span's state and regional decisionmaking processes.

To guide this case study of a major transportation infrastructure project (also known as a "megaproject"), the research questions addressed are: What are the key characteristics and issues of debate for a major infrastructure project, such as the new Bay Bridge, and

how do these impact policy decisions and project outcomes? These questions were designed to set the Bay Bridge case within a larger theoretical context while at the same time allowing the analysis to be of practical interest. This research contributes to the literature by knitting together the themes of megaproject planning, problem definition, agenda setting and policy implementation, as well as the “technological sublime,” which details how large scale projects capture the public’s attention and imagination. For the analysis, a megaproject typology and a conceptual framework focusing on megaproject characteristics and results are developed and applied to the Bay Bridge case. Lastly, several recurring themes throughout the bridge’s development process are examined, including substantial conflicts over the project’s purpose and definition; varying perceptions of crisis; and, disputes over accountability for cost overruns and delay that impeded the project’s implementation.

Chair

Date

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CHAPTER 1
THE BRIDGE'S MAKING AND UN-MAKING
AN INTRODUCTION

“The design of the proposed San Francisco bridge, described herein, is a project of such financial and technical importance as to deserve serious consideration, regardless of the probability of its proximate execution.”¹

This portrayal of the San Francisco-Oakland Bay Bridge was made in 1914, approximately twenty years before the original bridge's completion. These words resonate almost a century later for a new Bay Bridge whose future was uncertain due to financing and contracting difficulties during the project's implementation. The new Bay Bridge eastern span will replace the existing span which was damaged in the 1989 Loma Prieta earthquake. It also will change the landscape and the way we experience travel across the San Francisco Bay.

Public officials and the citizenry assume when a major infrastructure project begins construction that it will be completed, particularly a key transportation facility such as the Bay Bridge. However, the State of California halted construction in 2004 of the \$6 billion bridge when it faced a \$3 billion cost increase. The state then initiated a contentious debate over how to fund this increase. It also recommended that the bridge's design should be changed midstream from a “signature” self-anchored single tower suspension span to a viaduct span without a tower, even though the tower's foundation was under construction. Although later questioned and opposed by Bay Area officials among others, the state's reasoning was that a viaduct would be less expensive and would minimize contracting and financing risks as it is a standard bridge type in comparison to

the suspension design. The State and the Bay Area resolved the new East Span's design and funding in mid-2005. They agreed to allow the Bay Area to keep its signature tower design; however, Bay Area bridge tolls will increase by one dollar in 2007 to cover nearly eighty percent of the latest round of cost increases.

The process to select the bridge design that was in question signified a fundamental change in California's state and regional decision-making on one of the state's largest and most expensive transportation infrastructure projects. The new Bay Bridge's regional design process began in 1997 when the State of California asked the Bay Area's regional transportation planning agency, the Metropolitan Transportation Commission, to recommend a seismically safe and aesthetically pleasing bridge design for the new east span. Local, regional, and federal politics then collided over the design, location and funding of the approximate two mile eastern span. *The Los Angeles Times* observed,

“The bridge is no longer simply a structure that links two of Northern California's biggest cities, a traffic bottleneck, a slow means to an end. In the past 15 months, it has metamorphosed into a visual icon, a gift for the future, a chance to rescue a fragile environment, a landmark that will grace this graceful region into the next century and the one beyond.”²

Within the political drama were the technical, functional and aesthetic considerations of the design itself, which included:

- For seismic safety purposes, should the existing bridge be retrofitted or replaced?
- What should be the new bridge's design? How does the design incorporate signature features so that it could become a new Bay Area landmark and icon?

- What should be the alignment of the new bridge, particularly with respect to its termini on Yerba Buena Island and in Oakland?
- Should there be a rail line and pedestrian/bicycle pathway on the new bridge?
- How will the new bridge be funded?

The complexity of resolving these issues was exacerbated by the fact that no single agency had the authority to make key decisions independently. Rather, public agencies at every level of government, mobilized advocacy groups and interested citizens participated and significantly altered the decision-making process.

This dissertation provides a detailed history and analysis of the new bridge's planning process up to the conclusion of the project's environmental process in 2001 with the federal issuance of a Record of Decision. This end date for the dissertation's period of analysis was selected because the Record of Decision completed the planning/environmental process and allowed the bridge's construction to begin. The project's recent years also have had their share of controversy ranging from exorbitant cost increases, to a proposed reversal in the bridge's design, to a Federal Bureau of Information (FBI) investigation evaluating the structural integrity of constructed bridge segments. These events will be touched on briefly in a later chapter.

Analysis of the new bridge's planning process provides a case study of a major transportation infrastructure project (also known as "megaproject"). This research contributes to the literature by knitting together the themes of megaproject planning, problem definition, agenda setting, and policy implementation, as well as the "technological sublime," which details how large scale projects capture the public's attention and imagination. The dissertation's primary objective is to analyze the project's

political evolution in a regional setting by applying and integrating several bodies of literature and conducting a case study retrospective, which documents and examines the project's planning process.

This introductory chapter provides the research approach and methodology. Then, the following chapter reviews key findings from the megaprojects literature and introduces additional theoretical guideposts to ground the case's examination. Chapters 3 to 6 provide detailed discussion of the bridge's planning process, selection of the bridge's alignment, and advocacy efforts related to whether a pedestrian/bicycle pathway and rail should be provided on the new bridge. Chapter 7 summarizes the recent statewide debates on bridge design and funding the substantial cost increases. Chapter 8, the concluding chapter, ties together the theoretical perspectives, and provides observations about the overall bridge process.

Research Approach and Methodology

This dissertation uses the new Bay Bridge design process as a case study for understanding the development of large-scale transportation projects. The case study examines the complexity of developing a politically, financially and technically feasible bridge design. Case studies are a powerful tool for revealing the intricacies of an issue, process or project and relating them to theory. According to Yin, a case study approach is appropriate for understanding complex social, organizational and political phenomena.³ The Bay Bridge case is such an example because it provides a real-world laboratory in which to observe how numerous agencies, organizations, and individuals negotiated decisions in a highly political and fragmented environment. Yin also states that single case studies are appropriate if a case is: 1) testing a well-formulated theory, 2) extreme or

unique, 3) or revelatory.⁴ Following this typology, the Bay Bridge process is unique because the primary forum was a regional planning agency whose role to date had been transportation planning and funding. Prior to this project, the traditional forum was the state department of transportation, whose main responsibilities include the design, construction, maintenance, and operation of state-owned transportation facilities. This change in decision-making highlights a fundamental shift in infrastructure planning and design, and the process that ensued demonstrates that the transition can be fraught with political landmines and resistance from other layers of government and the public. Key project participants interviewed noted that MTC was selected as the main planning arena because the region was willing to pay additional funds for a signature bridge and it should have the authority to develop consensus within the region to select the design (see Chapter 3).

Case studies also may be significant and exemplary if the case(s) are of general public interest and/or the underlying issues are nationally important, either theoretically or practically.⁵ The Bay Bridge case is of general interest and nationally important from a theoretical and practical perspective. First, the new Bay Bridge is funded through a significant expenditure of public funds and that issue alone has become a focal point for policymakers, the public, and the media as the state and region have wrestled with bridge financing and cost overruns. Second, the bridge will provide a visible new landmark on the Bay, and understanding the motivations and development process that went into the design is of general interest. Third, the Bay Bridge case is of national importance because the federal government assisted in resolving a major dispute over the bridge's alignment and location on federally-owned land. Further, the federal government has

been improving its oversight of large-scale projects in response to federal transportation legislation and United States General Accountability Office reviews, and the Bay Bridge project is within its purview. Fourth, this case study blends together many theoretical constructs, and as a result, offers an additional approach to examining a major infrastructure project. Lastly, the Bay Bridge analysis is instructive for project sponsors, policymakers, and interested citizens nationally and abroad involved in large-scale projects.

The dissertation's primary research questions are: What are the key characteristics and issues of debate for a major infrastructure project, such as the new Bay Bridge, and how do these impact policy decisions and project outcomes? These questions were designed to set the Bay Bridge case within a larger theoretical context while at the same time allowing the analysis to be of practical interest. Literature on megaprojects, problem definition, agenda setting and implementation as well as the "technological sublime" provide frameworks for the analysis (see Chapter 2). To address these research questions, evidence was gathered through:

- analysis of bridge-related documents such as public agency reports and meeting memoranda; environmental documents; letters available in public agency files and public reports; news articles and media coverage, letters to the editor, and op/ed columns; and public meeting audiotapes and transcripts.
- in-depth personal interviews with over forty-five key participants, including officials at all levels of government and representatives of the environmental, bicycle and transit/rail advocacy groups, and the engineering/design communities.

Project-related correspondence, documents, and audiotapes provided background information, assisted in responding to the research questions, and used to compare to information gained from interviews. Much material is of public record and was available in public agency files and/or the Metropolitan Transportation Commission-Association of Bay Area Governments library. Some interviewees also made available their personal files for the research.

The interviews and project documents provided insight into the key actors' perceptions, motivations, and positions related to the bridge process. These sources created a better understanding of how individual participants characterized the issues and what their strategies were for influencing the process. Prior to the interviews, the research focused on understanding the key issues of debate and positions taken. Interviews were then conducted with participants who had different perspectives on the issues to compare statements and perspectives. A snowball effect with the interviews occurred in which respondents routinely recommended additional participants to interview. Respondents often suggested interviewees that held positions contrary to theirs, which assisted in gathering alternative views of the case. Lastly, interviews were conducted with the understanding that comments would not be attributed to interviewees by name, but to the organizational category or agency they represented such as state official or pathway supporter.

CHAPTER 2

A FIELD GUIDE TO MEGAPROJECTS:

A LITERATURE RETROSPECTIVE

A megaproject like the Bay Bridge develops its own center of gravity. It is like a black hole taking everything into it.
—observation made by a federal interviewee

Megaproject Characteristics and Typology

Major infrastructure projects by their very nature draw the attention of local officials, interest groups, and the general public, particularly as the projects undergo construction and citizens watch the project take shape with all of its heavy machinery, concrete and steel. This dissertation contributes to our understanding of these projects, which are also called “megaprojects” in the literature. The megaprojects literature to date reviews major public infrastructure projects nationally and internationally. Projects analyzed include public works projects ranging from transportation projects to dams to city facilities. This literature tends to focus on the public/political process, project delivery challenges, project uncertainty, and project financing, particularly with why project costs rise so significantly over initial cost estimates—all of which are important elements of the Bay Bridge project.¹ This literature does not have a unifying/underlying theory. Rather, it is an expanding set of journal articles and books that provide documentation and analysis of case studies. There are similarities, however, in what researchers are finding, particularly that megaprojects are extremely complex and difficult to deliver for political, technical, environmental, and financial reasons. As a result, there is much risk and uncertainty in project planning and implementation, particularly with respect to rising cost estimates and demand forecasting. Public

participation also has increasingly become an issue, due in part to formal public participation processes required by federal and state environmental and transportation law.²

With respect to transportation infrastructure, the megaprojects literature has focused on projects that offer capacity improvements or are major construction undertakings, such as new transportation facilities or facility reconstructions that significantly affect local areas. Projects with little capacity increases and without major local impacts have not been reviewed in detail, such as the new Bay Bridge's east span (whose capacity increases are a pedestrian/bicycle pathway and new shoulders, which are only provided on the new span). Projects such as the Bay Bridge also are important to evaluate because existing transportation facilities nationwide may need to be replaced and/or upgraded as they age. The new Bay Bridge is one of many such replacements being undertaken in the United States. According to the Federal Highway Administration, its Major Projects Office currently oversees approximately twenty active highway-related transportation projects. Half of the projects provide new facilities and the other half largely replace or reconstruct existing facilities.³ A nascent typology emerges when considering this range of transportation megaprojects, which has not been identified in the literature to date.

Projects may be categorized as follows:

- Expansion projects, which are major new facilities that provide for travel between destinations. Examples include new bridge and highway facilities such as Maryland's proposed Intercounty Connector limited access highway, Central Texas' 120-mile toll road as well as international projects such as the Great Belt Link suspension bridge and rail tunnel between East Denmark and continental

Europe; new airports such as the Denver Airport; and, new rail systems such as the Bay Area Rapid Transit (BART) and Portland's light rail systems.

- Reconstruction/Replacement projects, which replace existing infrastructure and/or improve facility operations, but do not add substantial new travel capacity. Project examples include the new Bay Bridge's east span, and the Marquette Interchange reconstruction in downtown Milwaukee.⁴
- Hybrid projects that combine expansion and replacement elements, such as Boston's Central Artery/Tunnel "Big Dig" project, the Washington D.C. area's Woodrow Wilson Bridge, and Denver, Colorado's Transportation Expansion Project (T-REX). Interestingly, in a case such as the Big Dig, a project may begin as a replacement project, but then evolve into a hybrid project because additional capacity increasing elements are approved during the planning process.⁵

Typical characteristics of transportation megaprojects also come to light in considering the megaprojects literature, particularly for expansion and hybrid-type projects. These characteristics are termed the "Six C's" for purposes of this dissertation, and reveal that megaprojects tend to be:

- *colossal* in size and scope whereby there is major facility expansion or reconstruction, which may be a new tunnel, bridge, airport or rail system. These projects are highly visible after construction starts and the public witnesses these monumental endeavors. Projects are often undertaken for economic development purposes, which increases the project's scope and necessitates substantial involvement and support from the business sector. Some projects also include

demolition of major structures that the new facilities will replace. Other projects may significantly alter an existing area to make way for the facility.

- *costly*, in which costs often are underestimated and increase over the life of the project. Megaprojects typically cost a minimum of \$250 million to \$1 billion. Federal transportation legislation, TEA-21, and the Federal Highway Administration initially defined \$1 billion as the minimum threshold. Recent federal transportation legislation, SAFETEA-LU of 2005, reduced the federal oversight level to \$500 million. Altshuler and Luberoff set the amount at \$250 million, but noted that project costs are often higher.⁶ For some areas, a project also may require a significant portion of its overall long-term transportation budget.
- *captivating* because of the project's size, engineering achievements, and possibly its aesthetic design. This trait is related to the characteristic of "colossal." However, the project's design and technical accomplishments may generate a sense of awe and wonder in the project beyond its size and scope. It also captures the imagination and attracts the attention of participants and observers who typically may not follow a transportation project, such as architects, developers, and the broader general public. Little attention has been devoted to this characteristic in the megaprojects literature; however, literature on the "technological sublime" often focuses on large scale infrastructure projects, as will be discussed.
- *controversial* as project participants negotiate funding and mitigation packages, engineering and aesthetic design plans, and pursue construction. Controversy may

brew in part because of a project's potential for displacement or negative impacts to existing business, residences, and the physical/built environment.

- *complex*, which breeds risk and uncertainty in terms of design, funding (as project costs are high and often are covered from numerous funding sources), and construction
- laden with *control* issues related to who the key decisionmakers are, what agency/agencies manage/operate the project, and who the main project funders are and what restrictions they put on it.

These characteristics are interrelated and evolve during megaproject development. In particular, megaprojects tend to be colossal and in turn become costly endeavors even under the best of circumstances. Since they are of a colossus nature and highly visible, they captivate a broader set of stakeholders and citizens who typically do not follow more standard transportation projects. In turn, these multifaceted projects become controversial because of the additional interests and the complexity associated with unpredictable issues due to risk and uncertainty with project funding, design and implementation. They also become controversial in terms of potential impacts to existing businesses, residences, and their adjacent surroundings. Control issues then arise from this generally described situation because numerous stakeholders with differing vested interests assert their perspectives into the process and attempt to steer the project's course.

From these interconnected characteristics, several results often follow. First, multiple public agencies and legislative bodies share project responsibility and/or have some approval authority over projects as individual agencies do not have the ability to

make decisions independently. This may result in the various bodies having competing and contentious interests over financing (in terms of who pays how much), design, and project control. (Private entities may also become involved such as financial institutions for bonding and insurance as well as contractors to design and construct the project, which requires acquiring necessary materials, equipment and labor.) Second, local jurisdictions, advocacy organizations or interested/affected members of the public become involved, take positions, and may seek changes to the design, particularly if a project has eminent domain elements or perceived negative impacts (such as increased noise and/or other environmental impacts). The media also play a role in covering issues as well as providing editorial positions. Third, time-consuming, lengthy processes are undertaken that often must endure changes in political leadership and public agency staffing as new administrations are elected. As a result, standard transportation project management and delivery processes do not work and must be adapted to address these needs. Fourth, technical experts, committees and studies are used to develop technical recommendations because of the complexity and risk associated with the project's design and implementation. These efforts may also be used to further the project or oppose it depending upon who commissions the studies or expert opinion. Fifth, various interests often compromise on project issues, which is critical to getting resolution and making project-related decisions. Project add-ons or design changes often are negotiated into projects to resolve some controversies. Altshuler and Luberoff refer to this as "do no harm" for mitigation measures or project changes that may compensate affected groups or reduce environmental impacts. Sixth, public distrust and skepticism in public agency

sponsors and/or project designs may develop as the public learns of project difficulties, such as cost overruns or construction-related complications.

The typology and related characteristics and results are illustrative of megaprojects' many facets, and provide a framework for evaluating specific cases and megaprojects in general. A replacement megaproject, such as the new Bay Bridge, shares many of the characteristics and results found in the megaprojects literature. The dissertation's analysis of the Bay Bridge case also will be supplemented with insights from the fields of problem definition, agenda setting, and program implementation, as well as the "technological sublime." These theoretical concepts assist in considering how projects rise to the attention of policymakers and highlighting how different project participants characterized the problem and potential solutions to it. This will provide a more robust examination of a project's evolution and whether particular project conceptions affected the process. Several themes prevalent in the Bay Bridge case will be highlighted using these concepts in Chapter 8. As a result, this dissertation will add to the megaprojects literature by broadening and connecting this body of work to other fields.

Problem Definition, Agenda Setting, and Policy Implementation

Literature in the fields of problem definition, agenda setting, and policy implementation may be used to better understand how a megaproject evolves from a kernel of an idea into a full blown, complex project. Problem definition is important, according to Schön, because "The ways in which we set social problems determine both the kinds of purposes and values we seek to realize, and the directions in which we seek solutions."⁷ Stone also notes that the policymaking is related to the "struggle over ideas...Ideas are at the center of all political conflict. Policy making, in turn, is a constant

struggle over the criteria of classification, the boundaries of categories, and the definition of ideals that guide the way people behave.”⁸ In the Bay Bridge process, different participants sought to define the problem and redraw the project’s boundaries to address issues beyond seismic safety. As discussed in Chapter 3, bridge participants generally felt that the bridge needed to be improved for seismic safety purposes; however, their perspectives differed vastly over whether the existing bridge should be retrofitted or replaced, and if replaced, what form the new bridge should take.

In considering how various actors frame the problem and the divergence of opinions that result over differing frames, Schön advises that “frame conflicts are often unresolvable by appeal to facts” and proponents of a particular frame “simply turn their attention to *different* facts. Further, when one is committed to a problem frame, it is almost always possible to reject facts, to question data (usually fuzzy, in any case), or to patch up one’s story so as to take account of new data without fundamental alteration of the story.”⁹ As will be seen, the theme of different actors holding competing frames and armed with different facts was prevalent in the Bay Bridge debates related to: the new bridge’s alignment, its seismic safety, considerations of bridge rail service accommodation and a pedestrian/bicycle pathway, and contested allocation of blame for cost overruns.

In addition to considering problem definition, it is useful to assess how and why problems rise to the attention of governmental agencies or legislative bodies. According to Kingdon, there must be significant general attention given to an issue at a particular time, and “policy windows” of opportunity open and allow these issues to gain access to the public agenda. Policy windows may be opened as a result of “focusing events,” such

as crises or disasters, which help to escalate problems to the public agenda by “focusing attention on a problem that was ‘already in the back of people’s minds’.” Focusing events may be related to natural and manmade disasters, such as earthquakes, hurricanes, nuclear power plant accidents, and oil spills.¹⁰ In the Bay Bridge case, two distinct types of focusing events repeatedly brought seismic safety and the bridge project to the public’s attention. First, several earthquakes caused significant damage to state transportation facilities and raised concerns over the infrastructure’s seismic safety in the event of future earthquakes.¹¹ Second, numerous financial crises occurred over how the state and the MTC region would fund the new Bay Bridge and state toll bridge program’s cost increases. Recognition of these focusing events serves two main purposes. First, concern over harm related to past and future earthquakes provided the impetus for the State of California and Caltrans to examine the seismic strength of transportation facilities and implement a retrofit program to address facility improvements. The Bay Bridge became one of several thousand projects undertaken in California, all with the seemingly straightforward goal of seismic safety. The projects were never meant to be much more than retrofit projects. However, as will be discussed, the Bay Bridge project took on a life of its own after the state’s decision to replace the existing bridge with a new structure. Second, the financial crises related to the bridge’s cost increases kept the project on the state and regional agenda and in a continual state of negotiation and flux. After the bridge’s main design decisions and initial funding resolution (with Senate Bill 60 of 1997), legislative attention could never wither away because project costs continued to increase. Over the course of nearly a decade, three different governors signed legislation to fund the increases and each governor optimistically remarked that past hurdles had

been overcome and the bridge project could move forward.¹² That was not the case, however, and contentious cost sharing arrangements had to be negotiated between the state legislature and the region several times.

If one side of the coin in policy analysis is problem definition, the other side is policy implementation. Problem definition affects implementation, and as Pressman and Wildavsky recommend, policymaking and implementation should be considered jointly so that policies are formulated to facilitate implementation. In a detailed study on federal economic development policy implementation at the local level in the City of Oakland, Pressman and Wildavsky found that some of the main impediments to implementing federal policy were: 1) policymakers' lack of recognition during the policy formulation stages to the difficulty of implementing the program's day-to-day "technical details" and 2) the "complexity of joint action" in which various stakeholders must work together to move the program forward. To demonstrate the complexity of joint action, the researchers documented the excessive fragmentation of government into numerous federal and local entities who needed to participate or approve program components. They presented a corresponding "anatomy of delay" in which participating entities perceive different levels of urgency over a particular issue. Some participants thought the matter was of utmost importance and devoted attention to it, while others did not hold it in the same regard, and contributed to delaying program implementation.¹³ The need for joint action and participants' perceptions of urgency and delay also are relevant in the Bay Bridge case as several entities were involved in the process and many held differing conceptions about the project's urgency, although nearly all stated that they did not want to delay or be blamed for project delay when advocating their positions.

Other authors also have observed the high level of government fragmentation in planning and policy settings.¹⁴ Yates uses the term “horizontal” fragmentation to explain the partitioning of responsibilities between different local agencies. “Vertical fragmentation” is the hierarchy of responsibilities between the federal, state, and local levels.¹⁵ Horizontal and vertical levels of fragmentation are present in the Bay Bridge case as all levels of government were actively involved in the project. As a result, the highly fragmented governance structure surrounding a megaproject’s development shapes the decision-making process and the forum in which various agencies and participants become involved and express positions related to project definition and program goals. The bridge case provides a high profile test bed for transportation planning and megaproject decision-making at the regional level by MTC. As will be seen, this case demonstrates what occurs in practice when a regional transportation planning agency is charged with developing and implementing an infrastructure project, rather than a plan which is typically its mission.

The Technological Sublime

Part and parcel with the issues discussed above, a key aspect of the bridge process and problem definition revolved around the new bridge rhetoric related to creating a “signature” bridge — a bridge that signifies the technological and aesthetic triumph of the region over the San Francisco Bay, a geologically complicated body of water. The debate became infused with notions of designing a bridge that is different. Not a bridge “that could be anywhere,” according to Oakland Mayor Jerry Brown, but a bridge that

should be “a spectacular structure that expresses the daring of human ingenuity and symbolizes the splendor of Oakland and the East Bay.”¹⁶

This daring ingenuity spoke to the interest in some, but not all, to create a sublime new geographic landmark in the bay. The concept of the technological sublime provides a tool for understanding some of the motivations and rhetoric of political leaders and participants to advocate for such a landmark. It also may prove useful to other researchers examining major infrastructure projects who seek to interpret underlying motivations in the design and implementation of major infrastructure projects/megaprojects as this concept has not been addressed in detail in the megaprojects literature.

The notion of technological sublime can be found in the work of historians Leo Marx and David Nye.¹⁷ Leo Marx labels America’s fascination with technological advances of the 19th century as the “rhetoric of the technological sublime” in which language was used, particularly in literature and public speeches, to convey a sense of the United States’ unlimited potential in the area of progress. According to Marx, democracy fueled American pursuits of new technology and inventions because it “...invites every man to enhance his own comfort and status. To the citizen of democracy inventions are vehicles for the pursuit of happiness.”¹⁸ With respect to transportation technology, Leo Marx comments, “To look at a steamboat...is to *see* the sublime progress of the race. Variations on the theme are endless; only the slightest suggestion is needed to elevate a machine into a ‘type’ of progress”.¹⁹

Following in the work of Marx, historian David Nye traces the technological sublime in the United States by examining the impact that railroads, skyscrapers, bridges, and electricity had on the American psyche in the 19th and early 20th centuries. These

major infrastructure projects used new technological means never seen before to achieve an end, be it faster travel or traversing over difficult geographic territory. According to Nye, America's fascination with technology and major public works is connected to the "sublime", an 18th century aesthetic notion that was developed in literary and artistic works about nature, particularly western natural landscapes such as the Grand Canyon, Yellowstone and Yosemite. He states "[the sublime] is about repeated experiences of awe and wonder, often tinged with an element of terror, which people have had when confronted with particular natural sites, architectural forms and technological achievements." From the 19th century to the present, advances in technology have been able to conquer nature and cause both fascination and terror in its viewers. He equates new technologies with national destiny "just as the natural sublime once undergirded the rhetoric of manifest destiny."²⁰ Related to this perception of destiny, one of the first American experiences of technological sublime was through the western expansion of the railroads that "dramatized the unfolding of a national destiny."²¹

The Bay Bridge, existing and proposed, as well as the Golden Gate Bridge are similar in perception to other major infrastructure works that have changed the landscape, such as the Hoover Dam, "the World's Greatest Engineering Project" as labeled by the City of Las Vegas. According to Rothman, Las Vegas "...have exalted their accomplishments of their culture, embracing the conquest of nature by industry and technology."²² Similarly, Trachtenberg claims that the Brooklyn Bridge "...was an American version of man's continuing victory over nature, 'a trophy of triumph over an obstacle of Nature'".²³ The rhetoric of the technological sublime is not new to the Bay Bridge as similar thoughts were voiced in 1936 with the original bridge's grand opening:

“This day marks a great day not only in the history of San Francisco, the Bay communities, and the entire West, but also the whole world. For, in the opinion of experts, it marks the completion of an engineering epic that will stand unsurpassed for the next thousand years.”²⁴

Marx and Nye recognize that the technological sublime exists in other countries, but they believe its formation in the United States took on an accelerated meaning of national destiny and symbol of American technological advancement. This is due in part, according to Marx, because “the raw landscape is an ideal setting for technological progress... [and] In America, progress is a kind of explosion.”²⁵ However, Nye acknowledges, “Despite its power, the technological sublime always implies its own rapid obsolescence, making room for the wonders of the next generation.”²⁶ As a result, obsolescence fuels the development of new technologies to accomplish an even greater technological achievement. This idea of progress creates a political dimension that can capture the imagination of political leaders and the public. This aspect of the technological sublime is critical to note for major infrastructure projects because it is not just a psychological response to a major technological achievement, but a political tool which can be used to bolster position statements, increase public awareness and/or fulfill personal interests. In turn, these motivations may shape the design and outcome of a project. This political dimension of the technological sublime is not specifically addressed in the megaprojects literature and it is a goal of this dissertation to bring the two concepts together as it relates to the new Bay Bridge.

In a sense, the technological sublime contributes to our understanding of major infrastructure projects because of its political, aesthetic, and functional implications. It adds a personal dimension to megaproject design and implementation. In the dissertation,

the concept of technological sublime is used to examine the debates that centered on bridge aesthetics and how the design process and outcome was shaped as a result. This aspect of the case will be addressed through documenting participants' motivations for developing a landmark bridge design that could become a symbol of progress in bridge engineering and/or provide an East Bay gateway.

Concluding Remarks

After over a decade of statewide and regional debate, construction of the Bay Bridge's eastern span finally began in 2002. The intense and controversial debate ranged from whether the bridge should be retrofitted or replaced, how it should be designed, where it should be located, and how it should be funded. Decisions on these issues provided fertile ground for a highly contested process. To understand how the stage was set for the project, the literatures on megaprojects, problem definition, agenda setting and policy implementation, as well as the technological sublime are needed. Knitting together these fields allows for a fuller assessment of the Bay Bridge case's complexity and nuances. The megaprojects literature provides background on the characteristics and complications that arise during large-scale project delivery. This literature has evolved in recent years because of researchers' and practitioners' concerns over the limited dollars available to fund projects, increased interest in the environmental and social effects of projects, and the fragmentation of governmental authority dispersed across national, state, regional, and local lines. Literature related to problem definition, agenda setting, and policy implementation allows consideration of how different entities characterize the project, its level of urgency, and how these elements affect the project's design and development. Finally, the concept of the technological sublime reveals a potentially key

motivating factor or, at a minimum, allows for a rhetoric of pithy sound bites that resonates with the imagination of policymakers, the general public and the media. By combining these fields, the Bay Bridge case study contributes to each field individually as well as advances researchers and practitioners' understanding of how a major infrastructure project evolves in a fragmented and regional decision-making environment.

CHAPTER 3

ALL ROADS LEAD TO A NEW BRIDGE

It all boils down to two words: project definition. The multi-year controversy surrounding the design of the new Bay Bridge's east span is rooted in how the state and regional agency defined the project and how many others in the region agitated to have it redefined and broadened. Caltrans unequivocally states in most documents related to the bridge project's purpose that it is fundamentally about seismic safety. At the beginning of a public presentation, Denis Mulligan of Caltrans clearly stated,

“I always like to point out why we're doing this project. The San Francisco Oakland Bay Bridge East Span Seismic Safety Project is not a project designed to remove an ugly bridge from the Bay or a project designed to interfere with someone's economic development. It is a public safety project. The Bay Bridge was damaged in the Loma Prieta Earthquake in 1989.”¹

During the Loma Prieta earthquake of 1989, a portion of the eastern Bay Bridge's upper deck collapsed at Pier E9 (see Exhibit 3-1). While the bridge was repaired, it was closed for four weeks and transbay travelers used other means to commute across the Bay, such as BART rail service and ferries, or other Bay bridges.² The earthquake also resulted in the failure and collapse of numerous other transportation facilities, including the Cypress Freeway (I-880) in Oakland, and the Embarcadero and Central freeways in San Francisco, as well 62 deaths, the destruction of 1,300 buildings, and damage to 20,000 more.³ According to Caltrans, the cost of increased delay due to the Bay Bridge's closure and the resultant rerouting of transbay travelers was approximately \$12 million.^{4, 5}

The 1989 earthquake's magnitude was 7.1 on the Richter scale, and the epicenter was approximately 60 miles (97 kilometers) away from the Bay Bridge. With the Bay Area's Hayward and San Andreas faults located much closer to the bridge, energy from an MCE of magnitude 8 (Richter scale) on the San Andreas fault could be thirty times that of the Loma Prieta earthquake. Energy generated from an MCE on the Hayward fault of magnitude 7.25 could be of a level similar to the Loma Prieta earthquake.⁶ As a result of the faults located in such close proximity and the United States Geological Service estimating a 70% chance of a 6.7 or greater magnitude earthquake by 2030,⁷ "...the risk is real!" exclaimed Mulligan (see Exhibit 3-2).⁸ Caltrans further states,

"On the existing SFOBB East Span, an MCE could cause catastrophic bridge failure, potentially resulting in numerous immediate casualties and requiring many months to reopen the bridge or years to build a replacement. Immediate emergency response and more long-term economic recovery would be delayed."⁹

More broadly, Caltrans commented that a maximum credible earthquake in the Bay Area could cause substantial damage greater than the Loma Prieta earthquake, and that major emergency response services and access to the Bay Bridge would be required.¹⁰

This chapter focuses on the state and regional recommendations to make the Bay Bridge seismically safe during a major earthquake. First, background on the Bay Bridge corridor and its physical structure are provided. Then, the state of California's process is discussed in which the state decided to replace the eastern span with a new structure. Next, the regional process to select the new bridge's design is reviewed. The chapter concludes with observations about these two processes and draws heavily on results of interviews conducted with several participants in both processes. The chapters that follow provide in-depth discussions of the debates and advocacy efforts related to whether the

new bridge should: 1) be located north or south of the existing bridge, 2) have a pedestrian/bicycle pathway, and 3) have the capability to provide rail service.

Background on the Bay Bridge

The Bay Bridge was completed in 1936 at a cost of \$77 million. According to Caltrans, the bridge was at the time of its opening:

“the greatest bridge in the world for its cost, length, quantities of steel and concrete, weight, depth, and number of piers, the size of the bore of the tunnel on YBI, and the versatility of its engineering. Seven of its piers were deeper than any others in the world. New technologies were created to construct the foundations. The submarine work was the greatest underwater engineering task ever undertaken. The steel for the superstructure was said to constitute the largest steel order ever placed.”¹¹

As such, the bridge and its related buildings, including the Transbay Terminal, are listed on the National Register of Historic Places.¹² It consists of: a West Span between San Francisco and Yerba Buena Island (YBI), a tunnel through Yerba Buena Island, and an East Span between the island and the Oakland shore (see Exhibit 3-3).¹³ The Transbay Terminal and other related-buildings also were built to support the bridge’s operations.¹⁴ The bridge is a double-deck structure and currently has ten vehicle lanes (five lanes for westbound traffic on the upper deck and five lanes for eastbound traffic on the lower deck). Travelers on the upper deck have unrestricted views of the Bay and San Francisco, while travelers on the darker lower deck proceed to the East Bay with restricted views. The total bridge length including approaches is 8.25 miles. Prior to the late 1950’s, the bridge had six lanes of auto traffic (three lanes in each direction) on its upper deck, and three truck lanes and two rail lanes on its lower deck (see Exhibit 3-4).¹⁵ The bridge was reconfigured to its current lane arrangement after rail service was terminated in 1958.¹⁶

Round-trip tolls are collected at a toll plaza for westbound vehicles traveling to San Francisco. The toll level during the East Span design process was \$1.00 for single-occupant automobiles, and carpools with three or more persons could cross the bridge toll-free during peak commute periods through carpool bypass lanes.¹⁷

The Bay Bridge is a highly congested facility that operates at capacity during the morning and evening weekday peak travel periods. Approximately 288,000 vehicle trips and 590,200 person trips are made on an average weekday across the bridge (see Table 3-1). The bridge also is well used on weekends with approximately 293,000 vehicle trips on an average Saturday and 262,000 trips on an average Sunday. Transit service is provided in the bridge corridor through the Bay Area Rapid Transit District (BART) rail system, AC Transit transbay buses, and ferries (through Vallejo BayLink, Oakland/Alameda or Harbor Bay/Alameda services). Bicycle access also is provided through a Caltrans-operated shuttle that runs between MacArthur BART and San Francisco's Transbay Terminal and access on AC Transit buses and ferries (see Chapter 5 for how the bicycling community vigorously advocated for additional bridge access).¹⁸

Table 3-1

Bay Bridge Corridor: Distribution of
Average Weekday Person Trips

Travel Mode	Number of Person Trips	Percent of Total
Single-occupant vehicles	204,100	34%
Carpool		
<i>Two or more occupants</i>	69,000	12%
<i>Three or more occupants</i>	136,300	23%
Carpool subtotal	205,300	35%
Transit		31%
<i>BART rail</i>	106,700	27%
<i>AC Transit buses</i>	15,200	3%
<i>Ferries</i>	4,900	1%
Transit subtotal	126,800	31%
Total Trips	590,200	100%

Source: Metropolitan Transportation Commission,
San Francisco Bay Crossings Study, July 2002, 10-11.

In general terms, the East Span is approximately two miles in length and has three main sections: 1) a cantilever section located adjacent to Yerba Buena Island (with a center span of 427 meters or 1,400 feet each), 2) an overhead truss system east of the cantilever portion (five spans of 154 meters or 504 feet each), and 3) a deck truss system similar to a viaduct (fourteen spans of 89 meters or 288 feet each) (see Exhibit 3-5). For the cantilever section, three of the four piers either hit bedrock or have sunken caisson foundations. Remarkably, one of the piers (Pier E3) is suspended above bedrock at about 70 feet (21 meters) from the bottom of the caisson. For the overhead and deck truss system's foundations, Douglas Fir timbers are used to provide support and were installed

by cofferdams that were left in place, filled in with concrete, and “much larger than required to actually support the bridge.” These foundations are four stories tall and “the footprint of these massive concrete foundations is generally larger than a basketball court,” as commented in a Caltrans report.¹⁹ The structure of the span is a function of the Bay’s topography and geology. The cantilever span allows the bridge to cross a deep water shipping channel, and the truss systems allow for the bridge to traverse an area of the Bay with soft soils and mud. Bedrock along the bridge’s length is not found until at least three hundred feet (91 meters) below the waterline near YBI to almost 440 feet (134 meters) near the Oakland shore (see Exhibit 3-6). As a result of the bridge’s existing structure and the Bay’s geology, Caltrans and the State of California’s pursuit of seismically upgrading the facility and funding the project evolved into a complex endeavor, as described below.

Caltrans Wrestles with the East Span’s Seismic Retrofit

The seismic strengthening of California’s bridges and overpasses became a major state transportation priority, particularly after the 1989 Loma Prieta and Los Angeles’ 1994 Northridge earthquakes.²⁰ The Bay Bridge East Span project became one of several thousand state seismic retrofit projects. It also was the most expensive and difficult to design both technically and politically, as discussed below. The Bay Bridge project is part of a four-part seismic retrofit program:

- 1) Phase 1, which consists of 1,039 state-owned bridges most urgently needing retrofit at a cost of approximately \$1 billion
- 2) Phase 2, which consists of 1,155 additional state-owned bridges that needed retrofit at a cost of \$1.35 billion

- 3) a state-owned toll bridges program, including seven of the nine state-owned toll bridges needing retrofit, which consists of the Bay Bridge, at a total estimated cost in 2001 of \$4.6 billion²¹
- 4) a locally-owned bridges program, which consists of at least 1,204 local bridges at a highly variable estimated cost of \$840 million.^{22, 23}

After the Loma Prieta earthquake, the Seismic Advisory Board (SAB) was established in 1990 to advise Caltrans on the retrofit program. It originally consisted of nine outside technical experts, many of whom were professors at the University of California. Caltrans later established a Toll Bridge Seismic Safety Review Panel in 1994 at the recommendation of the SAB to have a group dedicated to advising solely on retrofitting state-owned toll bridges. From 1990 to 1995, Caltrans commissioned numerous university studies to examine and develop retrofit strategies for the toll bridges. In particular, Caltrans contracted with Professor Abolhassan Astaneh-Asl with the University of California, Berkeley's Department of Civil Engineering to conduct laboratory testing and analyses of the East Span. According to Caltrans, "The reports (by Professor Astaneh-Asl) provided insight for development of retrofit strategies for elements of the bridge. However, none of the reports studied bridge design or foundation design."²⁴

By 1996, Caltrans had developed a retrofit strategy for the East Span in which plans, specifications and estimates (PS&E) were 65% to 95% complete.²⁵ Given the bridge's physical design and the Bay's geology, Caltrans recommended, "(T)he most appropriate and economic retrofit strategy would be to strengthen the foundations (piles and pile cap connections), stiffen the towers, isolate the superstructure and strengthen

many superstructure members.”²⁶ Within this strategy, two additional towers would be added to the bridge’s cantilever section and the original steel towers would be jacketed in concrete. The purpose was to stiffen the towers, but it would result in a heftier tower appearance. Further, steel trusses would be added to the outside of the cantilever portion, which could result in a darker lower deck with diminished views for motorists traveling eastbound.²⁷ Caltrans intended for these actions to result in a bridge that would not collapse during a maximum credible earthquake. However, it noted, “Even with these modifications, the bridge would still experience substantial damage in the event of a(n) MCE...”²⁸ A 1997 Caltrans staff document indicated that after an MCE, limited public access would be available within one month, six lanes would be open in six months, and all lanes would be open within one year.²⁹ However, if the bridge was not repairable, it could be closed more than one year if it had to be replaced.³⁰ This retrofit would occur while the bridge was open for travel and would result in numerous lane closures during non-commute hours, with work occurring in close proximity to moving traffic. Caltrans was concerned about the resulting traffic impacts from these lane closures and the compromised safety of construction crews and equipment located so close to traveling vehicles. Due to the complexity of staging the construction with lane closures, Caltrans estimated that the retrofit project would take six years to complete.³¹ The retrofitted bridge’s life expectancy was generally estimated to be fifty years.³²

As these retrofit strategies were progressing, Caltrans and the state Legislature pursued funding the implementation of the state’s transportation retrofit program. Proposition 192 was authorized by SB 146 (Maddy) in July 1995 and approved by the voters on March 26, 1996.³³ It provided \$2 billion in general obligation bonds to finance

a portion of the state's seismic retrofit program (\$650 million for the state-owned toll bridges and \$1.4 billion for the Phase 2 state bridge program). At the time of SB 146's development, the legislative intent was that the \$2 billion from the proposition would cover the funding needed for the state's toll bridge and Phase 2 programs. Passage of the proposition would resolve the intense battle among legislators on how to fund the program. Legislators were concerned about whether funds given to retrofit projects would delay other non-retrofit projects in their districts. However, to the shock and dismay of many, Caltrans released new information about two months prior to the proposition going before the voters that the cost to retrofit the Bay Bridge had climbed from \$250 million to over \$1 billion for both spans, and that the overall toll bridge program had risen to between \$1.7 and \$2 billion.³⁴ The Bay Bridge's cost increase was due to the complexity of retrofitting the East Span in part because Caltrans had discovered through geotechnical testing of the Bay that it would need to sink the bridge's pilings deeper into bedrock because the bedrock's upper layers were fractured.³⁵

As a result, Proposition 192 fell short by about \$1.4 billion to fund the state toll bridge program (as the proposition provided \$650 million and the new total toll bridge estimate was about \$2 billion). This information renewed legislative debate on how to fund the increased costs between the Bay Area and the rest of the state of California. The Bay Area argued that state funds should cover the costs since the bridges are state facilities. Other regions advocated that toll revenues from the existing toll or a toll increase could fund the deficit rather than state funds that would otherwise be available for other state transportation projects. As part of the debate, the Bay Bridge Congestion Pricing Task Force, a group of business and environmental organizations as well as

MTC, advocated that the Bay Bridge's cost increases should be covered in part by increasing the bridge toll during peak commute hours. This would in effect "kill two birds with one stone" by raising needed retrofit revenues and reducing bridge traffic congestion. This proposal was later defeated because some legislative leaders were not supportive of congestion pricing and others were concerned about introducing a controversial funding mechanism into the already contentious debate on the toll bridge's cost increases.

At this time, the public also learned that Caltrans was considering whether the Bay Bridge's eastern span should be replaced as the retrofit project was becoming quite costly. Caltrans wrote in its 1996 annual seismic report to the state Legislature,

"The Department is exploring the cost effectiveness of an option to build a replacement structure...(for the East Span). At some point it may become both cost effective and efficient to have a modern bridge, fully designed and built to the best standards rather than a bridge with a patchwork of retrofits."³⁶

Of this news, former Senator Quentin Kopp, then-chairman of the Senate Transportation Committee, commented,

"I'd probably prefer replacement—amputate the infected portion and replace it with a clean structure. Repair is usually more expensive with complicated structures like the Bay Bridge. Repair is also time-consuming. And replacement reduces maintenance over time."³⁷

To assist in the state's decision-making process, Caltrans undertook three key analyses in 1996.³⁸ The first study was a conceptual design/construction cost estimate study, and the other two were intended to be cost-benefit/economic and lifecycle analyses of retrofit and replacement options. The first study, by Caltrans' Office of Structure Design, provided cost estimates and conceptual design alternatives for a replacement

structure. It developed seven alternatives that ranged from cable-stayed spans connected to concrete and steel viaducts, to a viaduct design for the bridge's full length. It even looked at adding two additional lanes to the East Span, thereby increasing lane capacity from ten to twelve lanes. A few of the alternatives considered building the new bridge as a double deck facility similar to the existing structure, and other alternatives used side-by-side decks. In addition, two ten-foot shoulders were regularly added to these structures to comply with current highway standards because the existing bridge does not have shoulders. The study estimated that the replacement cost for these alternatives ranged from \$900 million to \$1.4 billion depending upon the bridge type and alignment among other factors. Other conceptual alternatives were developed, but cost figures were not presented. These included viaduct structures with arches above or below the bridge decks near Yerba Buena Island, a suspension design connected to a viaduct, and remarkably even a viaduct with an observation tower, elevator, and stairs (see Exhibit 3-7).³⁹ In addition, a pedestrian/bicycle pathway on both sides of the bridge and pedestrian lookout areas were shown in some examples. The issue of the bridge's appearance was clearly on the mind of the report's analysts as the study recommended,

“Given the location of this bridge, aesthetics must be respected in the consideration of type selection. A cable-stayed bridge has been identified as an appropriate candidate for this site. Alignment selection can be recognized as coupled with type selection to allow greater opportunity to view the cable-stayed portion of the bridge.”⁴⁰

This was the first published Caltrans analysis that showed a low-cost bridge replacement was generally comparable in expense to a bridge retrofit.

The second study was a value analysis completed by a consulting firm, Ventry Engineering. Various options for replacing the bridge were reviewed and the study had a peer review panel of bridge experts participate in the study. A key study goal was to seek assistance outside of Caltrans on replacement versus retrofit. In the end, the main recommendation was,

“Ultimately, the teams considered a variety of factors and alternatives and have concluded based upon aesthetics, constructability, traffic considerations, scheduling, cost issues, public risk, environmental and permitting durations that replacement of the existing structure is *not only feasible, but the most prudent approach* for the final seismic retrofit strategy.” (emphasis included in report text)⁴¹

For the East Span’s replacement, the study recommended an asymmetrical cable-stay bridge (with a 700 foot back span and 1100 foot main span and with 650 foot twin towers) near Yerba Buena Island connected to viaduct structure for the rest of the bridge (see Exhibit 3-8). This bridge also included a bike lane on the East Span only, upgraded travel lanes to the standard width of twelve feet on two parallel bridge decks, ten-foot shoulders, and new Yerba Buena Island tow truck facilities, none of which the existing bridge provides. A recommendation was also made that if the bridge’s number of travel lanes did not increase, then reversible lane operations should be evaluated, otherwise “it would be short sighted to not fully investigate this means of cost effectively providing additional traffic capacity,” commented the report’s authors.⁴² Further, the possibility of rail was studied and considered infeasible due to cost and technical difficulties.⁴³ With respect to cost analyses, the study estimated capital expenditures as follows: the recommended bridge with the bicycle lane and tow facilities would cost approximately \$924 million, a base case bridge facility without the bicycle lane and tow facilities would

cost \$797 million, and retrofitting the existing bridge would cost \$842 million.⁴⁴ The study then calculated maintenance⁴⁵ and “highway user costs” on a 25-year lifecycle, which attributed cost figures to accidents, construction traffic delays as well as traffic delays from providing future deck repair/improvements to the existing bridge. Costs rose to \$1.13 billion for the recommended bridge, \$1 billion for the base case new bridge, and \$1.227 billion for a bridge retrofit. Based on these cost estimates (in which the replacement bridges cost less than a retrofitted bridge) as well as assertions that a new bridge would offer better seismic performance and have less maintenance and post earthquake repair costs than a retrofitted existing bridge, the study concluded that the state should pursue a replacement bridge. In so doing, the report’s authors cautioned that “the public announcement should be well planned with specific details and actual facts of the decision” and that the state should,

“(a)pproach this as a positive result of the efforts put forth; the facts are Caltrans endeavors in this matter are beyond reproach and CANNOT be criticized. These facts are further borne out by the unanimous recommendation of third party individuals involved in various recommendations” (emphasis included in report text).⁴⁶

The third study was conducted by Dr. Brian Maroney of Caltrans in December 1996 who later became Caltrans’ chief engineer on the East Span replacement project. In this report, Dr. Maroney provided two key recommendations: 1) an interim bridge retrofit should be undertaken to avoid bridge collapse in a seismic event that was less than a maximum credible earthquake while the state determined whether to retrofit or replace the bridge, and 2) a new bridge replacement for the eastern span should be pursued.⁴⁷ The latter recommendation was based on a lifecycle cost analysis. Dr. Maroney estimated construction and lifecycle costs for a concrete viaduct bridge replacement and a bridge

retrofit. The base construction costs were \$915 million for the bridge retrofit and \$1.167 billion for a new bridge. The retrofit project's cost was 78 percent of the replacement cost. The analysis then included lifecycle costs, which accounted for maintenance as well as deck repair/improvements in the case of the retrofit. The combined construction and lifecycle costs totaled \$991 million for a bridge retrofit and \$1.114 billion for a new bridge. The retrofit project cost then increased to 89 percent of the replacement cost. Dr. Maroney also estimated bridge repair and damage costs based on a potential earthquake's severity that ranged from magnitude 6 or lower to magnitude 7 or greater. Based on these additions, the bridge retrofit cost increased to \$2.304 billion and the replacement bridge cost was at \$1.675 billion. At the time, the state of California's Department of General Services had a policy that replacement options should be considered when retrofit costs are more than 75 percent of replacement costs. Since the percentage of the retrofit cost to the replacement cost was over the state's 75 percent replacement policy (just over at 78 percent and then at 89 percent), Dr. Maroney recommended that a new bridge be completed instead of a retrofit.⁴⁸

These three studies demonstrated that the cost of replacing the bridge was comparable to retrofitting it. Conclusions also were drawn that a new bridge would provide better seismic performance, have reduced long-term maintenance costs, and last longer (The retrofitted bridge's estimated life expectancy ranged from 50 to 75 years and the new bridge's lifespan was estimated at 150 years). These studies suggested that construction of the new bridge would be far easier than trying to accommodate a retrofit to a heavily traveled facility as numerous lane closures and resulting traffic delays would occur during such a project. Interestingly, a pedestrian/bicycle pathway and aesthetics

were considered in the designs. Caltrans first study even showed through its range of alternatives that aesthetics played a role at some level, particularly as one alternative included an observation tower.

With these study results nearly one year after the release of the 1996 cost increases, then-Secretary Dean Dunphy of Business, Transportation and Housing recommended to then-Governor Pete Wilson that replacement of the Bay Bridge should be considered.⁴⁹ The East Span's retrofit was estimated at approximately \$909 million, the skyway at \$1.1 billion, and the cable-stay bridge at \$1.4 billion. This cost increase brought the statewide toll bridge program's cost to approximately \$2 to \$2.3 billion.⁵⁰ Secretary Dunphy's recommendation also was based in part on a joint December 1996 letter from Caltrans' outside technical expert review committees, the Seismic Advisory Board (SAB) and Peer Review Panel for the Seismic Safety Review of the Toll Bridge Retrofit Designs. These committees recommended replacement over retrofit for the following reasons:

- enhanced seismic safety and reliability because a new bridge would be designed to current roadway standards,
- easier construction of a new bridge as opposed to retrofitting an existing facility
- significant reduction in traffic impacts to bridge travelers
- reduction in maintenance costs for a new bridge
- lifecycle cost savings for a new bridge that would be built to last 150 years
- similar construction costs for replacement and retrofit alternatives

Overall, Secretary Dunphy stated, "the potential benefits of a new structure far outweigh the risk associated with the additional 2 years a new bridge will take to complete."⁵¹

Similarly, a Caltrans official interviewed commented that the state would be just performing a “surgical fix” on the bridge if it pursued the retrofit alternative.

Then, the Wilson administration announced a few weeks later (and approximately seven years after the Loma Prieta earthquake) that it would support Dunphy’s recommendation to consider replacing the Bay Bridge, with the caveat that financing must be resolved legislatively.⁵² As previously stated, the bridge’s retrofit plans were generally 65 percent to 95 percent complete at the time of this recommendation.⁵³

Governor Pete Wilson was quoted as follows,

“...If the residents of the Bay Area desire an aesthetically enhanced bridge, the additional costs should be borne by the Bay Area. I believe there is a statewide interest in seeing that these toll bridges are retrofitted, which is why I have endorsed using state highway funds to help fund the retrofit effort. However, the primary users of the bridges have an obligation to participate in the funding as well.”⁵⁴

The State’s preferred replacement alternative was an unadorned viaduct (also known as a “skyway”) between the Oakland shore and Yerba Buena Island with two 10,100-foot long steel-reinforced concrete structures with ten lanes of traffic (five lanes in each direction) estimated at \$1.5 billion. It also provided a preliminary design of a double tower cable-stay structure that the Bay Area could pay an additional \$221 million for if it so chose (see Exhibit 3-9).⁵⁵ The final bridge design and alignment would be resolved during the environmental process. “There is no question that the replacement option will give the people of California the best bridge at the best price,” said James W. van Loben Sels, then-Director of Caltrans, as quoted in Caltrans’ press release. “...Normally, if the cost of the retrofitting exceeds more than half the cost of the replacement, then it often

makes economic sense to spend a little more for a new structure that incorporates the latest technology and offers the prospect of a much longer life span.”⁵⁶

The estimated schedule at that time optimistically proposed that construction could begin in early 2000 with completion targeted for late 2003. The press release does not mention that the Metropolitan Transportation Commission (MTC), the San Francisco Bay Area’s transportation planning and financing agency, would be leading the design process. A state official interviewed confirmed that at the time of the Governor’s decision to replace the bridge, Caltrans planned to manage the design process as it regularly does on its projects, and that it did not plan to have MTC oversee the process. Similarly, then-MTC’s Executive Director Larry Dahms commented in mid-February 1997, “Until today, I don’t think anybody thought about what the next step would be after Caltrans made the announcement. So everybody’s scurrying around trying to figure out what’s next.”⁵⁷

The Bay Area’s Reaction to the Proposed Bridge Designs

With the Governor’s announcement, the media, local officials, and public attention focused on what the bridge should look like and whether Caltrans’ proposed alternatives were worthy of the site, particularly given the prominence and proximity of the Golden Gate Bridge and the Bay Bridge’s west span, which are both suspension spans. “(The) Bay Area may need to make a fateful choice themselves. Accept a stripped-down model of a span—or commission a lasting Bay crossing that may be equal of the Golden Gate Bridge,” stated the *San Francisco Chronicle*.⁵⁸ Across the Bay, the *Oakland Tribune* added,

“...we think the design of the bridge is even more important than cost. We see this as a rare opportunity for the East Bay to insist on a graceful, even majestic design that the entire region can be proud

of, not some utilitarian roadway. Let's make this a splendid front door to the East Bay....the bridges spanning San Francisco Bay are a world-class attraction that have made our Bay Area a living postcard. Let's keep them picture perfect."⁵⁹

To provide an alternative to the Caltrans designs, the *San Francisco Chronicle's* architectural critic, Allan Temko, asked the late T.Y. Lin, a well known engineer and University of California, Berkeley professor, to develop a bridge design. The *Chronicle* published Professor Lin's design, and the following stinging critique of the Caltrans' options in March 1997,

"Caltrans has given the public an impossible choice between two extremes in rebuilding the eastern span of the new Bay Bridge—and neither is good enough for this key setting in the heart of the bay. One proposal is for a dull towerless 'skyway' that has been likened to an outsized freeway ramp. The other is a madly extravagant 'signature (cable-stayed) bridge' slung from two melodramatic towers, that would be a mockery of the great suspension spans to the west between Yerba Buena Island and San Francisco. But these schemes are authentic dogs. And there's no reason to settle for either of them."

Professor Lin developed a single tower asymmetrical cable-stayed design with a 600-foot tower that Mr. Temko said would "enhance rather than compete with the suspension bridges on the San Francisco side" (see Exhibit 3-10).⁶⁰ In response to this design as well as the Ventry design mentioned above, Caltrans spokesman Greg Bayol commented, "The single-tower design is very bold and daring, but do we want to be bold and daring here in earthquake country? Right now at Caltrans, we want to be conservative."⁶¹

As a result of public opposition such as this to the Caltrans designs, state officials asked MTC to facilitate a public involvement process to develop regional consensus on the bridge design. MTC was charged with making this monumental decision on the new bridge type and alignment within just six months by July 1997.⁶² Once a design was

selected, Caltrans planned to release the federally required Environmental Impact Statement (EIS), which would use the regional process to develop the locally preferred alternative. After the EIS process, Caltrans would then build, maintain and operate the new span. The process did not go as smoothly as the state officials had hoped. It also appears that Caltrans was lukewarm about too much public participation in developing a new design as Jeff Weiss, a Caltrans spokesperson, commented, “This is a safety project more than anything else...aesthetics are really way down the list. If you have too much input by people who aren’t engineers, or are too interested in aesthetics...you slow things down.”⁶³

Regional Design Process Created: Let the Games Begin

After the state’s request, MTC established the Bay Bridge Design Task Force to oversee the design process. This group was a subset of MTC’s board and consisted of commissioners who represent Alameda, Contra Costa, San Francisco, and Solano cities and counties as well as MTC’s Bay Conservation and Development Commission (BCDC) board member.⁶⁴ As a result, board members with constituents most affected on a regular basis by the decision had a direct role in the design decisions. Further, BCDC was involved because it is a state-created regional agency which has jurisdiction over the Bay and would be required to issue key bridge permits and approvals. The Task Force made recommendations to the full MTC board that were regularly approved. The Task Force’s chair was Mary King, then-Alameda County supervisor and former staff of then-Senator Pro Tem William Lockyer. Of the viaduct design, Caltrans’ preferred option, Supervisor King commented, "While we appreciate the governor has offered vanilla ice cream, we want chocolate sauce on top."⁶⁵ In other words, Supervisor King confirmed

that MTC and the region in general were interested in developing a signature bridge design and did not accept the viaduct bridge offered by Governor Wilson.

The Task Force's recommendations were based on another committee created for the design process, called the Engineering and Design Advisory Panel (EDAP). It consisted of approximately 35 members who were technical experts in bridge engineering, architecture, and geology. Many EDAP members also were participants in Caltrans and BCDC's technical advisory committees.⁶⁶ EDAP was charged with the mission of "reconciling design and engineering considerations so that the residents of the Bay Area can be assured that they will have a world class bridge."⁶⁷ The EDAP chair was Joseph Nicoletti of URS/John A. Blume and Associates and the vice chair was John Kriken of Skidmore, Owings and Merrill. Chairman Nicoletti commented, "It is a very exciting thing we are about to do. What we come up with will result in a landmark that will last for 100 years."⁶⁸

MTC's EDAP and Task Force committee meetings became the key political and technical arena in which the Bay Bridge's design was debated. Added to this mix at MTC was the state's regular presence and participation at these meetings through Caltrans both as technical project staff and as a non-voting MTC board member. In addition to EDAP advising MTC, Caltrans also had its own ad hoc technical advisory committee, called the Caltrans Advisory Panel on Conceptual Designs (APCD or CAPCD). This committee had twelve members and was a subset of EDAP.⁶⁹ The committee's purpose was to,

"review all appropriate conceptual designs for the East Bay replacement bridge as presented to MTC/EDAP in public meetings. The Panel may suggest modifications to any submittal they see fit. The goal of the CAPCD is to reach a consensus with the EDAP for a replacement design concept."⁷⁰

In other words, the group was able to comment on and recommend changes to EDAP workshop proposals. As discussed later, the presence and role of this committee added to the perception by some participants that there was an “insiders’ process” affecting design selection.

With the creation of these committees to guide the design process, MTC and Caltrans focused on the following issues:

- How should the new bridge be designed? How do different bridges compare in terms of seismic performance? How does the new design incorporate signature features so that it will become a new Bay Area landmark/icon? Does it compete with or complement the Bay Bridge’s West Span and the Golden Gate Bridge?
- What should be the alignment of the new bridge? How do alignment options impact the bridge’s termini at Yerba Buena Island and the Oakland shore?
- Should there be a rail line, bicycle path, and carpool lane on the new bridge?
- Should the Transbay Terminal receive funds since it was historically built as part of the original Bay Bridge/Key System? Should bridge access ramps to Yerba Buena Island also be improved as part of the project?
- Should a new park, Gateway Park, be located at the Oakland terminus and should it be funded as part of the project?

Decisions on all of these issues would come at a financial and political cost as each item would compete for limited funds that later became available. In addition, many of these design features would challenge Caltrans’ primary project objective, which was to provide a seismically safe new bridge as quickly as possible. To address the design-

related issues, MTC and Caltrans held over thirty public and spirited meetings to discuss the east span's design from March 1997 to June 1998. Public outreach generally involved public meetings and formal hearings, informal polls, press coverage, and letters, emails, and telephone calls received from the public.⁷¹

Bridge Design: Form and Function

At the beginning of their deliberations, EDAP and the Task Force developed design review criteria. In addition to seismic safety, the bar was set high for creating a landmark bridge. The Bay Bridge Coalition, an ad hoc advocacy group with representatives from EDAP and other design/engineering organizations, recommended,

“The design should reflect the Bay Area’s optimism, international status, and positive attitude toward technology. Statements about fashion, style, details, modernism, post-modernism, and whether or not form indeed follows function should be de-emphasized in the design criteria. Instead, the emphasis should be on the quality of the design and construction. Please realize that this bridge will define the style of the beginning of (the) next millennium, not react to it.”⁷²

Many participants also were concerned about how the Bay Bridge’s east span would relate architecturally to the often noted “elegant” or “graceful” suspension bridge of the Bay Bridge’s west span and the Golden Gate Bridge, an internationally known landmark in its own right. A key issue of debate was whether the new span should compete with these bridges or complement them. Some felt that the east span should complement those bridges. Others thought that was unnecessary. EDAP member Chris Arnold commented,

“I do not think the east (span) solution should be compromised by the need to ‘harmonize’ with an existing span developed under quite different site conditions and separated by an island. Rather, I think the East and West spans should be considered a ‘progressive’ series of experiences for the motorist (as it already is) and if the driver has an experience beneath the large vertical trusses of the

west span there is no reason why he or she should not have an equally interesting, and even contrasting, experience beyond the island.”⁷³

In April 1997, EDAP developed lengthy criteria labeled “Engineering and Design Considerations for the East Span Replacement of the San Francisco-Oakland Bay Bridge.” To address the issue over the East Span’s relationship to the Bay’s other suspension bridges, the approved key EDAP criterion on this issue was as follows,

“The bridge should integrate into the site and the surrounding environment by reflecting the grand scale of the San Francisco Bay, by harmonizing with the existing west span of the bridge and by landing gracefully on the Oakland and Yerba Buena landfalls. The replacement bridge **by contrast or similarity**, complement the existing San Francisco bridge suspension span. They should feel related in some way that makes the two bridge elements into a whole. One bridge should not diminish the visual quality or importance of the other (emphasis added).”⁷⁴

Although the criterion states that the bridge should fit in or ‘harmonize’ with the other bridges and that it should not directly compete with the west span, the door is left open as to whether the new bridge and the West Span should be similar or different from each other. The other criteria focused on structural, design, environmental, highway design, maintenance, and general considerations as well as pedestrian-bicycle standards. The criteria noted that the bridge should maintain the existing capacity of ten lanes (five in each direction) but with the addition of at least one shoulder and thereby eliminated the potential for significant additional auto capacity. Further, the bridge was to be designed to provide “lifeline” service in that the bridge would be quickly repaired and opened for use after a major earthquake if damaged. In particular, it would be open immediately for emergency service and the transport of emergency supplies and personnel. The criteria also noted that a gateway to Oakland should be designed, and to address the concern of

many that much of the bridge was a viaduct, “The bridge should convey to the user that the user is on a bridge and not an extension of the on-grade highway system.”⁷⁵ The City of Oakland echoed that statement in commenting that the East Bay deserved an endearing new bridge and landmark. “The new bridge should be an architectural asset, establishing a sense of place, and creating an inspirational identity for Oakland and the East Bay. Oakland opposes the idea of constructing a plain skyway structure,” recommended Terry Roberts of the City of Oakland.⁷⁶ The combined impact of these criteria was that the viaduct option was taken off the table as a serious bridge design contender. A key participant in the design process said in an interview that EDAP generally was not interested in a towerless viaduct structure, but a structure that would at least have one signature tower.

The EDAP criteria were developed to guide the deliberations of a three-day design workshop held in May 1997 at which bridge experts and members of the public presented design proposals to EDAP. The workshop’s purpose was to generate ideas about bridge design. This workshop was intended to take the place of an international design competition or consultant selection process. Caltrans planned to proceed with a formal state bid process for consultant design services at a later date. As discussed later in this chapter, this workshop contributed to perceptions by some participants and observers that there may have been conflicts of interest and bias in the EDAP review process.

At the workshop, proposals were received from Caltrans and twelve engineering firms and individuals.⁷⁷ Caltrans submitted two main design options: 1) a skyway viaduct and 2) variations of a cable-stayed span connected to a viaduct bridge. It also had developed a preliminary design of an arched viaduct bridge at MTC’s request. The

proposals from firms or members of the public consisted of: single and double tower cable-stayed bridges, a curved cable-stay bridge, self-anchored suspension (SAS) bridges, a floating bridge, hybrid cable stayed/arch bridge, free form modified arch bridge, steel arch (above deck) bridge, segmental concrete arch bridge, single tower (tetrapod) suspension bridge with an observation tower and gondola cars, and repeating spans of cable-stayed or self-anchored suspension bridges (see Exhibits 3-10 and 3-11). Many designs were similar to Caltrans' earlier hybrid designs in that there was a tower-based span located near Yerba Buena Island and connected to a viaduct that would extend to the East Bay shore. Several designs also considered or included a pedestrian/bicycle pathway in the proposal. At the workshop's conclusion, the following four proposals were advanced for further EDAP consideration: 1) the skyway viaduct (to serve as a baseline for comparison purposes only); 2) the single tower cable-stay (recommended by several firms), 3) curved cable stay bridge (recommended by U.C. Berkeley Professors Astaneh and R. Gary Black); and 4) self-anchored suspension bridge (recommended by a few firms). Other proposals submitted were not advanced due to technical, aesthetic and/or other reasons.⁷⁸ EDAP later rejected the Astaneh-Black curved cable-stay bridge in part due to comments from Caltrans' Advisory Panel on Conceptual Designs which stated,

“The Panel members appreciate the striking visual appeal of this raked tower concept. However the panel is of the opinion that because of the uncertainties regarding its seismic performance, lack of experience with this type of structure, and no firm engineering support information being available at the present time, the Panel cannot recommend with confidence that this design concept be considered further.”⁷⁹

In addition, other creative and sometimes unorthodox designs also were proposed at the workshop as well as during the overall process. There was a proposal called the

“Unity Towers of the East Bay” which recommended that office buildings serve as bridge towers and that a third deck have parking and pedestrian/bicycle access. “Each office tower would be a city unto itself,” stated the proposal’s author, Michael Longo.⁸⁰ In a similar vein, another member of the public later commented,

“(I)t’s silly and potentially very wasteful that a lot of money is being spent to build a tower where none is needed. But if a tower is to be built, let’s be visionary. Run an elevator up it and put an observation deck and a restaurant on top, and charge admission, just like the Seattle space needle. Of course, admission would be more limited to those who could get there on the bike/ped path...adding even more incentive for people to get out of their cars.”⁸¹

There also were proposals for reusing the existing East Span including recommendations that rather than tear it down, it could be converted into a pedestrian promenade/recreation area or that train service could be provided on it. In addition, a fourth-grade elementary school class developed original designs and models that were displayed at the Oakland Museum at the same exhibit as the workshop proposals submitted to EDAP.⁸² Further, a bridge consultant from London later suggested building a new bridge completely south of the Island.⁸³ Lastly, a 1940’s concrete viaduct/park design, known as the “Butterfly-Wing Bridge” by noted architect Frank Lloyd Wright also was resurrected, but nearly two years after the workshop. This design had originally been developed for an additional southern bridge crossing between Alameda and southern San Francisco (see Exhibit 3-12).

As the review process continued, EDAP and MTC decided that additional technical information was needed to select a bridge and recommended to Caltrans that the bridge design should be completed to a 30% design stage to provide a better sense of estimated cost, seismic reliability, alignment, aesthetics and other attributes. MTC recommended that two cable-supported bridge types be designed to the 30% stage in

parallel: 1) the single tower cable-stayed bridge and 2) the single tower self-anchored suspension bridge.⁸⁴ Both of these bridge tower spans would be located near or on Yerba Buena Island and connected to a viaduct for the majority of the bridge's length. The 30% design process was "...intended to give confidence to the public and its political leaders that when \$70 to \$100 million more is spent for a signature bridge that the design process will result in a bridge worthy of the site," as Lawrence Dahms, MTC's Executive Director, wrote to Caltrans.⁸⁵ Initially, Caltrans was not pleased with the recommended 30% design approach and felt that it was unwarranted. Caltrans Director James van Loben Sels stated,

"While we appreciate EDAP's efforts, we disagree with the EDAP recommendation for additional study of the three concepts. It is always possible to gather one more piece of information or to conduct one more study. However, Caltrans is of the opinion that information exists to clearly differentiate among the various choices associated with the new Bay Bridge."⁸⁶

MTC replied in a rebuttal that that further work must be done because there was too much disagreement on the project's estimated costs within Caltrans between its own cost estimators and consultants.⁸⁷

In addition to the disagreement over process issues, others were not satisfied that the designs underway would create a landmark bridge. Terry Roberts with the City of Oakland commented,

"Our concern stems from the fact that the two "signature" design options under consideration are 85 percent viaduct. As proposed, the distinguishing architectural features of these two options would be located adjacent to Yerba Buena Island and constitute only 15 percent of the overall bridge length. Unfortunately, the rest of the bridge resembles an undistinguished freeway overpass. The existing bridge span has more architectural design features than either of the proposed signature structures. I hope that you concur that we in Oakland and the East Bay deserve a more befitting

gateway to our front door. The next step in the design process must evaluate what architectural design improvements can be made to the viaduct portion of the new bridge.”⁸⁸

MTC replied that further refinements would be made to the viaduct bridge segments during the design process. MTC also held its ground on the 30% design approach when it approved criteria to guide the next portion of the design process (see Exhibit 3-13). The criteria focused on bridge financing, design process, planning, and design. These were based in part on EDAP’s April 1997 approved criteria. Key MTC recommendations were that the bridge should be constructed on a northern alignment, should have a cable supported main span and two shoulders in each direction (for a total of four shoulder lanes), built to provide “lifeline” service in the event of a seismic event, and did not need an exclusive high-occupancy vehicle lane for carpools and buses.⁸⁹ Another recommendation was that Caltrans should replace the bridge access ramps to Yerba Buena. Further, MTC recommended that the bridge should have two parallel side-by-side decks rather than being doubled-decked.⁹⁰ MTC also prioritized how any additional revenues from a toll increase should be allocated: first to a cable-supported signature tower, second to the Transbay Terminal, and third to a pedestrian/bicycle pathway (see Chapters 4 to 6 for discussion of these priorities and the bridge access ramps). In addition, the tower height was limited to “no taller than the suspension towers on the existing western span,” thereby also limiting the length of the span as there is a direct relationship between tower height and span length. Of note, the Task Force, at the request of then-Oakland Mayor Elihu Harris, added a recommendation to ensure that the new bridge would be designed to allow for possible future rail service. However, the type of rail such as intercity passenger rail or light rail was not directly specified in the criteria.

State Legislation to Fund the New Bridge

Coinciding with the debate on whether to proceed with the 30% design, the legislation that would fund the new bridge, Senate Bill 60 (Kopp), was moving through the legislative process in fits and starts. Statewide legislative debate focused on whether toll bridges, which have access to their own revenue stream of tolls, should use toll dollars primarily to fund their improvements even if they are a state-owned facility. Some Southern California participants argued that its constituents should not have to subsidize the Bay Area's toll bridges with state funds. Bay Area representatives generally responded that the toll bridges are part of the state highway system and provide substantial benefits to the entire state, not just the Bay Area. The Bay Area also argued that toll users would be double-taxed in that they pay tolls and state/federal gas and sales taxes, both of which fund transportation improvements. These toll payers are further taxed when general obligation bonds are used for transportation. Representatives on both sides of the debate cited equity as their main concern in terms of recommending the most equitable division between state dollars and toll revenues to deliver the program and minimize impacts to other transportation programs and projects, particularly those in Southern California. Key Bay Area legislators representing the Bay Area's position were then-Senator Quentin Kopp, chairman of the Senate's Transportation Committee, and then-Senator William Lockyer, president of the Senate (Senate Pro Tem). In regard to this debate and in response to an Orange County legislator's concern that state funds would be taken from his projects, Senator Lockyer threatened, "There won't be a nickel for Orange County in the state budget if we don't get this thing resolved. If they're going

to be unfair, we'll resort to the old Newtonian law where actions generate an equal and opposite reaction.”⁹¹

Southern and Central California legislators in key legislative positions at the time included then-Assemblyman Transportation Committee chairman Kevin Murray of Los Angeles, then-Assembly Speaker Cruz Bustamante of Fresno, and then-Assembly Minority Leader Curt Pringle of Garden Grove. In addition, Assemblyman Gary Miller of Los Angeles authored legislation that would use existing toll revenues to fund the toll bridge retrofit program. If those funds were insufficient, then a one dollar toll increase could be instituted if approved by Bay Area voters.⁹² Assemblyman Scott Baugh of Huntington Beach authored a similar bill. However, Assemblywoman Carole Migden of San Francisco, then-chair of the Assembly's Appropriations Committee, stopped both bills in their tracks.⁹³ With respect to Southern California's position, Assemblyman Murray stated, “(T)his is an extraordinary expense. While we accept some responsibility, we certainly want to come out of this as whole as we can.”⁹⁴

In the end, Governor Wilson signed SB 60 in August 1997 to cover the increased toll bridge retrofit costs that had been announced in early 1996. The legislation established a \$1 toll increase (called a “surcharge”) on Bay Area state-owned toll bridges for eight years that began on January 1, 1998. The total program was funded as follows: 27% from Proposition 192 bonds, 36.5% from state gas taxes, 36.5% in toll revenues that would be generated from the \$1 toll increase.⁹⁵ This bill set the precedent for additional state sources (excluding Proposition 192 funds) and local tolls to each contribute 50% to funding the seismic toll bridge program's cost overruns.⁹⁶ This legislation covered the seismic cost increases for the Bay Bridge as well as other state-owned toll bridges (the

San Diego-Coronado and the Vincent Thomas bridges). The law provided that MTC could institute an additional two-year extension of the \$1 toll increase to fund three additional features (called “amenities” in the legislation) as part of the Bay Bridge’s East Span project: 1) a “cable suspension bridge”, 2) a bicycle/pedestrian path on the East Span, and/or 3) replacement or relocation of the Transbay Terminal.⁹⁷ A two-year toll extension would generate \$230 million for these amenities. In addition, \$80 million was included in SB 60 for a cable-supported main span. The overall “amenities” budget was \$310 million (\$230 million from the initial amenities budget plus \$80 million allocated in the legislation for the signature span). Further, SB 60 set the cost of the new east span at \$1.285 billion and used the northern adjacent alignment as the basis for the cost estimate.⁹⁸ Senator Quentin Kopp, SB 60’s bill author, later rejoiced,

“(Senate Bill 60) finally settled a long-simmering struggle in Sacramento over the sources of financing the badly needed retrofit and replacement of Bay Area toll bridges owned by the state. SB 60, which I assiduously negotiated through the Legislature over a period of four years, marked a decisive victory for the Bay Area in resolving the difficult financial dispute fairly and equitably. SB 60 also conferred on the Bay Area a unique opportunity: the power to select the design and added features of a new eastern span of the Bay Bridge.”⁹⁹

A related bill, SB 226 (Kopp), also was signed into law in August 1997 and it created the Bay Area Toll Authority (BATA), which had the same board as MTC and was essentially MTC wearing a different hat, as one MTC official described it. BATA was charged with overseeing the existing \$1 toll, which funds the maintenance and operations of the Bay Area toll bridges and the highway and transit projects that were voter-approved by Regional Measure 1 in 1988. It also was designated as the agency to oversee SB 60’s amenities budget. Some interviewees commented that a goal of creating

BATA was to remove the management of the Bay Area bridges and their toll revenue account from the state. This would then reduce the possibility that the state would use the funds for non-Regional Measure 1 purposes. At the time, large balances had accumulated in the toll bridge accounts and some officials suggested using these funds for the Bay Area's toll bridge retrofit program or other purposes.

With this notable funding hurdle passed and BATA's creation, MTC and Caltrans had the legal authority to resolve the bridge design, and select and fund "amenities" to be paid for from the toll increase.

30% Design and the Search for the Signature Bridge Continues

To develop the 30% design for the cable-stay and self-anchored suspension bridges, Caltrans selected the consultant joint venture team of T.Y. Lin International with Moffatt and Nichol and Weidlinger Associates in late 1997 through a competitive bid process.¹⁰⁰ The consortium was separated into two competing design teams, in which one designed the suspension bridge and the other designed the cable-stay bridge. In March 1998, the teams presented three schemes for both the cable-stayed and self-anchored suspension spans: 1) single tower, 2) double portal and 3) triple tower.¹⁰¹ After much discussion, EDAP advanced the single tower and double portal for additional consideration (see Exhibit 3-14).¹⁰² The triple tower option was discarded because as it was called "visually confusing" and "disturbing."¹⁰³ Then, EDAP forwarded the single tower cable-stay and single tower self-anchored suspension (SAS) bridges for further design in May 1998. EDAP members generally preferred the single tower designs because according to the meeting minutes, "the single tower designs constituted an engineering breakthrough, while the dual tower designs looked run of the mill."¹⁰⁴

While the design process was at its peak with a decision on the horizon, the City of Oakland continued to express concern about the pending decision. In particular, Terry Roberts with City of Oakland wrote,

“We understand that additional bridge structure is not needed to meet the structural requirements of the bridge or viaduct and that additional bridge features would be at additional cost. But certainly there are design alternatives that could be added to the existing viaduct structure that would be cost effective and would add to the ‘signature’ and world class design mandate that has been given the bridge.”¹⁰⁵

Others also advocated for different designs. For example, Ron Middlebrook of the Bay Bridge Coalition said, “We think the designs shown thus far are not uplifting.” To which Caltrans spokesperson Colin Jones replied, “The main reason we are building a new bridge isn’t because the existing one is ugly, but because it’s vulnerable to an earthquake. We need to balance public opinion with meeting a tight schedule.”¹⁰⁶ Still others were wondering whether the simple viaduct originally proposed by Caltrans might be a better option. Allan Hess of the *San Jose Mercury News* wrote,

“The fact is that a bold engineering statement simply isn’t needed. The skyway proposed initially last year was a simple thread rising with the least amount of fuss and the most slender profile from the Oakland mudflats to the Yerba Buena tunnel. It would have given the bay the gift of simplicity. It would complement, rather than compete with, its surroundings. With some polish, its rhythmic pylons lifting the roadbed from the water could have been svelte sculpture—the very best of Caltrans freeway architecture, mating solid practical engineering with breathtaking kinetic sculpture.”¹⁰⁷

However, during the EDAP process, the cable-stay bridge design appeared to be the favorite among many EDAP participants as well as Caltrans. Several interviewees said that Caltrans appeared interested in the cable-stay bridge as this bridge type is the bridge of choice throughout the world, and California did not have one yet. In response, a

Caltrans official interviewed stated that his preference was for a cable-stay bridge, but not because it would be new to California but rather because he felt it was easier to construct than the self-anchored suspension bridge. The *San Jose Mercury News* even reported that EDAP would likely select the cable-stay bridge.¹⁰⁸ However, as a surprise to many, the self-anchored single tower suspension design won out with an EDAP vote of twelve to seven in May 1998 (see Exhibit 3-15). EDAP recommendations included:

- the new east span should have a single tower self-anchored suspension span because it is similar to the Bay Area's other suspension spans (the Golden Gate bridge, the Bay Bridge's western spans, and the forthcoming new Carquinez bridge);
- the suspension design should be asymmetrical in which the main span east of the tower is about twice the length of the back span west of the tower;
- the bridge's viaduct portion shall have a variable depth (haunched) profile built in concrete or a constant depth profile built in steel. The minimum span length would be 525 feet, except near the viaduct's endpoints near Yerba Buena Island and the Oakland shore;
- a bicycle/pedestrian pathway should be included and located on the eastbound deck's south side (see Chapter 5 for more discussion on this recommendation)¹⁰⁹

Several EDAP members said that since the reported cost and seismic strength of the cable-stay and suspension bridges were similar, their decisions were made subjectively based on aesthetics and other factors, such as constructability and the East Span's relationship to the West Span and Golden Gate bridge.¹¹⁰ EDAP Chairman Nicoletti said at one meeting that the decision was "a personal preference. I'm not sure I

can defend it any way.”¹¹¹ Many EDAP members appeared impressed with the uniqueness of the suspension bridge type because it had achieved a far greater asymmetry than the cable stay bridge at EDAP’s final decision meeting on the bridge type (with a 385 meter main span and 180 meter back span for the suspension span, and a 275 meter main span and 215 meter back span for the cable stay bridge).¹¹² Similarly, several interviews with EDAP members or observers noted that the SAS bridge’s increased asymmetry was the main reason in their opinion for EDAP’s support of this bridge type over the cable-stay bridge.¹¹³ Support for the SAS bridge was further elevated as its asymmetry was viewed as better structurally because “...not only visually appealing...it shifts the tower west to a better foundation further up the rock shelf near Yerba Buena Island and results in a shipping channel with more than a 1,000 feet of horizontal clearance,” according to EDAP’s recommendations.¹¹⁴

On the selection of the suspension bridge type, several interviewees also commented that their opinion was swayed because the bridge designers noted that the SAS bridge design echoed the suspension designs of the Bay Bridge’s West Span and the Golden Gate Bridge, but with a “modern flair.” According to Donald MacDonald, the suspension bridge’s main architect,

“The Bay Area has a strong tradition of suspension bridges, and this design would complete the ‘necklace’ of suspension bridges around the Bay. It is a timeless design that relates to the East Bay hills, and the prismatic form of the single, steel tower with four vertical columns, linked by cross beams, provides superior earthquake protection.”¹¹⁵

However, not all EDAP participants were pleased with these recommendations. EDAP member T.Y. Lin commented that a “suspension bridge represents an ignorance in engineering”¹¹⁶ and that “it will be a testament to our ignorance. We’ll be the laughing

stock of the whole world.”¹¹⁷ An EDAP member who was interviewed interpreted that Mr. Lin’s statements reflected his substantial concerns about how the SAS bridge type was more difficult to construct than a cable-stay bridge and that there were less expensive and easier options, such as a cable-stay bridge as Mr. Lin initially proposed for the *San Francisco Chronicle* in 1997.¹¹⁸ At the time, Mr. Lin also recounted a 150-year old Chinese fable in which there was a beautiful girl on one side of a bridge and an unattractive girl on the other side. The unattractive girl wanted to be like the beautiful girl. Then when the beautiful girl frowned, the unattractive girl copied her. However, Mr. Lin said that did not make her more beautiful because in the end she was still unattractive.¹¹⁹ One could infer from this story that Mr. Lin referred to this fable to illustrate that if the eastern span took on a self-anchored suspension design, it would be an unsuccessful attempt to mimic the west span’s suspension bridge.

Opposition from elected officials on both sides of the Bay also was levied against the recommended SAS bridge in the weeks after EDAP’s decision. East Bay elected officials opposed the design for aesthetic reasons and over concern for how rail was being incorporated into the design. An opposition letter to MTC from several elected officials was issued and a press conference was held. Officials signing the letter were mayors or council members from the cities of Berkeley, Emeryville, Alameda, Piedmont, Albany, El Cerrito as well as Assembly representatives and the AC Transit Board president. These officials advocated,

“We, the undersigned East Bay community leaders, are expressing our mutual concerns that the Bay Bridge Eastern Span design process has not produced a world class design that establishes a sense of gateway and place for the East Bay. The East Bay communities expect and deserve a world class design that is

oriented towards people and provides quality public access and amenities.”¹²⁰

According to then-Berkeley Mayor, Shirley Dean, one of the signatories of the letter, “We’re saying time out, we don’t need to rush. We need to do the job right. People are going to remember this decision for decades, and our children and grandchildren will have to live with what we decide now for a long time.”¹²¹ At about this time, Oakland Mayor Jerry Brown joined the opposition, and mainly focused on bridge aesthetics. He also labeled the EDAP design selection process a “closed, insider process” and recommended an international design competition to develop a new design. He placed an opinion piece in the *San Francisco Chronicle* voicing his concern:

“The recommended design—half of a suspension bridge attached to a bland viaduct—speaks of mediocrity, not greatness. It does not respect the site or reflect the incomparable beauty of the place. It mocks the principle of the suspension bridge by eradicating its most beautiful part: the freely suspended towers. It copies the past rather than pulling us to the future. It fails to rise to the challenge which the setting and the new millennium demand. It could be anywhere.”¹²²

Mayor Jerry Brown worked with University of California, Berkeley architecture/environmental design professor Gary Black on his position statement. Professor Black was familiar with the MTC/EDAP process because he had been the designer behind the Astaneh-Black curved cable-stay bridge that EDAP had previously rejected after its 1997 design proposal workshop.¹²³ If Mayor Jerry Brown’s opposition wasn’t enough, San Francisco Mayor Willie Brown also officially changed his position on the bridge alignment at this time. (However, the next chapter documents that his staff previously voiced concerns about the pending bridge decision.) His opposition was based largely on the potential impacts of the bridge’s northern alignment to future development

on Yerba Buena Island. He also asked for MTC to delay making a design decision.¹²⁴

The *San Francisco Chronicle* and the *San Francisco Examiner* similarly followed suit and suggested a delay in the region's decision to allow for reconsideration of the design.¹²⁵

In response to these concerns, MTC and Caltrans stated that these elected officials provided their positions "at the eleventh hour" and that a bridge decision could not be delayed because the project needed to be completed quickly for seismic safety reasons.¹²⁶

MTC Task Force member Jim Spering, Mayor of Suisun City in Solano County, commented, "I am not quite sure where all these people were a year and a half ago when we started this process. Now all of a sudden there's all this last-minute concern."¹²⁷

Further, with respect to aesthetics, MTC often responded that the Bay's geology dictated the bridge type in that a deep water shipping channel near the island is the only logical place to locate a tower, and that a tower or series of towers in the soft shallow soil closer to the Oakland shore would be costly and unnecessary. EDAP vice-chairman John Kriken commented, "(Mayor) Jerry Brown, I'm sorry you can't wave your magic wand and put rock over there. There's no way to build a tower closer to Oakland. If you're anchored only in mud, you want to keep the bridge profile as low as possible."¹²⁸

In addition to elected officials raising concerns about aesthetics and travel capacity, U.C. Berkeley engineering professor, Professor Astaneh, who was not affiliated with EDAP, raised doubts about the seismic performance of the recommended SAS bridge design at about this time. Professor Astaneh wrote to MTC in June 1998,

"I am convinced that if the proposed self-anchored bridge is constructed and the Hayward Fault ruptures, there is a high probability that the resulting earthquake can severely damage this

bridge and cause partial or catastrophic failure of the main span (during construction and/or after completion).”¹²⁹

He further stated that there were not any other major bridges built using the SAS technology. He recommended that Caltrans accelerate the planned interim retrofit on the bridge and that a “proper process perhaps including an open international competition” should be undertaken that could lead to a different bridge design. By producing a list with 22 SAS bridges built worldwide, MTC and other participants at the meeting contested Astaneh’s claims.¹³⁰ Others felt that Astaneh’s comments were “grossly exaggerated.”¹³¹ Professor Astaneh replied a few days later that these 22 bridges were not major modern bridges and/or not located in seismic zones.¹³²

Since MTC was not moved by the concerns raised by the elected officials or Professor Astaneh, MTC approved the EDAP recommended design of a steel single-tower self-anchored suspension span in June 1998 by a vote of eleven to one (see Exhibit 3-15). This signature span would be connected to a variable depth (haunched or “slightly arched”) concrete skyway with spans of 160 meters.¹³³ The new bridge would be constructed north of the existing bridge and connect to the tunnel on Yerba Buena Island. The new span would not add any new traffic lanes. It would have side-by-side decks of five lanes of traffic for a total of ten auto lanes and two shoulders on each deck for a total of four shoulder lanes. The mixed flow lanes would be built to standard widths of twelve feet (3.6 meters) and the shoulders would be ten feet wide (3 meters) wide. The parallel decks would offer unobstructed views of the Bay and East Bay hills unlike the current bridge which has restricted views from the lower deck for eastbound motorists traveling to the East Bay. A 15.5 foot (4.7 meter) pedestrian/bicycle pathway on the south side of the bridge (one foot above the deck) also was included in response to the intense

lobbying by bicycle advocates and others.¹³⁴ Further, design provisions were made that would not preclude light rail from being added to the bridge in the future. The existing eastern span would be demolished after the new span was constructed and opened to the public. Lastly, the bridge would be designed to withstand a maximum credible earthquake for the San Andreas fault (with an estimated magnitude of 8 on the Richter scale) or the Hayward fault (estimated at 7 ¼ magnitude on the Richter scale).¹³⁵ According to the bridge's designers, "When built, this will be the largest self-anchored suspension span in the world."¹³⁶

MTC noted the suspension design was selected because it links to the "rich tradition" of such bridges, namely the Golden Gate, the Bay Bridge's west span, and the new Carquinez Bridge. In addition, MTC stated,

"Both the single-tower and self-anchored features of the new eastern span represent important innovations in bridge design. The tower, especially, is not really a single tower but four vertical pylons linked with 'sacrificial' fuses that are designed to protect the load-bearing pylons during an earthquake."¹³⁷

At the time, Caltrans and MTC also acknowledged that the bridge's cost had increased by at least \$90 million since SB 60's passage in 1997 due to new information Caltrans had acquired about ground motions that could affect the bridge's seismic performance unless enhancements were made to the design.¹³⁸ (This would be the one of the first of many Bay Bridge cost increases to follow since the MTC decision, as discussed in Chapter 7.)

To fund the recommended signature bridge and amenities, MTC extended the one dollar seismic retrofit toll surcharge on all Bay Area state-owned bridges for approximately fifteen months to generate an estimated \$141 million as follows: 1) \$91 million with a surcharge extension of 9.5 months for the cable supported tower design¹³⁹

and 2) \$50 million with a surcharge extension of 5.2 months for a bicycle/pedestrian path. MTC deferred deciding on whether to provide funding for the Transbay Terminal, the other amenity eligible for toll funds, until a long-term capital and operating cost study was completed that examined three terminal options: 1) renovation of the existing facility, 2) replacement of the existing facility replacement at the current site, 3) relocation of the existing facility to a new site and facility at Howard and Beale.¹⁴⁰ In July 1997, MTC had given the Terminal second priority for funds but a major debate had ensued over the facility's future and location (see Chapters 4 and 6).

Noting the looming opposition to the bridge design, MTC wrote to Bay Area state legislators to inform them of its decision:

“As you may know, the Commission’s decision selection is not without controversy, but few decisions of any importance in the Bay Area occur without controversy. I can assure you, however, that we conducted one of the most open and inclusive design review processes for a major public works project in the region’s history. Over the course of 16 months, we conducted 15 public hearings; heard from thousands of Bay Area residents via letter, phone calls, e-mail and opinion polls; reviewed more than a dozen different bridge design proposals presented by private firms and Caltrans; and received expert advice on seismic performance and bridge design issues from a blue-ribbon panel of 34 architects, engineers, and geologists. While we may have not pleased every critic, we have afforded every critic an opportunity to comment and influence the design.”¹⁴¹

One legislator did not accept MTC’s recommendation and pursued changing it through the state legislative process. Then-Assemblyman Don Perata of Oakland announced his plans to include language in a pending state bill that would allow voters in the nine Bay Area counties to approve or reject the MTC-recommended design. “For better or worse, the Bay Area and its people are to be defined by the new Bay Bridge for the next two centuries. It is vital that Bay Area residents have a voice in the process no matter the

outcome,” stated Assemblyman Perata about the bridge design.¹⁴² He similarly wrote, “My constituents, for example want the redesigned Bay Bridge to express the daring of human ingenuity and symbolize the splendor of the East Bay, but feel very strongly that they have not had a vote in the selection process.”¹⁴³ Perata was running for state senate at the time. Senator Quentin Kopp, Senate Transportation Committee chair, blocked Perata’s efforts noting he would never let the bill pass out of committee and “The ball will be batted right over the net if it ever lands in my court.”¹⁴⁴ Interestingly, Senator Perata later became one of the major proponents to maintain the SAS design during his ascendancy and tenure as senate leader in 2004/2005 (see Chapter 7).

With MTC’s bridge design/funding recommendation and Perata’s move blocked, Caltrans was able to complete and release the federally required Draft Environmental Impact Statement (DEIS) with the Federal Highway Administration, as the report’s federal lead agency, in September 1998. Caltrans also continued with the bridge’s design and engineering based on MTC’s recommended northern alignment (termed the N-6 alignment in the DEIS). This was called “risk design” and according to Caltrans,

“The risk is that the design for the (northern) N-6 alternative could not be used if a different alternative is approved pursuant to NEPA. Caltrans is taking this risk because it will reduce the time required to deliver a seismically upgraded east span in the interests of public safety.”¹⁴⁵

At the time, the cost reflected in the DEIS of a bridge retrofit was estimated at \$900 million and the MTC recommended bridge was \$1.5 billion to \$1.65 billion in 2002 dollars.¹⁴⁶ As it turns out, this was not the end of the bridge design debate, and the following chapters detail how elected officials and other active participants did not allow MTC’s decisions to inhibit them from seeking changes to the bridge design. They

appeared to see the federal environmental process as another opportunity to further inject their viewpoints into the process.¹⁴⁷ It also turns out that the DEIS's costs would increase exponentially as the bridge's engineering and construction progressed. As discussed in Chapter 7, the State would even recommend a return to the towerless viaduct in 2004 while Caltrans was in the midst of building the MTC-recommended bridge.

Observations

Conflicts over this two-mile bridge erupted over differences of opinion between the various players over the project's basic project premise. Was the new bridge simply a seismic improvement endeavor or was it supposed to become an identifiable Bay Area landmark? Should the new bridge provide additional travel capacity for bicycles, pedestrians, bus and rail transit, and/or possibly even automobiles? According to an MTC commissioner interviewed,

“(T)his bridge became for people somehow a place on which to hang all of their anger, hopes, frustrations, dreams, whatever around the transportation problems of the Bay Area when really it was a safety measure and that the part that got so frustrating for me because if you could look at it clearly and understand why we were doing it, if you could remember the reason we were doing it, you remember the day that the bridge collapsed and that government has some obligation to public safety.”

When Caltrans released its preferred viaduct design for the new span in early 1997, Bay Area leaders were resoundingly unimpressed and the viaduct was labeled as “a freeway on stilts.” Many advocated for a new bridge that would become an identifiable and inspiring landmark for the region. The regional bridge design process then took on a life of its own. One participant called it a “three ring circus” when prominent elected officials and citizen advocates recommended their ideas about how the new bridge should be

designed and what it should represent and signify. This section describes the various viewpoints of the project's purpose, Caltrans and MTC/EDAP's roles in the regional planning process described above, and the differing perspectives on the process itself.

Project Purpose

The multiple and conflicting perspectives on the project's main goals differed substantially amongst the agencies and individuals involved, which included Caltrans, MTC and EDAP, other public agencies, transportation and environmental advocates, and to some extent members of the public. Positions ranged from recommendations that the existing bridge should be retrofitted, to the new bridge should be a low-cost viaduct, and to the bridge should become a signature bridge with pedestrian, bicycle and rail capacity. Some advocated that since the new bridge would cost over \$1 billion, additional travel capacity should be part of the project because the Bay Bridge is a highly congested facility. Overall, there was general agreement that the East Span's seismic safety needed to be addressed whether it be for a retrofit or a new bridge. Few comments were made, if any, that an East Span seismic safety project should not be undertaken given the potential for bridge failure during a major earthquake. Motivations for these varying opinions ranged from the construction of a new bridge in this major corridor is a "once in a lifetime opportunity" and should accomplish as many goals as possible to this is purely a seismic safety project that should be undertaken quickly and at the lowest cost to protect the traveling public. In this vein, some felt that a replacement span was costly and unnecessary because the existing span could be retrofitted at a lower cost and would preserve the historic structure and maintain its structural capacity to carry rail.

With respect to Caltrans' position, its representatives generally stated that the project's primary objective was seismic safety, and that aesthetics and future travel capacity were secondary and/or not part of the project scope. For example, Caltrans responded to the City of Oakland's concerns about how growth in future bridge travel would be accommodated as follows,

“The estimate of future travel demand and vehicle use in the corridor is beyond the scope of the East Span project because this project's sole purpose and need are to provide a seismically upgraded lifeline connection, not to increase capacity. However, there are several indicators that traffic volumes on the SFOBB approaches would continue to increase in the future. These include an expected increase in daily personal trips in the corridor, the continued growth of the car-dependent urban population, and the continuation of San Francisco, the East Bay, and the Peninsula as significant employment destinations.”¹⁴⁸

As a result of this position combined with the State's initial public announcement that its preferred bridge replacement was a viaduct and that the Bay Area could pay for its own bridge enhancements, many Bay Area representatives immediately rejected this offer. Some interviewees and observers point to these state actions as the fire-starter for the debate that ensued. According an MTC representative interviewed,

“(The bridge replacement process) started badly because the way that Governor Wilson posed the question to the Bay Area was, ‘I will build you a bridge that looks like this (viaduct).’ That was sort of an insult to our aesthetic sensibility and has no bicycle pedestrian access. But ‘if you (Bay Area) want a bridge that looks good or has a sidewalk you’ve gotta pay for it’ and that was the wrong way to start the discussion because that ensured that the Bay Area definitely would want something that looked better than what he proposed even though a well crafted viaduct bridge might have been perfectly good bridge to build, but because Pete Wilson presented, as you know, the cheap discount bridge no one wanted it.”

Journalists also made this observation about state actions. Alan Hess of *San Jose Mercury News* wrote,

“(W)ith a ham-fisted introduction by Governor Wilson, the skyway solution came across instantly as the bargain basement version. This is what the state will pay for, he said in his take-it-or-leave-it taxcutter’s monotone. If the Bay Area wants upgrades with cables or towers, it will have to pay for it, he said. By presenting it as the Motel 6 of bridges, Wilson guaranteed that it would be D.O.A.”¹⁴⁹

In a similar vein, John King of the *San Francisco Chronicle* observed, “What got lost in the fight (over the bridge design) was a subtle fact—viaducts don’t have to be ugly. The proof is before our eyes. Take the bridges along Highway 1 in Big Sur...Minimalism can be chic. Restraint can be a virtue.”¹⁵⁰

The Bay Area never fully considered the viaduct as a viable design option. It appears that MTC viewed the bridge process as an opportunity to develop a signature bridge that would be seismically safe and to facilitate a public process to assist in its design. An MTC commissioner interviewed said,

“I think it’s a gem (the Bay) and I wanted it to have a nice setting... You have a beautiful stone. You want it to be set nicely. That doesn’t mean that the setting has to have a bunch a things hanging out of it. In fact, what sets off the stone is sometimes the more simple band. So I just wanted it to be correct and stand up (in an earthquake) and be lovely and be something. I think its really horrible that when you come to the Oakland side you are in the dark tunnel and I really wanted to be able to see the span and the northern alignment does that better too...you can see the whole East Bay.”

EDAP members interviewed also generally thought that this was their charge as a committee. Many felt that it was their role was to provide technical oversight to meet the goal of a seismically safe and aesthetically pleasing bridge design since Bay Area representatives prior to the EDAP process had voiced opposition to a viaduct design. “By

the time EDAP was formed there was a general conclusion that the simple span bridge was dull and unimaginative. From the Bay Area perspective, this was the first opportunity for a new bridge over the bay and we should look for new opportunities,” an EDAP interviewee commented. Similarly, EDAP member Jeffrey Heller advocated, “It’s very important that whatever we choose be a real statement of modern bridge-building being elegant, efficient and more confident.”¹⁵¹ Other EDAP members noted that for this reason, EDAP’s attention generally focused on the signature span. However, some pointed out that the committee invested time in reviewing the viaduct portion. An EDAP member provided a rough estimate that approximately seventy percent of EDAP’s time was spent on the signature span and thirty percent on the viaduct. Another EDAP member also noted that the committee accepted the State’s decision to replace the bridge and did not revisit whether the bridge could be retrofitted.

On the other hand, some agencies saw the new bridge as an opportunity to provide both a signature span and/or improved corridor travel capacity, primarily through pedestrian, bicycle and rail access. A noteworthy example, albeit perceived by MTC as a last-minute plea, was the letter in June 1998 previously referenced from several East Bay officials suggesting that the bridge design be reconsidered. One of the more vocal cities was Oakland. Its representatives were not satisfied with the design alternatives considered by EDAP because the new East Span would mainly be a viaduct, except for the tower at Yerba Buena Island. MTC Commissioner and then-Oakland Mayor Elihu Harris called the new bridge design “ugly” and “low class” rather than “world class.”¹⁵² Based on a review of bridge-related documents, the City of Oakland advocated throughout the regional process and not only at the end of it for an aesthetically enhanced

bridge. An Oakland representative interviewed said the new bridge should “provide for function and aesthetics, and that was the battle we were fighting with this bridge.”

Another Oakland interviewee commented, “Oakland is forever working on its image and the bridge was an opportunity. Why would we want to pass up the opportunity?” This representative noted that several public relations strategies were employed to make the city’s case, including leveraging use of: 1) the general public perception that Oakland is the poor stepchild routinely in competition with San Francisco, 2) the “designer” tower portion of the bridge is located near San Francisco’s Yerba Buena Island at the point farthest from Oakland, thereby creating an “aesthetic inequity” between Oakland and San Francisco, and 3) the new bridge design is 6/7ths viaduct, and only an extremely short amount of driving time on this bridge would be on the signature span.¹⁵³ City staff also tried to harness the interest of other local jurisdictions and interested organizations and individuals to advocate for a “world class” design and rail access. Oakland city staff further attempted to leverage legislative involvement through then-Assemblyman Don Perata because staff was “feeling unheard and it couldn’t hurt.” In addition, city staff viewed support of rail on the bridge and a related rail measure as “...as one way to reach out and have the public express a more profound interest, a long term interest” in the bridge’s overall design. The hope was that through the public expressing support for rail on the bridge, a new overall design also would emerge since the bridge’s design would have to be reopened to accommodate rail. Lastly, Oakland’s position garnered the most attention when Mayor Jerry Brown briefly focused on the issue and placed an opinion piece in the *San Francisco Chronicle* in June 1998 advocating his position. Overall, the City of Oakland attempted to make its case through trying to build a coalition with other

jurisdictions and organizations/individuals, using different public relations strategies when advocating for a new design, and involving its legislative representative.

San Francisco representatives tended to view the new bridge process differently. Based on several interviews with these representatives, the City/County of San Francisco was less concerned about aesthetics and travel capacity, and was more concerned with other project-related issues. San Francisco saw the bridge process as an opportunity to have the bridge's access ramps improved to benefit development on Treasure/Yerba Buena Islands and receive funds for the Transbay Terminal. It also had concerns about the potential impacts of a new bridge's location on Yerba Buena Island to future development (see Chapter 4).

In addition, several organizations and individuals strongly felt that the new Bay Bridge provided an opportunity to expand corridor capacity through increasing bicycle, pedestrian, public transit and rail services (see Chapters 5 and 6). Other interested citizens continued to advocate for a bridge redesign due to concern that the selected design may not become a noteworthy bridge. Ken Norwood, Shared Resource Living Center's Executive Director, requested that the bridge should be redesigned and asserted:

“Bridges around the world are signatures of that society, and expression of the importance they feel of their place, a hallmark of their creative ingenuity. They are not necessarily more expensive but decidedly more imaginative, as water-borne architecture of the spirit.”¹⁵⁴

Others questioned the selected bridge's higher cost and suggested that a simple viaduct design or bridge retrofit should be undertaken instead of the selected new bridge. A few remarks were even made that a second bridge should be built to relieve traffic congestion.¹⁵⁵

Other Bay Area agencies were involved, but to a lesser extent. They occasionally wrote letters and testified at MTC meetings generally on the bridge's aesthetics, the pathway, and rail service. As a result of these differing perspectives on the new bridge's purpose, the Bay Bridge process evolved into a contentious planning process as different participants prior to and after the MTC's 1998 bridge design decision lobbied for better aesthetics, additional travel capacity, changes in the bridge alignment due to potential development impacts, and/or funding for other projects such as the bridge's access ramps and the Transbay Terminal. Interestingly, U.C. Berkeley professors Astaneh and Black played an important role in influencing the debate and shaping the continuing opposition. According to an Oakland interviewee, Professor Black assisted Oakland Mayor Jerry Brown on his position. Professor Astaneh later assisted San Francisco officials and Mayor Willie Brown on their opposition (see Chapter 4).

Caltrans, MTC, and EDAP's Roles in the Planning Process

Caltrans and MTC's roles in the bridge process are important to consider as they were the two main public agencies involved in the bridge's planning and design selection. The State's decision to have MTC, the regional planning agency, recommend the East Span's design was unprecedented because Caltrans, the state department of transportation, typically manages design processes related to its facilities, particularly one as important to regional transbay travel as the Bay Bridge. Caltrans had intended to run a public outreach process from the outset, but it planned to make the main decision on the bridge's design. However, due to public and legislative concern over Caltrans' designs and the Bay Area's willingness to pay for a signature bridge, the process was turned over to MTC to make this decision. According to a federal transportation official interviewed,

it was not unusual for a regional planning agency to take the lead on planning-related projects, but it was unique for a planning agency to take the lead on the engineering and design of a major state infrastructure project, such as the Bay Bridge. Similarly, Senator Quentin Kopp noted, “This was extraordinary to allow the region to make this decision, which otherwise Caltrans would have made.”¹⁵⁶

During the regional design process, there was generally a division of labor in which MTC facilitated public meetings and convened the Bay Bridge Design Task Force and the Engineering Design Advisory Panel (EDAP). To assist MTC, Caltrans provided technical engineering oversight and advice. MTC’s Task Force of commissioners generally accepted the recommendations of EDAP, and MTC’s full board regularly approved the Task Force’s recommendations.¹⁵⁷ EDAP’s recommendations held enormous weight and influence in the Commission’s deliberations about the technical and aesthetic issues related to the bridge. Some Caltrans officials interviewed considered the MTC process a necessary means to attain public involvement. A Caltrans interviewee commented,

“Trying to get local input is difficult because the locals aren’t fully in agreement with what they want, but I’m still a proponent of that process. You can imagine what kind of mess it would be if we hadn’t had that process...In the beginning I’m sure it was tough for people to accept because the state had been in charge previous to MTC.”

According to an EDAP interviewee, MTC was seen as the lead agency during the design process as “MTC became the client and Caltrans became the consultant rather than Caltrans being the client and the consultant” so this “put Caltrans in a secondary management role.” Caltrans’ 2001 annual legislative report later said as much, “...the Bay Bridge is unique because the State does not control the design process and is, in

effect, acting as MTC's contractor."¹⁵⁸ Caltrans and MTC interviewees commented that the MTC planning process was useful in that the two agencies balanced each other out in terms of public outreach (MTC) and technical expertise (Caltrans). However, a Caltrans interviewee felt that Caltrans had been too subservient to MTC and EDAP, and that Caltrans did not fully express its concerns about the self-anchored suspension bridge in terms of the difficulty in building it and the increased costs associated with it. This interviewee stated that there was "almost too much of a sense of let the region decide" because the design process reduced Caltrans' role as staff to MTC and cast MTC as project leader.

In regard to MTC's perspective on the process, MTC interviewees generally were pleased with its working relationship with Caltrans during the main design process in 1997 and 1998. MTC staff and commissioners regularly relied on Caltrans and EDAP to provide technical expertise on bridge design issues.¹⁵⁹ However, there was a difference of opinion among some commissioners as to the benefit the commissioners themselves provided to the process. Some felt their role was critical to ensuring greater public participation. They cited inclusion of the pedestrian/bicycle pathway as an achievement of the public process due to the efforts of pathway advocates. However, others felt disillusioned with the process in terms of their ability to judge the technical merits of the various bridge designs and the process's downward spiral after local jurisdictions and rail advocates vigorously opposed the approved design.

With respect to the EDAP process that influenced MTC's decisions, an EDAP member pointed out that architects and engineers were brought together in a public forum, EDAP, to debate the technical and aesthetic merits of the bridge's design. This

interviewee commented that architects made design recommendations with the full knowledge of the engineering issues at hand, and that the engineers made decisions with public access and aesthetics in mind. To this representative, this forum of debate is noteworthy because the debate occurred between these two general groups in a public setting, rather than “Caltrans shopping the project to different groups” as it has done previously on other projects. It appears that there was also a division of labor between the two general groups of architects and engineers within EDAP in that the architects relied on the engineers for engineering/seismic safety advice and that in some cases the engineers deferred to the architects on aesthetics. However, an EDAP engineer interviewee asserted that a sign of a good engineer is one who balances aesthetics with the site’s engineering requirements. Other EDAP members were less positive about the EDAP process. EDAP member Steve Thompson said, “I don’t know if you can get a great bridge through this process. It was basically a way for Caltrans to get what it wanted, which is a viaduct three miles long with a tiny little signature span at the end.” Similarly, EDAP member Roumen Maldjov commented,

“Caltrans has the full monopoly on the process—they have the power to choose what to build, how to build it, and when to build it, and they have great interest in making everything more expensive than it should be.”¹⁶⁰

Perspectives on the Regional Process

Some interviewees felt that MTC was the logical agency to conduct the process because it was the regional transportation planning agency, and that it had opened up the process to others to participate. To support this view, many interviewees and bridge-related documents noted that there were over thirty public meetings and numerous opportunities for the public to participate. According to MTC Task Force Chair Mary

King, “This has been without a doubt the most open and democratic process of any public works project I know.”¹⁶¹ However, another city official interviewed commented that “Caltrans and MTC are a huge formidable (team)” and “a force to be reckoned with. (It was) very smart on Caltrans’ part to bring in MTC who helped with the politics and muscle to move through the process.” This representative asserted that the MTC/Caltrans team was difficult to confront or bypass if an issue was raised that it did not support, such as bridge redesign or the addition of heavy rail capacity in the new bridge’s structural strength.

Further, others believed that conflicts of interest and bias were present in the regional decision-making process, particularly related to EDAP and its bridge proposal workshop. As stated earlier, the purpose of MTC/EDAP’s design workshop was to generate ideas about bridge design, and was viewed by some as a limited design competition. Caltrans and MTC did not intend for it to be a major juried international design competition nor a consultant selection process because Caltrans planned to select a design consultant at a later date. MTC and Caltrans elected to follow a workshop approach rather than hold an international competition because they believed that a workshop could be conducted faster than a competition as they were racing to comply with a Governor-imposed 1997 deadline to determine a replacement strategy. Further, they wanted to ensure that technical experts had central roles in the review process since the project’s underlying purpose was seismic safety. At the workshop, MTC requested that EDAP members who had submitted design proposals or who intended to participate in a future bridge contract raise their hands before the audience. One-fourth to one-third of the twelve proposals submitted had connections to EDAP members.¹⁶² This discovery

by some participants was not well received. Daniel Coman and Rick Feher of Coman Feher Associates wrote to MTC:

“Had we known prior to May 13 (the day before the MTC workshop) that we had been invited to participate in a selection process wherein the judges themselves were competing, we would not have expended our talent, time and money so foolishly. Any twelve randomly chosen people would agree that it is unethical for members of a jury in a selection process to enter the contest they themselves are judging, and to have a direct stake in the outcome. And those twelve people certainly would agree that it is fraudulent to invite outsiders to participate in such a process for the purpose of lending apparent legitimacy to it.”¹⁶³

Similar comments also were made that the successful proposals (namely the cable-stay and SAS) that made it through EDAP’s initial workshop review were based on proposals affiliated with EDAP members, and that these proposals were comparable to Caltrans’ initial tower-supported proposals, which was one tower span connected to a long viaduct. As stated earlier, MTC and Caltrans often commented in response that the Bay’s geology dictated the bridge’s basic design in that a tower could only be located near Yerba Buena Island.

In addition, some participants and observers were concerned that if a firm or consortia of firms submitted a workshop proposal that was selected later as the region’s preferred design, this group would have a competitive advantage in the bidding process. Comments also were made that some EDAP members may need to maintain good relations with Caltrans and participated in a manner that would please the agency because of their firms’ past, current or future contracts with it. As a result, they then cautioned that the design process would not have an independent group of technical experts recommending a design. With respect to the design quality, concern was expressed that by not having an international design competition, the variety of firms and architects who

would submit proposals would be limited, and as a result the range of design options proposed would be reduced. Lastly, some alleged that Caltrans may have had an interest in awarding design contracts to a particular firm.

An Advisory Panel on Conceptual Designs (APCD) also was convened, which further contributed to perceptions by some that there were conflicts of interest. The committee was composed of twelve EDAP members and one-third of its members were affiliated with firms who had submitted workshop proposals. As such, some participants and observers thought that the APCD members may carry more weight in EDAP's deliberations since these members were not only on EDAP but also on a seemingly select committee. Further, Astaneh-Black's curved cable-stay bridge, which made it out of the workshop deliberations for additional consideration, was rejected by APCD and then by EDAP.

As a result, many of these issues created an undercurrent of mistrust and skepticism because allegations were made that there were conflicts of interest and bias in the how initial proposals were reviewed. To resolve this situation, an international design competition often was recommended. Oakland Mayor Jerry Brown, a vocal proponent of an international design competition, later said,

“It's important that we get the best. There is a mediocre mind-set in the driver's seat in the East Bay, and that has to be changed. We need a juried international contest. With this much money on the table, and with a structure of this worldwide importance, you're gonna get some really top people. Look at Bilbao: They got Gehry, and he did a pretty good museum there, didn't he? So why not Oakland?”¹⁶⁴

EDAP member and Bay Bridge Coalition member Roumen Mladjov similarly recommended a design competition stating the Coalition has “lobbied for an open

competition since April 1997. We're not happy with the process. We want a world-class bridge and the only way to get the best design is to hold an open competition.”¹⁶⁵

However, some EDAP members were not in favor of a design competition. According to EDAP member Chris Arnold, “There are big risks with an open competition, especially with a project of this magnitude. The jury may choose a design that may not in the end be buildable. Or the firm that's picked may not have not experience or expertise to carry it out.”¹⁶⁶ A few EDAP members interviewed commented that since the EDAP committee had over thirty members, the influence, if any, by a small number of members on the overall group would be minimal. MTC staff also asserted that the EDAP bridge experts were needed and the community of bridge experts was small. Another EDAP member commented that competition-based projects typically are not developed through a collaborative and iterative process, such as the EDAP process that involved many persons of diverse backgrounds in the design's evolution.

Based on the discussion above, the East Span's planning process was riddled with a vast and conflicting array of perspectives on the bridge's project purpose, the design itself, and the design selection process. The situation escalated into a major disagreement between MTC, Caltrans and others stating that the bridge's planning process was the most inclusive to date for a Bay Area public works project, and the opposing camp of some cities and others questioning the process and the selected design in part due to alleged conflicts of interest and bias. The following chapters describe the efforts of San Francisco, other jurisdictions, and pathway and rail advocates to broaden the project's scope beyond seismic safety and aesthetics.

CHAPTER 4

BATTLE OF THE ALIGNMENT

Bridge Alignment: Development Central

Although public attention during the Bay Bridge's design process focused on aesthetics and seismic safety, a key issue was percolating to the surface and waiting to erupt: whether the new span should be built north or south of the existing bridge. On the face of it, this matter seems resolvable by technical analyses of the San Francisco Bay in terms of locating the structure on the most solid parts of the Bay. As discussed in Chapter 3, MTC and Caltrans decided that the new East Span should be located slightly north of the existing bridge. Three main alignments were under evaluation (two north of the bridge and one south of the bridge), although a total of ten alignments were originally reviewed (see Exhibit 4-1). The agencies considered geotechnical, structural and bridge design issues as well as the potential impacts to existing or planned land uses that could be impacted by the new span's alignment. However, these uses were under the stewardship of several local, state and federal agencies, each with its own plans and goals and with different timeframes for implementation. As will be discussed, San Francisco favored a southern bridge alignment in 1998 and developed a proposal to realign the new bridge to the south. Other agencies also developed alignment positions in part as a response to San Francisco's proposal.

This chapter focuses on the contentious debate that occurred over the region and state's decision to locate the new bridge north of the existing one. First, existing and proposed land uses that could be affected by the new bridge are discussed. Next, the events that unfolded as opposing agencies battled over the alignment are described. The

chapter concludes with a discussion of the perceptions that participants and observers had of the motivations behind the agencies' actions, as well observations about the bridge alignment process and its resolution.

Eastern Terminus on the Oakland Shore

The new span's location could potentially impact the following uses on the Oakland shore: 1) the Port of Oakland's development plans, 2) an existing East Bay Municipal Utility District sewer outfall that carries treated wastewater to the Bay, and 3) the East Bay Regional Park District Plans for a future park to be located south of the existing bridge, called "Gateway Park." This section describes these uses and positions taken by the agencies overseeing them.

Port of Oakland's Expansion Plans

The Port of Oakland owns and operates the Bay Area's largest port as well as the Oakland Airport, and is located on the Oakland shore, south of the existing Bay Bridge. As part of its long term expansion plan, the Port had its eyes on developing an approximately 100 acre site adjacent to the Bay Bridge. This area was designated in the San Francisco Bay Area Regional Seaport Plan approved by MTC and the Bay Conservation and Development Commission (BCDC) as a future port expansion site for a major container terminal, and a portion of it could be impacted by a southern bridge alignment.¹ The area is currently under water, but it would be filled for the terminal.² The Port was planning to develop this site after 2010 or beyond, and the land was to come in part from the planned closure of the adjacent Oakland Army Base.³

In May 1997, the Port of Oakland expressed its support for a northern alignment because it thought a southern alignment would affect its plans for marine terminal expansion of three berths (berths 7, 8 and 9) next to the existing bridge.⁴ In a later letter, the Port of Oakland reiterated this position in stating, "...the site is considered to be one of the most strategic assets in the Port's inventory of expansion opportunities. Loss of use of even a portion of the site represents an 'opportunity cost' of major proportions."⁵ The Port estimated that approximately fifteen acres of the designated 100 acre site would be impacted by a bridge on a southern alignment and this could result in an annual loss to the Port of \$6.7 million (with a net present value over thirty years of \$81.7 million) (see Exhibit 4-2).⁶ Not all were convinced by the Port's statements and a few interview respondents wondered whether the port development could be reconfigured to accommodate a southern bridge alignment while minimizing estimated revenue losses or inconveniences to the Port. As criticisms such as these arose during the alignment debate and San Francisco was recommending a southern alignment at the time, the Port clarified its position as follows,

"We believe that the San Francisco proposal has less potential adverse impact on the Port than the alternative southern alignments presented by Caltrans. However, the impacts of the San Francisco alternative are minimal only when compared to Caltrans' *southern* alignments. They are still greater than the impacts of the northern alternatives. *If* it becomes necessary to build the bridge on a southern alignment, we believe that the San Francisco proposal is potentially a more reasoned approach that has merit. We would be prepared to work toward a project that is based on that alternative, but it is not the Port's preferred alternative."⁷

As such, the Port of Oakland appeared willing to work at some level with San Francisco on a southern alignment; however, the Port made it clear that it unwaveringly supported a northern alignment because it would not impact future port expansion plans.

East Bay Municipal Utility District and its Sewer Outfall and Facility

In addition to a regional port located just south of the existing bridge, a major utility was as well, which was a sewer outfall and dechlorination facility operated by the East Bay Municipal Utility District (EBMUD). The outfall and facility treat wastewater from East Bay jurisdictions. The outfall is 8 feet in diameter and 3.1 miles long, with one mile of it located in the Bay. It runs south of the existing bridge (ranging from just 280 feet south of the bridge at the eastern terminus to 720 feet at the western terminus)⁸ (see Exhibit 4-1).

The new bridge's proximity to the existing outfall became a central issue in the alignment selection. If a new span were built south of the existing bridge and in close proximity or over the outfall, the central issue became whether the outfall should be left in place or relocated. If the outfall were left in place, EBMUD was concerned about the risk of damage to the outfall during bridge construction. Caltrans also was concerned about this as well as the long-term liability because if a leak in the outfall occurred, secondarily treated effluent could flow into the Bay. As such, EBMUD expressed concern over a southern alignment, and generally favored a northern alignment as it would avoid the outfall altogether. However, in the event a southern alignment was selected, EBMUD provided a preliminary estimate that it would cost \$94 million to \$106 million to relocate the outfall and related dechlorination facility as this would be an alternative course of action rather than building a new bridge adjacent to or over the outfall. The relocation would take approximately three to four years, which possibly

could delay the bridge project.⁹ As discussed below, bridge impacts to the outfall and related cost estimates became subject to several technical studies and debate.

Gateway Park

A planned public park was another land use that the new bridge's eastern terminus could affect. The East Bay Regional Park District (Park District) had joined with the Port of Oakland, the City of Oakland, and the Oakland Base Reuse Authority (OBRA) to create a park on the Oakland shore. The park land is a narrow 15-acre section of land south of the existing Bay Bridge (see Exhibit 4-3).¹⁰ The park land came in part from the Oakland Army Base that closed in 1999. This land was conveyed to the Park District by the U. S Department of Interior through OBRA and the U.S. Department of the Army. Caltrans later transferred approximately four acres to the park as a mitigation measure for a BCDC Bay Bridge permit.¹¹ The park's conceptual plan was adopted in 1997 and the park is still in the planning stages.

As the park was located just south of the existing bridge and could potentially be bisected by a new bridge on a southern alignment, the Park District favored a northern bridge alignment. Park Director John Sutter cautioned Oakland Mayor Jerry Brown that a southern alignment would impact Gateway Park, and

“...if carried out, be a disaster for Oakland. It would wreck an exciting, planned new regional park and it would interfere with the Port of Oakland's plans to use the Army's break bulk terminal as a replacement for the obsolete Ninth Avenue Terminal...The southern alignment that (San Francisco Mayor) Willie Brown now wants would eliminate the park because its eastern terminus and connecting freeway would have to be located on the park site.”¹²

In addition, the Park District argued that the park would be an appropriate gateway to Oakland from the Bay Bridge, and in turn the park became known as “Gateway Park”.

District Director Sutter commented, “Gateways are important. Important to cities.

Important to regions. This is an opportunity to have an attractive, interesting gateway to the East Bay.” Similarly, Brian Weise, Park District planner, advocated,

“With 225,000 people coming over the Bay Bridge every day, what they now see is kind of a bleak, barren area, a piece of neglected shoreway. It’s an industrial wasteland. The piece of the army base is pretty neglected. What we’d like to do is to make it into an attractive gateway, with terrific views of San Francisco, the port’s industrial activities, the north side of the bridge, and all along the shoreline.”¹³

However, an Oakland participant interviewed felt that a gateway element was very different from Gateway Park because the park would not provide the direct gateway that the city of Oakland was trying to achieve. The interviewee noted that the park would be physically lower than the bridge and not fully visible to bridge users. This interviewee also pointed out that Caltrans’ initial stance on Gateway Park was that it was not part of the East Span project, and thus the agency did not initially provide funding for it.¹⁴ This interviewee felt that when it became apparent to Caltrans that Oakland’s gateway concerns would need to be addressed, the park became associated with the bridge project. A design competition for the park was also suggested, similar in concept to the City of Oakland’s recommendation for a competition for the larger project. The interviewee perceived this park competition as “let’s throw them a bone” so that Oakland could have a design competition, even though it would be for the park and not the overall bridge. Another Oakland interviewee questioned whether the park’s layout could be reconfigured to accommodate and incorporate a bridge on a southern alignment.

While some Oakland participants were unenthused with the park's identification as a gateway, the Park took on greater significance during the East Span's federal environmental review process. At the request of the U.S. Department of Interior, Caltrans and FHWA considered whether the planned Gateway Park was a protected Section 4(f) resource through a provision in federal transportation law that states "a special effort must be made" to protect public resources including public parks, open spaces, and historic sites.¹⁵ The law reads,

“(t)he Secretary (of Transportation) may approve a transportation program or project...requiring the use of publicly owned land of a public park, recreation area or wildlife and waterfowl refuge of national, State or local significance, or land of a historic site of national, State or local significance...only if—1) there is no prudent and feasible alternative to that land, and 2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.”¹⁶

As the planned park is on public land, included in the Oakland Army Base's reuse plan, and managed by the Park District, Caltrans and FHWA designated the park as a protected Section 4(f) resource. They also noted that a southern alignment would permanently reduce the park by about one-half (7.4 acres) because that land would be used for the new bridge structure if it were on the southern alignment.¹⁷ As a result, the park's designation helped build the case for Caltrans and FHWA in its final environmental document and Record of Decision that a northern alignment would be more appropriate. They argued that a southern alignment would negatively affect the park, which was protected under federal law, and that the northern alignments are "prudent and feasible alternatives" that do not impact Gateway Park.¹⁸ Additionally, this designation bolstered the Port of Oakland's preference for a northern alignment because it would not be the only land use

affected by a new southern bridge. An interesting coincidence was that the land for both Gateway Park and the Port's expansion area would come from the Oakland Army Base due to the base's closure. Further, the Port and park areas were proposed uses still in the planning phases.

Western Terminus on Yerba Buena Island

Although the major landowners on the new East Span's eastern terminus generally favored a northern alignment and held these positions throughout the process, it was less clear what the positions were for some of the stakeholders who had an interest in land adjacent to the existing Bay Bridge on its western terminus. This terminus would be on Yerba Buena Island (YBI), which the federal government largely owned. The United States Navy owns Naval Station Treasure Island (NSTI), which is located on a large portion of Yerba Buena and all of Treasure Island. The navy base's military operation closed in 1997, and the Navy has been in the process of transferring the majority of the base to the City/County of San Francisco for reuse.¹⁹ A U.S. Coast Guard facility is located on the remaining portion of Yerba Buena Island, and Caltrans uses about ten acres for the existing Bay Bridge and tunnel.²⁰

A key issue in the East Span's planning was the new bridge's location and proximity to Navy or Coast Guard property on Yerba Buena Island (see Exhibit 4-4). The Coast Guard and the Navy had very different positions about the bridge's alignment. During the bridge debate, the U.S. Coast Guard was a federal agency within the United States Department of Transportation (USDOT), the same agency that oversees the Federal Highway Administration (FHWA). The Department of the Navy was part of the

United States Department of Defense, and thereby had different chains of command and management structure.

This section first provides a description of the U.S. Coast Guard facility and the federal agency's position on the bridge alignment. Background on Treasure and Yerba Buena Islands and San Francisco's plans to redevelop them also are provided. Then, the U.S. Navy and City of San Francisco's positions on the bridge alignment are described.

United States Coast Guard's Base

The United States Coast Guard operates "around the clock" search and rescue operations, among other activities, on a 30-acre facility, south of the bridge on the southeastern portion of YBI.²¹ The Coast Guard primarily was concerned about whether a southern bridge alignment would impede its ability to effectively provide emergency services.²² As such, the Coast Guard expressed its favor of a northern bridge alignment as a southern alignment would,

"generate significant impacts on the mission and operation of the Coast Guard Base. These impacts include but are not limited to; increased noise in the housing areas due to the close proximity of the bridge traffic, the loss of Coast Guard property and flexibility for future planned uses of that property, the demolition of two buildings, and the reconstruction and alignment of the main entrance road."²³

In addition, a southern alignment would permanently use approximately four acres of land that the Coast Guard would like to develop.²⁴

Background on Naval Station Treasure Island

Naval Station Treasure Island is within the city and county limits of San Francisco. Treasure Island is a manmade island built in the mid-1930's. The 1939 Golden

Gate International Exposition was held at the island in part to “celebrate the engineering marvels achieved with the construction of the Golden Gate and Bay Bridges.”²⁵ The island was originally intended to be used as an international airport; however, with U.S. participation in World War II looming, Treasure Island was made into a naval base and was used after World War II for training and administrative purposes.²⁶ Approximately 150 nonresidential buildings and 900 housing units are located on the island.²⁷

In stark contrast to the flat manmade topography of Treasure Island, Yerba Buena Island is a natural wooded island with hilly terrain. The Navy has occupied a portion of it since 1898 and after 1923 it became a receiving station for overseas servicemen.²⁸ Yerba Buena is home to the Senior Officers Historic District, a cluster of buildings called the “Great Whites” (named for their color and architecture) totaling 7 buildings (Quarters 1 to 7) and built from 1900 to 1903. The main building, the Commander’s Quarters (Quarters 1), is known as the “Nimitz House” as it is named after the Navy’s Admiral Chester W. Nimitz.²⁹ There also are 100 housing units and ten buildings, including the Torpedo Building (Building 262), built in 1891 and located on YBI’s far northeastern coast. It was used for the production and storage of mines.³⁰ The Nimitz House is listed on the National Register of Historic Places (NRHP) and the other historic buildings (Quarters 2 to 7 and Building 262) are eligible for such listing (see Exhibit 4-5).³¹ Lastly, Clipper Cove, a body of water with the potential for expanded marina development, is located between the islands.

The islands are located in the San Francisco Bay between the city shores of San Francisco to the west and Oakland to the east, which are both about two miles away.³² The islands are physically isolated from the mainland and the Bay Bridge, Interstate 80,

provides the only vehicle access to it.³³ The bridge is located on Yerba Buena Island, and Treasure Island is connected to Yerba Buena by Treasure Island Road. The existing Bay Bridge has six freeway access ramps leading to and from Yerba Buena. Caltrans owns and operates the bridge. However, the Navy owns the bridge's ramps, which will be transferred to San Francisco or Caltrans as part of the naval base's conveyance process. San Francisco has argued that the ramps should be transferred to Caltrans as it is unusual for a local jurisdiction to own and operate interstate freeway ramps.³⁴

Naval Station Treasure Island's Land Transfers

The Navy has been in the process since 1993 of converting Naval Station Treasure Island to non-naval uses in response to the federal Defense Base Closure and Realignment Act of 1990 (10 U.S.C. Section 2687) and the Defense Base Realignment and Closure Commission's recommendation to close the base.³⁵ The major land recipient will be the City and County of San Francisco, as the recognized local redevelopment authority (LRA). The base closure process stipulates that the LRA's needs and priorities as identified in its reuse plan are to be considered and given "substantial deference" for the future use of transferred land.³⁶ Initially, the federal law allowed military land to be sold at fair market value to local areas unless the land was used for parks, open space or education purposes.³⁷ Federal law was later revised to provide greater lenience for no-cost or low-cost land transfers as localities found it difficult to recover financially from base closures and purchase land. As of mid-2005, San Francisco requested a no-cost transfer of land. San Francisco's draft Environmental Impact Report on NSTI indicates that approximately 920 acres (681 acres of Treasure Island and 239 acres of Yerba

Buena) would be transferred from the Navy to San Francisco's Treasure Island Development Authority.³⁸

As discussed below, Caltrans also was interested in access to approximately twenty acres for bridge construction.³⁹ According to Caltrans, this land was needed regardless of the alignment selected because all of the alignments would require the same construction staging area. Approximately 8 acres of that land could be developed into alternative uses at a later date (7.2 acres were adjacent to the bridge and 0.6 acres were under the bridge).⁴⁰

San Francisco's Plans for Naval Station Treasure Island

To initiate the transfer of San Francisco's portion of naval land, San Francisco endorsed a draft Reuse Plan during former Mayor Frank Jordan's administration in 1996 to guide island development (see Exhibit 4-6).⁴¹ The plan served as the basis for the required state and federal environmental documents. The Reuse Plan envisioned, "...a dramatic transformation in the type, intensity and character of activities" for the islands.⁴²

A major legal force driving San Francisco's reuse planning was the Tidelands Trust provisions of the State of California's Constitution. The Trust governs the use of lands that have been created by landfill, submerged lands, or lands subject to tides. In general, the Trust maintains that the lands should be made available for primarily public and maritime-related uses. The land may be leased to private entities for development, but not sold. In other words, the land must remain in the ownership of a public trustee (such as the state or a local jurisdiction). According to the State of California and San Francisco's interpretation of the law, Treasure Island was subject to the Trust restrictions

because it is a manmade island built on fill and submerged lands. Yerba Buena Island, as a natural island, is largely not subject to it.⁴³ As a result, San Francisco's development plans sought to locate as much revenue generating development as possible, such as residential development and less public-oriented uses, on Yerba Buena Island since its developable areas were not subject to the Trust.⁴⁴

The Reuse Plan called for Treasure Island to have publicly oriented uses such as hotels, theme park and entertainment venues, shoreline promenades and open space uses as well as a job corps training center. Some residential development also was designated, but the Plan recognized that Tidelands Trust restrictions might prohibit it. On Yerba Buena's eastern side adjacent to the Bay Bridge, the Reuse Plan recommended that the Senior Officers Historic District be used for public events and as a conference/retreat center. It also recommended that the Torpedo Building (Building 262) be developed into a restaurant, community center, art studios or live/work spaces. Finally, artisan cottages and live/work lofts were proposed and to be located in four buildings. On Yerba Buena's western side, the Reuse Plan proposed high density housing with a hotel and condominiums or single-family housing.⁴⁵ It is important to note that a new bridge could affect planned development on YBI's eastern side as the bridge approaches the island's tunnel from the East Bay. However, development on Yerba Buena's western portion would not be affected because the existing bridge west of the island's tunnel would be retrofitted and the bridge's footprint would remain the same.

The reuse plan provided a phasing plan over 35 years. Development on YBI's eastern edge, which could be affected by a new bridge, was scheduled to begin in 2007. According to Caltrans in 2000, "This date (2007) is after the completion of the East Span

Seismic Safety Project in any event,” thereby asserting that bridge construction would not impact new development. At the time, Caltrans had hoped the bridge project would be completed by 2006.⁴⁶ After the reuse plan was adopted, marina development at Clipper Cove was accelerated when San Francisco approved a \$12 million marina expansion plan by Treasure Island Enterprises, a joint venture of lobbyist and businessman Darius Anderson and Ron Burkle’s Yucaipa Company. The proposal recommended construction of a 400-slip marina, restaurant, a public pier and other related amenities.⁴⁷

Lastly, the Reuse Plan indicated that the islands needed major and expensive infrastructure improvements. Seismic improvements were required for Treasure Island since it could experience ground liquefaction and utility failure during an earthquake. The Reuse Plan went so far as to say that “...at least portions of (Treasure) island could slide into the Bay.”⁴⁸ Due to the islands’ physical isolation, transportation improvements also were necessary including new ferry and bus services as well as enhanced pedestrian and bicycle access. In addition, utilities were in need of updating and expansion to meet future development demands. As a result, reuse planning sought to maximize revenue-generating uses to offset high infrastructure costs while recognizing Trust restrictions.

Bay Bridge Access Ramps to Yerba Buena Island

Another critical capital project for the naval base was upgrading the access ramps between the Bay Bridge and YBI. The Navy and San Francisco thought the ramps were substandard and unsafe. These ramps were of interest because the only vehicle access to the islands was via these ramps, and safe vehicle access was tantamount to ensuring successful development. The Navy owned the ramps and was in the process of

transferring ownership to either San Francisco or Caltrans.⁴⁹ The agencies debated who should pay for upgraded ramps, and they strongly recommended that the East Span project upgrade and fund improvements. Since a major financial package was being put together for the bridge, it seemed rational to San Francisco and the Navy that the facility's access ramps ought to be included.⁵⁰ A preliminary draft cost estimate for ramp improvements was reported at \$25 million in 1997.⁵¹ San Francisco and the Navy approached Caltrans about funding the ramps. In response, Caltrans replied,

“Replacement of the ramps is not related to the purpose and need of the East Span Seismic project. Furthermore, the ramps are outside our jurisdiction since they are owned by the Navy. To include replacement of the ramps in the East Span Seismic Safety environmental document would be to expand the scope beyond the intent of seismic safety.”⁵²

Mayor Willie Brown was not pleased with Caltrans' position and later stated, “From Day One I have been screaming about the absence of off-ramps from (Naval Station) Treasure Island. That has not changed one iota.”⁵³

San Francisco and Naval Interests

San Francisco had at least two major issues related to the Bay Bridge's new eastern span and Yerba Buena/Treasure Island. First, it wanted to ensure that Bay Bridge's access ramp improvements were funded. Second, as described in the next section, it was concerned about how the bridge's location on Yerba Buena Island would affect potential development and reuse during the bridge's construction period and after completion. The Navy also had several concerns. According to interviews conducted, the Navy hoped to receive fair market value for the base. A naval official noted,

“We never felt we could give property away. In the case of Treasure Island, it’s a valuable property. The fleecing of America is going to turn its headlights on to Treasure Island and (see if we) gave it away. It would not be a salubrious use of the taxpayers’ dollars.”

Other naval officials were concerned with the potential impact of a bridge project, be it replacement or retrofit, to the islands’ historic structures and views from the Nimitz House. Importantly, however, an interview with a naval official revealed that the Navy’s support also was tied to its interest in maintaining a relationship with Mayor Willie Brown to assist the Navy with the disposal and reuse of Hunter’s Point Naval Shipyard, a base in southeastern San Francisco that had been closed as a full service base since 1974. According to this official, the Navy “definitely had instructions to support, in law, the city, but we really needed him (Mayor Willie Brown) on Hunter’s Point. Navy wanted Brown to tell his folks to get moving and take the property over. We wanted him to take it off our hands quickly.” This official commented that Hunter’s Point was a particularly controversial base for the Navy to dispose of because of major issues related to environmental clean-up as well as addressing issues raised by the strong neighboring area of Bayview/Hunter’s Point that had been largely affected by the base’s original closure. This interview revealed that the Navy had a broader agenda than had been reported in other interviews and in the media about the reasons for supporting San Francisco. Namely, this agenda had three major components. First, the Navy thought it had no choice but to follow federal base closure law in trying to support the local agency. Second, it was trying to protect historic buildings and maintain the property’s high market value because the Navy thought it was a valuable piece of property and was concerned the public would strongly frown upon providing naval land at a reduced price

or free-of-charge. Third, some naval officials sought to cultivate a relationship with Mayor Brown so that he would provide leadership to facilitate conveyance of Hunter's Point, a troublesome base unrelated to Treasure Island.

Alignment Conflicts Begin

With the Navy's 1995 public notice that naval property on Yerba Buena Island was available for reuse, discussions between the Navy, Caltrans, FHWA and San Francisco began over right-of-way needs for the Bay Bridge seismic retrofit project.⁵⁴ In early 1996 and early 1997, Caltrans formally requested permanent land transfers and temporary construction easements for bridge retrofit as well as for a new bridge on a northern alignment. Caltrans noted that land under the existing bridge might be available for other uses should a new bridge be built.^{55, 56} At the time, Caltrans had not decided whether it was going to retrofit or replace the bridge, and so the request accommodated both project types. In response to Caltrans' request made in 1996, the Navy wrote that it had,

“considerable concern as to how you would deal with such issues as construction safety, noise and traffic as it would impact the historic Nimitz House complex during retrofit of the bridge—especially if your plans still include construction of a new span...In any case, we are prepared to work with you to develop satisfactory laydown and temporary construction work areas while the retrofit is underway.”⁵⁷

The Navy also rejected Caltrans' 1997 request stating that it was “premature” and reiterated its concerns about the noise impacts of both a bridge retrofit project and replacement as noise levels could negatively affect reuse of the Senior Officers Historic District. “This I believe would be unacceptable to the City (of San Francisco) if reuse is

to become economically viable anytime soon,” wrote Kenn Y. Parsons, NSTI’s base conversion manager.⁵⁸ From these documents, it appears that the regional bridge design process began with Caltrans’ knowledge that the current landowner, the Navy, had concerns about the new bridge’s potential impacts to San Francisco’s reuse plans.⁵⁹ However, participant interviews revealed that there was a wide range of interpretation on the level of opposition. Some interviewees felt that the Navy clearly articulated its opposition to the northern alignment from the outset, while others thought that the Navy was just following federal law to: 1) ensure that any needed mitigations to the buildings and grounds would be provided, and 2) lend support to the local reuse plan as required by base closure law and guidance.

San Francisco also had reservations about the new bridge’s impacts on its reuse plans for YBI in terms of construction and permanent impacts. In particular, temporary detour structures would be constructed in close proximity to and/or over the area slated for immediate reuse (see Exhibit 4-7). Further, the agency was concerned about the potential for increased noise, and shadows cast on the buildings, such as the Nimitz House, and grounds as well as unpleasant views from some of the buildings depending upon the location of the bridge’s permanent and temporary footings (see Exhibit 4-8).

According to Caltrans, the existing bridge is approximately 48 meters (157 feet) from the Nimitz House and a new bridge on the northern alignment (N-6) is about 36 meters (118 feet) from the building at the closest point (see Table 4-1). A new northern bridge would be about 12 meters (39 feet) closer to the building. A bridge on a southern alignment (S-4) would be 54 meters (177 feet) from the Nimitz House, and the difference in distance between the existing bridge and the southern bridge would be 6 meters (20

feet). Overall, the difference between the northern bridge (at 36 meters) and the southern bridge (at 54 meters) is 18 meters (59 feet) away from the Nimitz House.⁶⁰ Further, the northern bridge would be built directly over the Torpedo House (Building 262). These measurements demonstrate that the existing bridge is in close proximity to the Nimitz House and the reuse area. A new northern bridge would have a similar presence to the Nimitz House as it would be just 12 meters (39 feet) closer than the existing bridge. The major difference between the alignments is that the new northern bridge would be located over the Torpedo House (Building 262) and the area intended for new development (see Exhibits 4-9 and 4-10). Further, the temporary detour structures for all bridge alternatives would be located over the Senior Officers Quarters, which could make reuse difficult during the bridge's construction period.⁶¹

Table 4-1

Distance between the Nimitz House
and Bay Bridge Alignment Alternatives⁶²

Bridge Type	Approximate Horizontal Distance from the Bridge to the Nimitz House (Quarters 1)
Existing Bridge	48 meters (157 feet)
New Bridge on a Northern Alignment (N-6)	36 meters (118 feet)
New Bridge on a Southern Alignment (S-4)	54 meters (177 feet)
Temporary Detour Structures for All New Bridges	2 meters (7 feet)

Source: FHWA and Caltrans, *East Span FEIS*, 6-15.

However, Caltrans stated that although the new northern bridge would be closer than the existing bridge, the noise level at the Nimitz House would be lower by up to nine

decibels. The new bridge's design with side-by-side decks would reduce noise levels associated with sound emanating from vehicles traveling over expansion joints and from the sound of vehicles on the lower deck rebounding up to the upper deck as it currently does on the existing double-deck structure.⁶³

Initially, San Francisco opposed the northern alignment as shown in Mayor Willie Brown's statement:

"The alignment of the eastern span onto Treasure Island is also critical to us as we take possession of the Island from the Navy this fall. The proposed Northern alignment precludes development of most of the flat, developable land on Yerba Buena Island. Reuse of existing buildings and redevelopment of this area is critical to providing revenue to fund redevelopment of Treasure Island, where seismic safety issues and Tideland Trust restrictions impose higher costs for redevelopment. For this reason, along with the increased costs for the replacement span, I am against the Northern alignment. The Southern alignment preserves these immediately developable opportunities, reduces negative visual and noise impacts from the existing Bridge, and costs less."

Mayor Brown also advocated for funding improvements to the bridge's access ramps.⁶⁴

Nearly a month later in July 1997, a deal was struck between the region and Mayor Brown when he provided his support for the northern alignment in exchange for MTC's willingness to provide \$80 million for improvements to downtown San Francisco's Transbay Terminal and its recommendation to Caltrans that the bridge access ramps also should be funded. Mayor Brown then wrote to MTC,

"The arguments of a southern alignment versus a northern alignment have to be weighed with the impact each alignment has on either Yerba Buena Island or the Port of Oakland. It is my feeling that the economic development opportunities to the Port of Oakland outweigh the economic opportunities to San Francisco at Yerba Buena Island. Even though it will cost more money to build a signature Bridge, I am willing to support the efforts of the majority of this (MTC) task force to support the northern alignment."⁶⁵

Of this deal, William F. Hein of MTC commented, “I don’t think it was a trade; it was more of a sweetener. I think (Brown) was saying, ‘We’re a reasonable city seeking money for our (Transbay Terminal) project’ and then he threw something in to prove how reasonable he is.”⁶⁶ Interview respondents confirmed that San Francisco’s change of heart was related to securing funds for the Transbay Terminal and the bridge access ramps. One interviewee commented that since there was going to be a bridge toll increase to fund the East Span project, San Francisco thought it should receive funds from the increase for the Transbay Terminal or the ramps. This interviewee commented, “We just saw an opportunity...let’s broker these deals to get the ramps or the Terminal.” The interviewee noted that San Francisco staff had done its research and learned that the Transbay Terminal was built with and historically linked to the Bay Bridge.⁶⁷ As such, an argument could be crafted that the Terminal should be upgraded since its historical counterparts, the Bay Bridge’s eastern and western spans, also were undergoing seismic improvements. San Francisco’s interest in receiving ramp funding was because “we gotta create the good bone structure (for Treasure Island). If we had an opportunity to get the ramps, let’s do it,” according to the interviewee. With respect to San Francisco’s acquiescing on the northern alignment, another interviewee commented,

“Frankly, Treasure Island is rather marginal to the future of the City when compared to the Transbay Terminal and Downtown...It wasn’t that this (Yerba Buena Island) was such a prize. It was readily usable. The issue was phasing (the development) so people would know and would have an interest in Treasure Island. Nobody can really picture (the islands) because nobody really had been there.”

With the Mayor’s blessing on the alignment, MTC adopted seventeen East Span recommendations (see Chapter 3). Three recommendations appear tailored to document

negotiations and hopeful resolution on the alignment between MTC, Caltrans, and San Francisco. The three MTC recommendations were:

“Recommendation 1: The Commission should support a two year extension of tolls and establish the priority for use of the estimated \$230 million (from toll revenues) as follows: first, for the additional costs for a cable-supported structure; second, for a portion of the cost of the Transbay Terminal; and third, a bicycle and pedestrian facility on the east span of the bridge should continue to be evaluated through the 30% design stage.

Recommendation 9: The Yerba Buena Island ramps are an inherent part of the bridge and Caltrans has the responsibility to replace the ramps in order to assure safe traffic flow on the bridge.

Recommendation 10: The new eastern span should be built on the northern adjacent alignment.”⁶⁸

According to Denis Mulligan of Caltrans, “This was a recommendation (on the alignment) made by technical experts that (MTC) policy folks embraced. The policy folks are quite savvy and so they waited till they had basically a message from Mayor Willie Brown, San Francisco, as to what his desire was.”⁶⁹

However, not all were pleased with the Transbay Terminal’s inclusion in the funding list. The Contra Costa Transportation Authority explicitly stated in a board resolution that the Transbay Terminal and bridge access ramps should not be part of the replacement project, but should be considered elsewhere for funding.⁷⁰ Many also testified at an MTC meeting against including the Terminal in the bridge package.⁷¹ MTC Commissioner Mark DeSaulnier, a Contra Costa County Supervisor, wondered, “What’s in it for us?” because many of his constituents reportedly questioned using their bridge tolls to fund a new terminal facility.⁷² Another MTC commissioner interviewed commented,

“I didn’t like it (the terminal). Later on I probably came to believe that the Terminal itself could enhance capacity...If you have a good bus terminal there, AC Transit might get more passengers. There were different ways I could rationalize it. I couldn’t understand why it was there from the beginning but after a while I came around to believing that maybe some of the funding made sense. But that would have been the first that I would have dropped off (the funding list).”

Some pathway advocates also were disappointed that the Terminal facility had a greater funding priority over the pathway. “You shouldn’t give Willie Brown a blank check to move the (Transbay) terminal somewhere else and shrink it. Willie Brown is taking advantage of this project,” commented Steven Bodzin of the San Francisco Bicycle Coalition.⁷³

In addition to MTC’s actions, Governor Wilson signed Senate Bill 60 authored by Senator Quentin Kopp, which permitted that a portion of the toll revenues generated from the 1998 one dollar toll increase could fund the Transbay Terminal’s replacement or relocation.⁷⁴ This bill specified the northern alignment as the basis for the cost estimate developed for the legislation (see the previous chapter for further detail on SB 60). A grand event even was held to sign the legislation on Treasure Island with the Bay Bridge as the backdrop. Governor Wilson, Mayor Willie Brown, Senators Quentin Kopp and Bill Lockyer, and others were in attendance (see Exhibit 4-11).

At about this time, the City/County of San Francisco created a special authority, the Treasure Island Development Authority (TIDA), to implement and manage the islands’ development similar to a redevelopment authority. However, state legislation was needed to authorize the new development authority. In September 1997, another deal was negotiated between San Francisco and the state of California.⁷⁵ This time, the

state was willing to sign legislation, Assembly Bill 669 of 1997, to establish the new authority if San Francisco granted Caltrans easements to build a new eastern span as well as the necessary easements for the western span's retrofit.⁷⁶ This new authority was important to the City's development plans as its creation would streamline the development and regulatory process for the islands.⁷⁷ An Urban Land Institute's report on island development recommended a similar authority to reduce the number of different city and county departments and boards that had to review and/or approve the island's development plans. The Governor signed AB 669 in October 1997 with the understanding that the easements would be available to the Bay Bridge as the City had offered them. At the time of the offer, the U.S. Navy was the legal landowner of the islands, and San Francisco did not have the legal authority to make such a land offer.

Approximately two weeks after AB 669 became law, San Francisco staff verbally informed Caltrans that San Francisco may be rethinking its position on the northern alignment based on new factors.⁷⁸ It appears from project meeting minutes that San Francisco was concerned that bridge construction may impact Treasure Island's Clipper Cove marina development that was under consideration at the time.⁷⁹ These late 1997 Caltrans meetings at which the city expressed renewed concern over the northern alignment are noteworthy for two reasons. First, many have said that San Francisco and Mayor Willie Brown did not reverse positions until the end of the MTC public design process in June 1998. However, based on Caltrans' meeting records, San Francisco's renewed concern brewed earlier and was expressed verbally to Caltrans in late 1997. Second, the deals the state and region negotiated with San Francisco over the Transbay Terminal, the Treasure Island Development Authority's creation, and land needed for the

Bay Bridge only lasted a few weeks or months at best before San Francisco's opposition to the northern alignment arose like a dreaded phoenix out of the ashes to the dismay of the state and region.

A few months later, former San Francisco Supervisor Annemarie Conroy was named Executive Director of the Treasure Island Development Authority in March 1998.⁸⁰ With her appointment, the City of San Francisco's opposition to the northern alignment took on a new life. Several interviewees commented that the turning point in San Francisco's expression of opposition to the northern alignment was her appointment as the new development director and her subsequent review of the Bay Bridge project.

One interviewee bluntly said,

“The main thing that happened was that he (Mayor Willie Brown) got a different staff person in charge of the issue. We lost Larry Florin (the former redevelopment director) and Annemarie Conroy came in. Conroy convinced him he had given away the store and you got a fight it...the design was already getting some flack from the East Bay and so he probably figured, ‘Hey here’s my chance to sweeten the deal for me I’ll throw in with them and criticize the design.’ ”

Records of meetings from early to mid-1998 indicate that San Francisco staff, particularly with Conroy's arrival, continued to express concern to Caltrans about the potential negative impact of the northern alignment on Yerba Buena development. Caltrans response to city staff's verbally stated concerns was: 1) San Francisco's official position in writing was the 1997 Mayor Brown letter in support of the northern alignment and 2) MTC commissioners who represent San Francisco have voted to date on the northern alignment.⁸¹

Then, a few days prior to MTC's bridge design decisions in June 1998, the City of San Francisco sent two key letters to MTC and formally changed its position on the

northern alignment. First, Mayor Willie Brown expressed concern that the bridge project would “significantly impact San Francisco’s ability to make the Treasure Island project financially self-sustaining and have adverse environmental and historic preservation consequences.” He asked MTC to postpone its bridge design decision stating, “There is no need to rush into a final decision as the current East Span is presently in the process of being retrofitted prior to replacement.”⁸² Second, Dale Carlson, the TIDA chairman, relayed TIDA’s reservations about the northern alignment with respect to the negative short-term impacts during bridge construction to Clipper Cove and the long-term impacts to island redevelopment. He noted,

“Treasure Island is subject to the state Tidelands Trust, which limits new development to public and maritime-related uses. As a natural island, Yerba Buena, is not subject to the Trust or these limitations, and thus holds the greater promise for new projects that can contribute to the economic vitality and sustainability of the redevelopment project as a whole.”⁸³

According to Conroy, San Francisco changed its position because “What they forgot to tell us (is) that it (the bridge) would be three times the width. Regardless of whether it’s too late or early to raise these concerns, they are tremendous concerns.”⁸⁴ San Francisco representatives asserted that they did not know that the new bridge would have side-by-side decks and take up a larger area than the bridge’s existing double-decked structure. “There was not physical design actually done that showed where various anchorages would be placed on property we hoped to acquire from the Navy,” stated Mayor Willie Brown.⁸⁵

Despite San Francisco’s opposition as well as design-related concerns from East Bay cities, MTC approved the self-anchored suspension bridge to be built on the northern alignment in June 1998 (see Exhibit 4-12).^{86, 87} MTC and Caltrans felt that the decision

on the alignment had been made in 1997 when Mayor Brown had consented to it and did not want to revisit the issue. San Francisco then began to strengthen its case against the northern alignment and appeal to the state and federal government that its voice was not heard in the regional debate. TIDA completed three alignment-related analyses in late 1998 on bridge alignments, including: 1) a preliminary economic impact analysis, 2) a proposal for a modified southern bridge alignment, and 3) a geological review of bridge alignments. These studies were used to craft a response to the new bridge's federally required draft Environmental Impact Statement and to demonstrate point-by-point why a southern alignment should be selected. San Francisco intended for these studies to provide "solid and credible evidence that obligates the CalTrans and FHWA to analyze in depth an additional alignment," wrote Mayor Willie Brown.⁸⁸ By using their own experts, these analyses were intended to bolster and add technical legitimacy to San Francisco's position that a southern alignment was a better option both for YBI development and bridge design.

With respect to possible economic impacts, the preliminary analysis stated there would be "permanent and significant impacts" of a northern bridge to Yerba Buena development. In particular, the study estimated an annual rental loss of approximately \$2 million for the Torpedo Factory, Nimitz House, and Quarters 2-7 as well as an approximate \$21 to \$22 million reduction in the sale value of these properties. During the bridge's construction period, the study estimated that there could be a revenue loss of over \$10 million over a five-year period because some facilities would not be usable due to reduced access or noise.^{89, 90}

In addition, TIDA developed its own southern alignment to provide an alignment alternative for Caltrans and MTC to consider. The study, done by Korve Engineering, recommended that a new southern bridge on a straight line alignment would minimize impacts to Yerba Buena and Port of Oakland developments as well as EBMUD's sewer outfall. The Korve alignment was similar to a Caltrans' EIS alignment (Alignment S-1 as well as S-4 for connections to YBI's tunnel), but Korve had adjusted the termini at Oakland and YBI to minimize development impacts (see Exhibit 4-13). According to the study, only 1.2 acres of YBI land would be below the bridge with a southern alignment, as compared to 7.3 acres under a bridge with a northern alignment. For the Port, the southern alignment would impact only three of the hundred acres designated for future Port development. The study also recommended that the sewer outfall could be left in place as the bridge's foundations could be built around the outfall. Caltrans' southern (S-1) alignment was withdrawn from further consideration primarily because of the cost and time delays associated with sewer outfall relocation and the risks of locating a bridge near the outfall. However, Korve recommended this alignment's reconsideration because it argued that the outfall could be left in place with little risk. The Korve proposal was coined the "modified S-1 alignment." Korve concluded,

"The relationship of the (EBMUD sewer) outfall was studied, and it is our professional opinion that for a fraction of the cost of relocating the outfall, the bridge foundations can be designed around the outfall pipe, any impacts to the pipe can be mitigated through appropriate engineering design, and construction methods can be developed which avoid dredging in the vicinity of the outfall pipe."⁹¹

This study provided San Francisco with engineering analysis that supported its claim that Caltrans' dismissal of the southern alignments' due to sewer outfall impacts was

unwarranted. With this study in hand, Conroy said, “We’re not going to take it lying down. We needed a rock’em, sock’em answer, and now we have it.”⁹²

The third in this set of San Francisco analyses was the work of Dr. Patrick L. Williams, a geologist. He stated that a southern alignment provides an optimal location for a new bridge because:

“... achieving equivalent seismic performance along the north (N6) alignment will require significantly increased foundation and tower structure. A south alignment therefore appears to achieve the best available seismic performance and will probably reduce the cost of construction. In conclusion, geological conditions favor southerly bridge routes insofar as: 1) bedrock extends at least as far from Yerba Buena Island along the southerly alignments as along the north alignment (N6), and 2) depth to bearing soil is 20 to 60 feet less along southerly alignments as along the north alignment (N6).”⁹³

In relaying the study’s results, Conroy wrote to Mayor Willie Brown,

“Since MTC and Caltrans have touted the (Bay Bridge) project as one of ‘seismic safety’, the Treasure Island Project Office contracted with a geologist to review the Bay Muds and geological fitness of a southern alignment and a northern alignment. The southern alignment would be located in an area reaching stable ground at far shallower depths. The northern alignment requires very deep pilings before solid, stable ground could support a bridge.”⁹⁴

Armed with the three studies’ results for its response to the bridge’s draft Environmental Impact Statement (DEIS), San Francisco built a case that a bridge on a northern alignment would have significant economic impacts to island development, a southern alignment was feasible because the sewer outfall could be bridged, and that a southern alignment was desirable from a geological viewpoint. The Navy also opposed the northern alignment in its response to the DEIS. Robert B. Pirie, Jr., Assistant Secretary of the Navy, wrote,

“The proposed northern alignments of the bridge would connect it to Yerba Buena Island in a manner that places the bridge directly over historic structures of national importance and ecologically sensitive areas. The northern alignments would physically dominate and render useless most of the developable land on Yerba Buena Island that the City of San Francisco plans to redevelop.”

Mr. Pirie also stated, “The northern alignment would also leave Navy with uneconomic remnants of property...”⁹⁵ As such, the Navy exhibited concern that it could be left holding the bag with property it was required to convey.

These studies and the Navy’s position did not persuade Caltrans to select a southern alignment. In December 1998, Caltrans announced that the environmental impact statement’s preferred alternative was the northern alignment (N-6).⁹⁶ Caltrans later wrote in its final environmental impact statement (FEIS),

“While a southern replacement alignment would have fewer permanent impacts on Navy-owned land expected to be transferred to CCSF (City and County of San Francisco), it would have greater permanent impacts on the USCG (United States Coast Guard) facility on YBI, EBMUD facilities, and the future Gateway Park at the Oakland Touchdown area. Construction impacts on YBI would be similar for any build alternative.”⁹⁷

According to Caltrans and FHWA, the northern alignment also was selected because it offered a better location for constructing the new span’s tower in bedrock, contrary to San Francisco’s geology analysis by Dr. Williams. A northern alignment tower would hit bedrock at twenty to thirty feet below the mud line as opposed to 220 to 233 feet for a southern alignment. The northern alignment also would maximize views of downtown San Francisco to westbound travelers.⁹⁸ San Francisco’s reaction to this announcement was the following, as stated by Ron Vinson, Mayor Brown’s deputy press secretary,

“Its seems as though Caltrans is buying themselves a lawsuit. San Francisco will continue to fight for an environmentally friendly

southern alignment. We will continue to work with the city of Oakland, the Port of Oakland, the Federal Highway Administration, the Coast Guard, the Navy and other entities to develop a consensus for moving forward with a southern alignment”.⁹⁹

The alignment announcement came almost one week before then-Governor Gray Davis took office on January 4, 1999 and a few days before Davis appointed San Francisco Supervisor Jose Medina Caltrans Director to succeed Caltrans Director James van Loben Sels. With Governor-elect Davis coming into office, Mayors Willie Brown and Jerry Brown hoped that Davis would align with them and move the bridge south because the new governor had: 1) been former Governor Jerry Brown’s chief of staff, 2) had close connections with Mayor Willie Brown when Brown was Assembly Speaker, and 3) appointed San Francisco Supervisor Jose Medina as the new Caltrans Director.^{100,101}

With technical studies under its belt and optimism that California’s new leadership would be supportive, the City of San Francisco presented its proposed southern alignment alternative. San Francisco’s positioning was that: 1) the northern alignment would severely impact San Francisco’s development plans for NSTI and decimate historic structures such as the Nimitz House, and 2) San Francisco’s bridge alignment proposal provided a middle ground upon which all affected stakeholders could agree. Conroy told MTC’s Bay Bridge Design Task Force,

“...This is about taking away the opportunities for the city of San Francisco and its base re-use plan. We have planned for the torpedo house (which) will be lost to us, you’re going to put a restaurant underneath a bridge that what’s planned for there, it’s a beautiful old structure. It will make a wonderful micro-brewery something very special out on the water. The peninsula there would be a great place for live/work space, condos, a conference center or toward the water, a bed and breakfast. You wouldn’t want a bed and breakfast right there by the bridge.”¹⁰²

Others felt that the reason for moving the bridge alignment south was not compelling. EDAP member Christopher Arnold said, “This is a very small tail wagging a very big dog. If you are worried about a historic house. I would move the house. Don’t move the bridge.”¹⁰³ Later in the process, MTC Commissioner and BCDC board member Angelo Siracusa similarly stated, “Those reasons (island development) seem to pale against the importance of the bridge itself.”¹⁰⁴

San Francisco argued that its proposed southern alignment would satisfy all of the affected agencies needs, including the City of Oakland, EBMUD, and the Port of Oakland.¹⁰⁵ One representative involved in San Francisco’s efforts stated, “We definitely tried to get people (involved). The water district (EBMUD), even cities who were objecting, even city of El Cerrito, East Bay Parks... We tried to build a coalition to slow down the process to get people around to our point of view.” In framing the positive aspects of the proposal, Conroy wrote to Caltrans,

“The modified S-1 alignment provides a means of averting the destruction of the irreplaceable historic resources on Yerba Buena Island while addressing the critical issues of the Port of Oakland, the East Bay Regional Park District and the East Bay Municipal Utilities District.”¹⁰⁶

Out of concern that there may be misunderstandings or mischaracterizations about the Port of Oakland’s position, the Port wrote to MTC that its preferred alignment was the northern alignment. The Port did offer to work with other agencies on a southern alignment if necessary.¹⁰⁷ At this time, several public agencies also took positions advocating a northern bridge alignment. Their actions appeared to counter the building opposition and pressure from San Francisco on the bridge location and from inner East Bay cities and advocates on a new aesthetic design and/or bridge rail service. Agencies

supportive of the northern alignment generally represented Contra Costa, San Mateo, and Solano cities and/or counties as well as the Association of Bay Area Government's Legislation and Governmental Organization Committee. These agencies often cited that their constituents paid tolls to demonstrate that their voices also should be represented in the debate. Chairman Charles Abrams of Contra Costa Transportation Authority wrote,

“The residents of Contra Costa represent almost one-third of the commuters using the bridge, and paying the \$1 toll surcharge for the retrofit. We believe that it would be unconscionable — from the standpoint of both public safety and accountability to taxpayers—to reopen the debate over location and design.”¹⁰⁸

In addition, the Solano Transportation Authority was concerned that project delays would increase project costs. It noted that Solano County commuters pay two tolls when traveling to San Francisco (the Bay Bridge plus the Carquinez or Benicia-Martinez bridges) and that 6.5% of Bay Bridge users are from Solano County.¹⁰⁹ Another bridge observer similarly told the *San Francisco Chronicle*, “Commuters on the nine bridges are paying a buck extra for this bridge and they live all the way from Tracey to Vallejo.”¹¹⁰

Governor Davis' Decision on the Bridge Alignment

Approximately three months after Caltrans' selection of the northern alignment as the preferred alternative, Governor Davis announced his support for it citing cost and expediency as his main considerations in March 1999. An interviewee involved with the governor's decision stated the Davis administration wanted “to get the project unstuck and moving” towards construction. His administration was not interested in having the state of California negotiating with Mayors Willie Brown and Jerry Brown because “knowing Bay Area politics, if Davis caved to them, the bridge process could still go on

forever.” The Davis administration had seen that earlier negotiations with San Francisco on the Transbay Terminal and TIDA’s creation had not kept San Francisco from changing its positions and was concerned that something similar could happen again. There also was concern that bridge aesthetics would endure ceaseless debate.

After Governor Davis’ announcement, Mayor Willie Brown voiced opposition to the new design’s structural design because he was concerned that the bridge may be seismically unsafe. He recommended that the existing bridge should be retrofitted. His position was based in part on a briefing by University of California, Berkeley engineering professor Abolhassan Astaneh-Asl.¹¹¹ Professor Astaneh had shown tests in which the new bridge span would suffer serious damage with a 7.3 magnitude quake on the Hayward fault. “I’m going to try myself to get him (Astaneh) maximum exposure and then hear from dueling engineers,” said Willie Brown.¹¹² Brown’s new interest in retrofit would not interfere substantially with development plans on Yerba Buena Island because the existing bridge would remain in its current location. To several observers, this change in position was viewed as San Francisco’s attempt to continue opposing the northern bridge alignment.

In addition to his analysis, Professor Astaneh stated, “If you spend \$300 million, you can fix the (current span) very safely. Forget about the southern and northern alignments.”¹¹³ Brown was not the only one who advocated that retrofitting the bridge should be revisited. Other project participants suggested it in part because Dr. Astaneh, a technical expert and university professor, thought it could be done at far less expense than building a new bridge. Diane Tannewald of the City of Oakland commented, “Our concern is that we are basically getting a brand new bridge for \$1.5 billion that doesn’t

increase capacity. It may be in our best interest to spend \$600 million and retrofit it.”¹¹⁴

On a similar note, “To retrofit the existing bridge is the most economical and the least disruptive. Besides, I think the trusses are beautiful. Its not sustainable development to discard this bridge, which is after all only sixty years old. I’m older than that, and I’m not ready for the scrap heap,” commented Joyce Roy, member of People on the Bus, a transit advocacy group.¹¹⁵

San Francisco also continued to investigate a southern alignment because Governor Davis offered reconsideration of a new alignment only if the bridge’s completion would not be delayed and it would not cost more. San Francisco took him up on his challenge and completed a study by J. Muller International, a bridge engineering firm, that reexamined the southern alignment with respect to the EBMUD sewer outfall, construction schedule and cost. It used the modified S-1 alignment, initially proposed by Korve for San Francisco.¹¹⁶ The J. Muller report asserted that Caltrans had been overly conservative in estimating the bridge delivery schedule, and it had minimized the amount of completed design work on the northern alignment that could be reused for a southern alignment. The study also concluded that the sewer outfall could be accommodated in place, a savings of about \$57 million would result, and the bridge’s project schedule would be maintained and “ultimately shave years off of the schedule if making the move (to a southern alignment) improves the chances that the environmental document can be approved.”¹¹⁷ Of this study, Annemarie Conroy of TIDA said, “This new study changes things dramatically. The governor said he wanted to look at delays and costs. We’ve met both challenges.”¹¹⁸ In response, then-Director Harry Y. Yahata of Caltrans District 4 wrote,

“Caltrans disagrees with the assertion that changing the alignment at this stage will not cause delay to the start of construction. While the report states that there will be no delays, the fact is that more than a year of intense design work has taken place to get us to the 50 percent completion phase. Changing the alignment now will require a duplication of that work...Apparently the “qualified experts” who wrote the report do not have a grasp of the level of analysis, investigation, and design that must take place for a bridge of this complexity.”

Further, Caltrans asserted that the cost savings estimated in the J. Muller report from a southern alignment were inaccurate because the report assumed that using smaller piles would lead to reduced costs. Caltrans also stated that it does not believe the outfall could be straddled because the outfall could be displaced during an earthquake and cause bridge damage. Caltrans’ response concluded with,

“This report does not provide any meaningful information to adequately evaluate the modified S-1 alignment. The report shows either a lack of experience working with such complex site conditions or was done to fit the budget, and its conclusions are unsubstantiated. I am sorry but this report does not satisfy the State’s concerns for delay and costs.”¹¹⁹

To further refute San Francisco and J. Muller’s claims, Caltrans contracted with Parsons Brinckerhoff to analyze San Francisco’s alignment proposal. This report estimated that accommodating the outfall in place could cost between \$50 to \$80 million dollars. It also asserted that outfall relocation would cost “tens of millions of dollars” and could delay the East Span project by three to five years as relocation would need to be completed before bridge construction.¹²⁰ Overall, Caltrans found,

“...It is prudent for the SFOBB project to avoid direct impacts to the EBMUD sewer outfall facilities. The increased cost of construction, complexity in design, impact to bridge aesthetics, and high potential for schedule delay exceed the potential benefit on the development opportunities on Yerba Buena Island.”¹²¹

Geotechnical Soil Testing on Yerba Buena Island

While San Francisco publicly fought against the northern alignment, yet another battle was brewing between the Navy and Caltrans on whether, where and when Caltrans could begin geotechnical testing of soils on Yerba Buena Island. This testing would take the form of drilling three to four inch diameter holes at designated locations. According to Caltrans, these samples were necessary to complete the environmental and engineering analyses for the environmental impact statement and the bridge's design. At first, drilling was proposed only at locations to study of northern alignment alternatives.¹²² In response, Captain Ernest R. Hunter of the Navy wrote, "These investigations that you wish to conduct support construction of the northern alignments that would harm Navy property."¹²³ As the landowner, the Navy had the upper hand because it was able to deny Caltrans access to drill. The Navy's spokesperson, Jeff Young, stated,

"The bottom line is the federal government owns the island. We will not agree to any plan that threatens historic buildings and the reuse plan. It's not a matter of how many acres are sliced away. It's the proximity. No one wants to live in an area that that's in proximity of a freeway."¹²⁴

To appease the Navy, Governor Davis wrote to Navy Secretary Richard Danzig in mid-1999, and promised,

"The geological tests are necessary regardless of whether a northern or southern alignment is ultimately approved. Therefore I am requesting the Navy to allow CalTrans to conduct geological drilling on the Yerba Buena Island for both the northern and southern alignments contained in the Draft Environmental Impact Statement. The drilling will not prejudice the outcome of the environmental process."¹²⁵

During the drilling debate, MTC launched a public outreach effort to “stop the naval blockade,” as it was coined, targeting President Clinton, the news media, public officials, and the public to inform them of the contentious discussion over drilling access to Yerba Buena. MTC Bay Bridge Task Force chairperson Mary King wrote to President Clinton,

“(T)he Navy has mounted a virtual blockade against this public safety project...This naval blockade has moved us one year closer to the next major earthquake and has added \$50 million in inflationary cost to the \$1.5 billion price tag of the new bridge. The Navy has exhibited the most irresponsible conduct by any government agency that I’ve see in my 23 years of public life. I was under the impression that the Navy’s mission was to protect American lives, not to jeopardize the lives of the 180,000 U.S. citizens who travel across the Bay Bridge every day.”¹²⁶

Navy representatives interviewed were not pleased with MTC’s media campaign as they commented that the Navy had not been playing a media information game, and did not initially go to the media. They also noted that the Navy had documented in writing its concerns to Caltrans. Nevertheless with escalating media attention and the State of California’s agreement to conduct tests for both northern and southern alignments, the Navy allowed the surveying to begin in late 1999. Overall, the debate on whether and where to drill lasted for approximately one year. As stated above, MTC asserted that the year it took for the drilling permit’s execution added \$50 million to the project cost. (The figure was based on an annual three percent cost escalation for the overall project then estimated at \$1.5 billion.)¹²⁷ However, a San Francisco representative had a different opinion of the schedule impact:

“The notion that the fight over the alignment could have a material impact on the time delays or cost overruns that Caltrans is (currently) facing seems very implausible by all accounts. Caltrans identified a preferred alignment and pursued that route and

eventually got what it needed...It is not plausible that a few soil borings for geotechnical testing could stop a \$2 billion project. If you don't get the soil borings, you catch up with those pieces later."

Uncle Sam to the Rescue

During the drilling permit and alignment debates, Governor Davis, MTC and San Francisco separately appealed to President Clinton and/or White House staff to intervene. The federal National Economic Council (NEC) became the mediator between the federal agencies and oversaw a process to resolve the impasse.¹²⁸ Governor Davis said he was working to make the federal government "speak with one voice" because the Coast Guard supports the northern alignment, the Navy supports the northern alignment and the Department of Interior opposes the southern alignment because of its impact to Oakland's Gateway Park.¹²⁹

The National Economic Council often mediated disputes between federal agencies. According to a federal interviewee, disagreements between federal agencies were "par for the course." However, it was unusual for NEC to be mediating a disagreement between a mayor of a major city and a governor, both of whom are from the Democratic Party, as was President Clinton, and from the state of California, which was a key state for the President. NEC's goal was to resolve the debate quickly because some federal participants were concerned that a major earthquake could occur during or shortly after the debate's resolution. Several contentious NEC meetings were held with federal agencies and other stakeholders. NEC commissioned two oversight reviews conducted by the U.S. Army Corps of Engineers in 1999 and 2000 to review the

contradictory analyses of Caltrans and San Francisco.¹³⁰ A federal participant commented,

“When there is a Berkeley professor (Professor Astaneh) saying this bridge is unsafe, you can’t ignore it. We had reasons to be skeptical. He had lost the competition and had originally pushed retrofit, and there had been a technical position on that issue, and what he was saying was against a high powered panel (EDAP) that had Bruce Bolt (another U.C. Berkeley engineering professor) on it...The first Army Corps study was key (to addressing the dispute over the sewer outfall). The second study (on bridge safety) was a goodwill gesture, and of course there are these little questions, what if is Astaneh is right?”

According to several representatives interviewed, the Corps studies were undertaken to provide independent analyses of technical issues in dispute as they have done in other situations. Some participants considered the Corps an independent body, and that the studies provided useful information when factual disagreements occur between agencies. Others were less convinced that the Corps was an independent source because they thought the Corps was a “highly political operation” that provides “a soggy response” full of caveats instead of a “crisp response.”

The first Corps study examined the impact of the EBMUD sewer outfall on the alignment decision and what the impacts would be for relocating the outfall or building a bridge over it. It reviewed the following studies: the modified S-1 alignment study done by J. Muller for San Francisco, the alignment and outfall study by Caltrans/Parsons Brinckerhoff, and the EBMUD outfall analysis. The Corps’ main conclusion was that both outfall relocation and building a bridge over the outfall could delay the bridge project by a minimum of eight to fifteen months and that project costs could increase by \$35 to \$70 million.¹³¹ Caltrans interpreted these findings as the Corps’ confirmation that a modified S-1 alignment should not be pursued because of the cost and schedule

implications as well as the potential risks during a seismic event of having the outfall located under the new East Span.¹³² One federal representative interviewed commented, “The study confirmed what everybody knew all along and came up with more detailed costs; O.k. now we have confirmed the risk (of the outfall).” However, according to interviews conducted on this issue, the Navy and San Francisco “didn’t buy it” because they thought the study was biased towards supporting Caltrans and FHWA positions. Navy Spokesman Jeff Young said, “This is a difficult situation for the Navy. If the Navy caves into the northern alignment, it will violate state and federal law as it pertains to historic resources and (renege) on a deal it made with San Francisco.”¹³³ MTC Commissioner and Contra Costa Supervisor Mark DeSaulnier felt differently, “If an earthquake hits, the bolts will shear and that bridge will come down, and people will die, all because San Francisco is worried about whether it can lease space for a brew pub. I thought it was the Navy’s position to protect citizens, not put them at risk. This situation is criminal and irresponsible.”¹³⁴

This Corps study was not enough to sway San Francisco and the Navy, and the Army Corps was asked to conduct another study due to San Francisco’s escalating concerns over the seismic safety of the MTC-recommended bridge design. The new study was a two-part analysis that focused on: 1) whether the East Span should be retrofitted or replaced and 2) whether the self-anchored suspension design for the East Span was seismically safe. The study was completed in October 2000. “The governor and the Mayor (Willie Brown) have agreed that whatever the Army Corps says (for this second Corps study) will be the best way to go,” said Michael Bustamante, Governor Davis’ press secretary.¹³⁵

The Army Corps study's main conclusions from the first part were: 1) "Based on safety considerations, it is the COE Team's opinion that, at this point in time, a replacement alternative is preferable to a retrofit alternative. A replacement alternative is the path that most quickly resolves the exposure of the public to the seismic vulnerabilities of the existing structure" and 2) "...(t)he cost-benefit analyses were reasonable and Caltrans used sound judgment and estimating procedures..."¹³⁶ The Corps stated that it agreed with the decision process that led to abandoning a retrofit approach for the East Span. That notwithstanding, the Corps strongly questioned Caltrans' proposed retrofit design stating, "(T)he selected retrofit strategy does not appear to be reasonable due to concerns regarding the isolation strategy, incompleteness of design, and definition of performance criteria."¹³⁷ It also noted that the retrofit was not developed to lifeline standards. However, the Corps commented that this conclusion "should not be interpreted as a statement that a workable lifeline retrofit is not impossible".¹³⁸

For the study's second part, the Corps noted that in response to whether the selected East Span replacement alternative was seismically safe, "...Caltrans' design team is highly qualified, using state-of-the-art design methods and is moving along a path to design a bridge that meets the seismic performance criteria" and that "seismic safety is being addressed." However, the Corps criticized Caltrans for not having a specific document that provided an explicit definition of "lifeline criteria" and stated "(this) makes it difficult to communicate not only among engineers, but also with taxpayers."¹³⁹ In addition, a dispute arose between the Corps and Caltrans/MTC's EDAP over whether the designed bridge would withstand a Maximum Credible Earthquake (MCE). Rather

than solely relying on the MCE measure, Caltrans and MTC also used a Safety Evaluation Earthquake (SEE) measurement.¹⁴⁰ The Corps commented in its report that it could not evaluate the new bridge's performance during an MCE and claimed that an MCE event was larger than an SEE event.¹⁴¹ Of this difference between SEE and MCE, Dennis Trujillo, Caltrans spokesperson initially stated, "It's a matter of semantics. It's like the difference between inches and centimeters."¹⁴² Citing a technical review by MTC's Ad Hoc Committee on Ground Motions of EDAP, Caltrans later said there was an error in a Corps' graph charting the MCE and SEE, and the Ad Hoc subcommittee found that "the replacement bridge has been designed and evaluated for ground motions that are larger than those from the recognized standard MCE approach."¹⁴³ This small debate created the illusion of confusion between technical experts as they publicly yet diplomatically argued with each other over measurements and graphs. Overall, Caltrans and MTC understood the Corps' findings to be supportive of their work to date. However, others such as San Francisco and Professor Astaneh interpreted the findings differently and thought the findings were in support of their positions. "The report validated what San Francisco had been saying, that there were major safety and design issues associated with this bridge that hadn't been addressed," stated Conroy.¹⁴⁴

In the end, eleven years after the Loma Prieta earthquake, the final act to settle the debate between Caltrans, the U.S. Navy and San Francisco was the taking of land on Yerba Buena from the Navy and transferring it to FHWA. FHWA then transferred the land to Caltrans.¹⁴⁵ The land transfer was allowed under a federal provision of law that provides for federal land to be transferred to Interstate projects such as the Bay Bridge, which is Interstate 80. The federal law reads as follows,

“Whenever rights-of-way, including control of access, on the Interstate System are required over lands or interests in lands owned by the United States, the Secretary may make such arrangements with the agency having jurisdiction over such lands as may be necessary to give the State or other person constructing the projects on such lands adequate rights-of-way and control of access thereto from adjoining lands, and any such agency is directed to cooperate with the Secretary in this connection.”¹⁴⁶

Then-USDOT Transportation Secretary Rodney Slater exercised the authority provided by federal law in October 2000 to request that the Navy relinquish the land on Yerba Buena Island and the law required the Navy to do so. Secretary Slater stated in the press release,

“This is an important step forward for this vital project. Given the seismic vulnerability of the existing bridge. It is time to advance this project to protect the economy and the safety of the entire San Francisco Bay Area.”

FHWA transferred a total of approximately 98 acres of Yerba Buena to Caltrans, with 20 acres to Caltrans for permanent use and the remaining 78 acres for a Temporary Construction Easement (TCE) for bridge construction or permanent aerial easements. The temporarily-held acres would be returned to the U.S. Navy after bridge construction, which could then be transferred to San Francisco (see Exhibit 4-14).¹⁴⁷ FHWA later issued a Record of Decision in July 2001 to conclude the federal environmental process. According to the California State Auditor, the drilling permit process and negotiations at the federal level took about two years to resolve and as such added two years to the bridge project.¹⁴⁸ A day after the ROD’s issuance, Caltrans announced that the eastern span’s first construction contract for the bridge’s skyway could be advertised since the environmental process concluded. The contract amount was estimated at \$700 million and would be the “largest contract in the agency’s history.” Construction was to begin in

early 2002, with the optimistic estimate that the bridge would be completed in winter 2005/2006.¹⁴⁹

Several interviewees involved speculated that the Corps studies, particularly the second analysis on bridge safety and retrofit versus replacement options provided cover and an “exit strategy” for Mayor Brown and the Navy to “back out gracefully” from their position “because Willie Brown had gotten so far out on a limb.” The land transfer also was viewed as a convenient escape mechanism for the Navy. According to a Navy official, “...FHWA took us off the hook by stepping in and being the bad guys. It wasn’t a bad thing.” This official would have preferred a different method as the Navy did not want to establish this precedent for other base closures. Dorothy Robyn of the NEC similarly advised White House staff via email at the beginning of the NEC process,

“Merits of the bridge alignment aside, it appeared from my meeting that the Navy is taking a tough stand only to support the City of SFO (there’s an irony here, given that my usual problem is its adversarial relationship w(ith) BRAC communities), and that if Gov. Davis could reach a compromise w(ith) Willie Brown and the Navy the Navy would back off in a heartbeat. Karen (Skelton) conveyed that to Gov. Davis’ staff, and explained why the White House can’t just roll the Navy on this. If Gov. Davis calls, you should reiterate that we are working with the Navy to resolve its concerns, but that the key is for the State to reach a compromise with the City of SFO.”¹⁵⁰

In terms of the White House’s general support of Governor Davis, an involved interviewee stated it was “just pure political calculation for” President Clinton’s administration. This interviewee commented that California as a state was more important to the administration than San Francisco was as a single city. Further, the interviewee said seismic safety was an important reason for moving the project forward and that the motivations for stopping it, such as development, were less valid. The White

House worried that there would be an “incredible scramble to point fingers and cast blame (and the) arguments to delaying or stopping the project would be indefensible in the wake of a disaster,” said this interviewee. Similarly, Karen Skelton of the Federal Highway Administration stated,

"Safety was the issue. With all due respect, the White House didn't get involved in the Bay Bridge because of the Nimitz House. They did it because the bridge could fall down and people could die."¹⁵¹

After the Land Transfer

As of this writing, San Francisco, the Navy and Caltrans continue to be in negotiations over how the bridge access ramps will be transferred, whether they will be improved and funded, and how different utilities on the bridge to service NSTI will be accommodated, paid for and/or improved. To date, only the eastbound on-ramp's replacement was funded as part of the East Span project because this ramp conflicted with the bridge construction and needs to be removed and replaced.¹⁵² However, at the request of Senators Don Perata and Carole Migden, Caltrans and MTC/BATA agreed in October 2005 to develop a plan for the ramps with the participation of key stakeholders.¹⁵³

The Navy also is still in the process of transferring NSTI to San Francisco and TIDA's development plans are moving forward as are other TIDA initiatives. However, recent plans for Yerba Buena Island near the Senior Officer's Historic District and its eastern tip show little new development as originally proposed in the San Francisco Reuse Plan. An interviewee representing the island's development team commented that hotel operators later examined Yerba Buena's reuse area. According to the interviewee, the hotel representatives said it “wasn't anything special” and that there would still be a

lot of noise regardless of where the bridge was. Overall, according to this interviewee, the general assessment was, “If you wanted to sell it (the area) as remote and pristine, it has to be remote and pristine, which it isn’t going to be, no matter where the bridge was.” The interviewee further observed, “The northern portion (of YBI) is nothing and we’re not planning on much development there because of what hotel operators said... The southern portion is where all the money is and it doesn’t matter where the bridge is for that development, the footprint of the bridge is still the same (on YBI’s southern portion).” From this representative’s perspective, the bridge alignment had relatively little to do with what would allow the development to pencil out. Other representatives with San Francisco and the developer who were interviewed also made similar comments.

The published environmental documents on Naval Station Treasure Island by the Navy also downplayed the bridge’s impact to Yerba Buena development relative to its earlier statements. For example, in response to a public comment in the Navy’s EIS for Naval Station Treasure Island about the permanent land transferred, the Navy noted,

“Although the approximately 20 acres of land transferred to FHWA was designated for publicly oriented, open space and residential uses in the Draft Reuse Plan (San Francisco 1996e), this represents only a small percentage of the total reuse plan area designated for these uses. Since the Draft Reuse Plan provides only a very general land use development concept, it is assumed that the uses proposed for the FHWA lands can be accommodated elsewhere in the reuse plan area, either by slight changes in the boundaries of the defined use areas or by slight changes in densities. Furthermore, the analysis dependent on acreage of land uses are not measurably affected by the loss of such small areas and the loss of land uses that contribute little in terms of traffic, jobs, etc.”¹⁵⁴

The Navy’s EIS similarly downplayed importance of temporary lands transferred for the Bay Bridge. The Navy stated,

“With the exception of the cultural resources analysis, inclusion of the TCEs and aerial easements was not found to measurably alter the analysis or the conclusions presented in the Final EIS. The TCE and aerial easements make up only approximately 8.5 acres (3.5 ha) or 0.02 percent of the dry land proposed for disposal.”¹⁵⁵

The cultural resources analysis refers to the new structure’s negative impact on the historic buildings. However, in terms of the overall EIS analysis, these statements demonstrate the relatively small percentage of land to be used for the bridge. These statements also fall dramatically short of earlier Navy and San Francisco statements about the northern alignment’s impact on the Reuse Plan implementation.

The Process Overall

The bridge alignment debate exemplifies Pressman and Wildavsky’s “complexity of joint action” in which numerous entities had conflicting reasons for their involvement and varying perceptions about the overall project’s urgency. They argue this contributes to project delay and implementation difficulties.¹⁵⁶ As will be discussed, it also leads to lack of accountability and responsibility for agency positions and actions taken, and demonstrates that in the Bay Bridge case, no single agency had the authority to move the project along.

Ironically, military base closures at both of the bridge’s termini provided new development opportunities just a few years prior to the state’s bridge replacement decision. As a result, several federal land recipients participated at a level that they might not have otherwise. In fact, most land had not been formally transferred and, importantly, the Navy still held title to Naval Station Treasure Island when the bridge process started. The key question often posed was: “Is San Francisco’s development of Naval Station

Treasure Island more important than the Port of Oakland's development?" This question was further complicated by the perceived importance of the Coast Guard's base and the proposed Gateway Park as well as complexities associated with EBMUD's sewer outfall. Some participants felt that Port development, the Coast Guard base, and Gateway Park provided greater levels of regional benefit to economic development, safety on the San Francisco Bay, and public-oriented recreation. To these participants, the YBI development appeared to mainly benefit developers and the city of San Francisco locally. John Sutter, Park District Board Director and a Gateway Park proponent, commented,

"So there's a trade off here. Whose amenity is more important? Is an amenity that San Francisco wants at Yerba Buena Island more important than an amenity for the East Bay at Gateway Park? I don't think so. I think actually this is an amenity for everybody in the Bay Area that we're attempting to establish including the people of San Francisco."¹⁵⁷

As depicted in this chapter, San Francisco advocated otherwise; however, it also developed a southern alignment in an effort to address East Bay concerns.

A federal official interviewed commented that it was a "game of chicken for awhile" because had the Navy transferred the land to San Francisco, Caltrans could have condemned the land from San Francisco. Since a state agency cannot condemn federal land, Caltrans was landlocked so to speak. Thus, the Navy had the upper hand because it controlled access to the islands and denied access to Caltrans for geotechnical testing. Jeff Young, a Navy spokesperson, said "My impression is that they (Caltrans) don't hear 'no' very often and I think they kind of just proceeded and they've run into federal property."¹⁵⁸ In a similar vein, journalist Robert Salladay of the *San Francisco Examiner* bluntly commented,

“...(T)he subtext is about bureaucratic arrogance. Caltrans has tremendous power to take land it needs for building freeways and bridges, but it has no control over the Navy. Now the plodding Gargantua known as Caltrans is up against another behemoth it can't control.”¹⁵⁹

The Navy's John Turnquist framed the debate at a contentious California Transportation Commission (CTC) meeting as follows, “Federal Highway's interest is that the property is the East Bay Seismic Safety Project. The Navy's interest is disposal and reuse--two different undertakings.” He stated that Federal Highway's undertaking was not sufficient to cover the Navy's federal responsibilities, but that the agencies have been working to “meld the two processes together.”¹⁶⁰ Unsatisfied with the Navy's position, CTC Commissioner Robert Wolf, a former member of the U.S. Army, retorted,

“...(W)hat we have here is an enamoring with the process, with the loss of objective, and the objective is to build this bridge and protect the safety and welfare of the motoring public. And, I cannot personally believe that an organization with the rich history and ability of the Department of the Navy cannot find a way to integrate their process with that which is taking place at FHWA, and to take into account the multitude of consultations that have taken place with the City of San Francisco on the process, and to some degree assign credit to that ongoing and continual ad nauseum dialogue with the people, and get past this nonsensical enamoring of the process. And, let's get on with the solution. I can't believe the Navy can't do that...And, if you can't do that, then I'm damn glad I was a member of the Army!”¹⁶¹

With respect to the process overall, a naval official later expressed regret that the Navy did not inject itself earlier into the MTC process. This interviewee stated that the Navy did not fully understand that the regional process would effectively select the alignment because Caltrans had indicated that MTC only was providing a local preference that would then be considered as just one alternative to be fully analyzed during the federal environmental process. An early 1997 Caltrans letter even had advised

the Navy that that EIS process would later examine the noise impacts for a new bridge.¹⁶²

In a similar vein in terms of unclear process, roles and responsibilities, an MTC representative commented that MTC had understood from Caltrans that San Francisco was acting on the Navy's behalf, and the Navy "really didn't get exercised about it (the northern alignment) until Annemarie Conroy (of San Francisco) wanted them to."

Participant Perceptions of Motivations

Throughout the divisive process, participants and observers had different characterizations of the key players' motivations behind their actions. Most participants commented that they did not know what "promises," if any, were made between different agencies and individuals. Some suggested that a deal may have occurred between Mayor Willie Brown and Treasure Island's developers because of their alleged concern that the bridge would initially impact marina development at Clipper Cove and later on Yerba Buena. An interviewee commented,

"My own theory is that most people were asking the question about 'what,' what was driving Willie (Brown) to do it and I think the correct question was 'who' because he does deal and has throughout his career and I think it was the fact that Ron Burkle and Darius Anderson (who are part of Treasure Island's development team) had the development rights out there and they probably squawked him about it, 'Look this deal is going to be hard enough to pencil out, don't be taking any property away from us that we could otherwise use.'"¹⁶³

A developer's representative vehemently denied this allegation. This interviewee said, "The only thing we care about is the off-ramps (being improved and upgraded to standard widths)" and further "if you look at the way the finances work, it is the residential that faces San Francisco, and the residential and commercial on Treasure Island" that are

critical. This representative and other developer/San Francisco interviewees argued that the bridge alignment had little impact on the overall development's long-term financial success. They noted that the Treasure Island development is far larger than just the portion on Yerba Buena Island adjacent to the bridge. There was recognition, however, that some facilities would suffer short-term impacts during bridge construction.

Some participants also speculated that Mayor Brown convinced the Navy to support him on San Francisco's alignment positions. "I think Willie (Brown) is a force to be reckoned with. When we work out whatever we have to work out with him, that (Navy opposition) will go away," said Task Force chairperson Mary King.¹⁶⁴ On the other hand, others felt that the Navy was doing its job in complying with federal law to support local interests in development reuse and ensure that the Navy's historic structures, particularly the Nimitz House, would be not be harmed. Jeff Young, Navy spokesperson defended the Navy's position noting that development plans initially were done during former Mayor Frank Jordan's administration, not Mayor Willie Brown's, and the Navy is simply trying to assist San Francisco in carrying out the 1996 reuse plan.¹⁶⁵ At the time, San Francisco representatives also denied influence over the Navy. "Mayor Brown does not control the U.S. Navy. They make their own decisions and determinations," said Kandace Bender, Mayor Brown's press secretary.¹⁶⁶ MTC Commissioner and San Francisco Supervisor Sue Bierman similarly commented, "I don't know what Mayor Willie L. Brown is doing to slow this down unless he is in charge of the whole U.S. Navy."¹⁶⁷

Interestingly, an MTC commissioner interviewed noted that in a public process, there is an expectation that trade-offs and unrelated “extras” may be negotiated into a project. The interviewee reflected,

‘If in fact it was a negotiation for San Francisco, I would understand that and I would respect that. That would be o.k. with me. (Mayor Willie Brown) could have even told me that was what he was doing and I would have said ‘good luck go for it.’ (We) have to go forward with the bridge, you have to go forward to represent your constituency. And (if) he was able to do that and get it, more power to him just like the bike people... You know it is a public process and if you can figure out how to get your stuff in that’s what politicians are supposed to do, that’s for their cities, that makes him a good mayor.’”

With respect to the islands’ bridge access ramps, Mayor Brown said as much in a statement made in 2005, years after the debate. He commented, “I had an advocacy role as mayor of San Francisco to make sure there were some ramps on Treasure Island. You can’t build a bridge without ramps to Treasure Island.”¹⁶⁸ He made similar remarks in a recent television interview and commented that he had the Navy assist him in his advocacy. Brown stated,

“All the state of California had to do was say, ‘We will build appropriate ramps to Treasure Island.’ And that’s the end of the debate. They never really wanted to say that. So we made sure the Navy didn’t cooperate and we didn’t cooperate until they (Caltrans) did.”¹⁶⁹

Since most participants involved only had their own theories about others’ motivating factors, a federal interviewee succinctly summarized the situation as follows,

“There was a lot of talk and the truth was in there somewhere. It would have helped to understand where they (Navy, San Francisco) were coming from, but to some extent we have to take everything at face value because NEPA (the National Environmental Protection Act) says we have to consider all sides.”

Closing Remarks

All levels of government debated the bridge's alignment, and the process revolved around technical claims, perceptions, interpretations, and political need. Plausible confusion and lack of accountability ring clear for several agencies. First, it is plausible that San Francisco's main interests focused on securing access ramp funding and that it did not fully understand a northern bridge's potential development/construction impacts. Second, it is plausible that the Navy did not understand how the regional and environmental processes would evolve as it was unusual for a regional transportation agency to be given such a major role on a critical state bridge project. Third, it is plausible that Caltrans thought the Navy was simply complying with the law and believed that the Navy eventually would provide the land. Fourth, it is plausible that MTC initially did not realize the extent of the Navy's concern and opposition since it thought San Francisco represented the Navy's interests. This plausible confusion and resulting lack of accountability were able to fester because no single agency had the authority to carry out a decision independently. The fundamental control or lack of control in the project came down to land ownership and which agency had legal authority over the other. Since the base closure process would not be completed any time soon, the bridge's environmental process concluded only after land was transferred from one federal entity to another.

CHAPTER 5

PEDDLING FOR A PATHWAY

A public official remarked that a frustrating part of the design process was that only half of the bridge was being rebuilt. However, the public wanted to consider additional elements that may have been more appropriate if a full bridge were being built, such as a pathway or rail service. This chapter covers the bicycle/pedestrian pathway and the following chapter focuses on efforts to include rail in the design.

With respect to the pathway process, a pathway supporter observed that it happened to evolve into an opportunity to spread the message about bicycle awareness and access in general,

“This became a rallying cry for the cyclists in the street. They saw that this is something that could empower bicyclists (and) that we can focus our energy on one large issue... (A)nytime that we can sort of get some blanket awareness of bike access issues and take our case to the public through that, that benefits us locally, even people out in Walnut Creek and Antioch would say, ‘Gee I really wish you the best on that Bay Bridge.’ ”

This issue became central to many bicyclists because a pathway was not formally included in the design or baseline project budget when the state turned over the Bay Bridge design project to MTC in early 1997. The state gave the region the flexibility to include a pathway; however, the Bay Area would need to fund it.¹ This set in motion a flurry of debate on: 1) whether there should be a pathway, 2) where it should be located, 3) how it would be paid for, 4) how much it would cost, 5) where it would terminate, 5) whether and how it would traverse on or connect with the existing west span, and 6) how many people would use it.

From the outset, pathway advocates were fighting an uphill battle. They had been told that it would not be included because some MTC and Caltrans officials questioned how much it would cost, whether it would only be on the new span, and whether it would be well utilized.² In reflecting upon this negative reception, an advocate stated, “I think part of what allowed me to find so much energy for it (the pathway) was just this incurable sense that we couldn’t lose...it was going to work, that it just made sense, there’s no way they can turn us down.”

This chapter reviews how the pathway went from being considered one of the least likely project add-ons to the one that many view as a success with respect to citizen advocacy and public participation. However, it is important to note that the pathway has its vocal critics, as discussed below. An advocate summed up the pathway process by stating there was,

“a clash between many worlds and interests. I mean from my personal little floating ship in it all, there were storm winds coming from like multiple sides and, you know, sort of the establishment transportation movement, environmental aspects, (and) transit aspects which were kind of played against each other...and it became slightly schizophrenic to be out protesting (in casual/bicyclist-riding attire) and then put on a suit and tie and come in and have a meeting.”

First, the context for bicycle advocacy and bridges in the Bay Area is provided. Then, the rationale behind the pathway, its supporters, and its consideration in the design process are presented. The chapter concludes with general observations about pathway advocacy. The following chapter contains a concluding section that compares the pathway to a related but distinct effort by some participants to have rail on the bridge.

Bicycle Advocacy and Bridges in the Bay Area

Various bicycle communities were prepared to mobilize for the Bay Bridge pathway because it was one of several bridge pathways under review at the time of the new Bay Bridge debate.³ A heavily involved advocate believed that Bay Bridge bicycle advocacy was just one part, although admittedly a high profile component, of bicyclists' larger regional struggle for access on all Bay Area's bridges. The existing Bay Bridge only provides for bicycle access through bicycle racks on AC Transit buses or in the corridor by passengers carrying bicycles onto ferries and BART. Further, a van runs between MacArthur BART and San Francisco's Transbay Terminal to shuttle bicyclists across the Bay. These measures do not allow bicyclists to pedal on the bridge nor do they provide 24-hour service seven days a week—a goal of bicycle advocates involved in the new Bay Bridge process.

With respect to other Bay Area bridges, the Golden Gate Bridge has a bicycle/pedestrian path as do the Antioch and Dumbarton bridges. In addition, at the time of the Bay Bridge design process, pathways were being designed for the new Carquinez and Benicia-Martinez bridges, and advocacy groups were lobbying for access on the other state-owned Bay Area bridges, namely the San-Mateo Hayward, and Richmond-San Rafael bridges. It is important to note that pathways on the Carquinez and Benicia-Martinez bridges were funded through a regional source, the Regional Measure 1 program (funded through a \$1 voter-approved bridge toll increase approved in 1988). However, the new Bay Bridge was funded through a state-led process, and the cost of any additional amenities such as the pathway became part of a larger statewide legislative debate (see Chapter 3). In particular, Caltrans and the state Legislature were trying to

reduce all potential costs of the new span and inclusion of the bicycle lane often was viewed by many non-Bay Area legislators as “You, the Bay Area, are talking about frivolous things such as the bike lane while you are trying to take hundreds of millions of dollars out of L.A. to fund seismic retrofit,” as one interviewee commented.

With respect to Bay Area bridges and pathways, one bicyclist observed,

“1997 was an incredible year for bridges. We were working with the BCDC (Bay Conservation and Development Commission) on the Richmond-San Rafael Bridge, the San Mateo Bridge, we were reviewing plans for the Carquinez Straights bridge, and we were in preliminary review of the Benicia Martinez bridge... The east span and west span were part of a continuum of activity in gaining access between the East Bay and San Francisco.”

Further, a bicycle advocacy phenomenon called “Critical Mass” which originated in San Francisco in 1992 was operating in full bloom at the time of the Bay Bridge process.

During Critical Mass, bicyclists take over city streets in a grassroots effort to advocate for better bicycle access and increase bicycle awareness. Critical Mass also happened to provide a forum for spreading the word about the pathway concept, and for securing signatures on petitions and notice out to bicyclists about upcoming bridge-related public meetings. One flyer that informed activists of an upcoming MTC meeting said, “Let Critical Mass Pack the House!” and “Don’t forget to wear your bicycle helmet.”⁴ An advocate related Critical Mass to the state bridge projects and the Bay Bridge project:

“Critical Mass, by creating a space for a different way of using the streets and a different way of relating, had built a momentum or dissolved the invisible bonds which kept bicyclists isolated, separate and disempowered and so that allowed us as a group to confront a big issue like (the state bridges and the Bay Bridge, and) to realize that we are an important force and already have the pattern and practice of just going out and taking the streets to demonstrate and to seize the moment.”

Bicycle advocates were already organized into different bicycle-related organizations prior to the Bay Bridge design process. Namely, there were groups such as the East Bay Bicycle Coalition, Bike the Bridge! Coalition (an activist group that came together specifically for bicycle, pedestrian and wheelchair user access on the region's bridges), Bicycle-Friendly Berkeley Coalition, Regional Bicycle Advisory Committee (since renamed and reorganized into the Bay Area Bicycle Coalition) and the San Francisco Bicycle Coalition. As a result, these groups had a history of organizing and working either independently or jointly on local and regional bicycle issues prior to their East Span advocacy work.

Pathway Support and Opposition

Pathway supporters, such as members of the bicycle-related organizations mentioned above, generally saw that the new Bay Bridge process provided a “once-in-several-lifetimes opportunity” to have a bicycle/pedestrian facility on the Bay Bridge. They argued that the bridge would not be a “world class bridge” if it did not provide travel alternatives to the single-occupant vehicle, namely through bicycle and pedestrian access, given that the nearby Golden Gate Bridge and other bridges in the Bay Area do or soon would. “If we truly want a ‘signature’ bridge, the best way to get it is to include a world-class bicycle/pedestrian path with these amenities. Not only will it serve the needs of commuters; it will be a tourist and recreational destination like no other. It will send a statement around the world about the values of the Bay Area,” wrote D. Mark Abrahams of Berkeley.⁵

Many supporters had come to support bicycling as a preferred commuter and recreation means of transportation because they believed, among the many reasons, it

provided an environmentally friendly way to travel for reducing impacts to air quality and fuel consumption, and could be considered an alternative means of travel that could ease traffic congestion, particularly on a facility as congested as the Bay Bridge. Robert Raburn of the East Bay Bicycle Coalition stated, “Every trip that a bicyclist takes is a trip that a car is not taking.”⁶ In an editorial, the *Oakland Tribune* positively chimed in by commenting,

“Throughout the world, great bridges have bicycle paths. We are building a new Bay Bridge they say will be with us for 100 years. We should provide for bicycles. After all, they’ve been around longer than cars, are nonpolluting, quiet and provide fun and exercise. Besides, it’s good public policy to encourage people to get out of their cars.”⁷

Some pathway supporters acknowledged that they were not convinced the Bay Bridge’s east span needed replacement and thought there may have been a way to retrofit the existing bridge and add a pathway. However, since the State had decided to replace the bridge, they thought it would be best to participate in its design. Still others argued for the less expensive viaduct so that additional funds could be used for other purposes such as the pathway. In this vein, the East Bay Bicycle Coalition had a flyer entitled, “Top 10 Reasons to Save the East Span of the Bay Bridge and Build a Low-Cost Viaduct for Cars.” The reasons were as follows:

- 10 Existing proposals have become a costly boondoggle
- 9 No demolition costs
- 8 The East Span is a ‘signature bridge’
- 7 Preserve the world’s longest cantilever bridge
- 6 \$15m seismic retrofit began last week (defer retrofit until later)
- 5 Remove upper deck to improve seismic response
- 4 Existing bridge can accommodate rail on existing approach to TT (Transbay Terminal)
- 3 Made to order bike/ped path
- 2 Immensely appealing extension of Oakland Gateway Park to YBI (Yerba Buena Island)
- 1 It has yet to be seriously considered

Interestingly, some thought that there should be equal access to the bridge, but not necessarily a separate pathway since they argued that bicycles should be able to travel where automobiles travel since some bicyclists also pay fuel taxes. This was not a new idea at the time as others previously suggested the conversion of auto lanes into bicycle-only lanes.⁸

However, not all were in favor of the pathway and many voiced skepticism as to whether it would be used sufficiently to warrant the expenditure of public dollars on it in part because the pathway initially would be only on the eastern span and not the existing western span. As a result, bicyclists and pedestrians only could travel between Oakland and Treasure Island, and not to Downtown San Francisco. Senator Bill Lockyer said, “I, of course, like bike lanes. I just don’t see any realistic way to pay for them. Someone has to convince me that this is a wise investment of millions and millions of dollars.”⁹

Others were concerned that the pathway might be approved because it had a vocal and active constituency behind it and politically it would be difficult for MTC to maneuver around such an effective lobbying force that could potentially file a lawsuit on environmental grounds, delay construction and increase project costs.

Still others thought pathway users should pay a toll to travel on the path. For example, David T. Lui of San Francisco wrote,

“...why am I paying an extra dollar for one year and a half for the pedestrians and bicyclists to go from Treasure Island to Oakland? How do they get to Treasure Island from San Francisco? Drive there? If these people want their own walkway, they should pay for it. Then we’ll see how many people will actually use it...”¹⁰

Path supporters often responded to this criticism by stating that over time people would use the facility and that the cost of the facility is a very small percentage of the total

project budget (3% or \$50 million of approximately \$1.5 billion estimated at the time MTC approved the pathway). Supporters also thought if a path was located on the east span that would create momentum to have a path built on the west span, particularly since a main goal of pathway advocates was access between Oakland and downtown San Francisco along the entire length of the bridge. Further, some pathway supporters were mildly supportive of paying a pathway toll; however, they stated bicyclists also were taxpayers like the region's other residents and drivers and they should be given the option to travel by bicycle or on foot just as others may travel by automobile. This argument on the bike toll touches on equity issues in terms of who pays taxes and tolls, and perceptions about how the funds generated may or not be distributed equitably amongst transportation projects that benefit different travel modes and users.

Creation of a Bay Bridge Pathway Committee

At the beginning of the MTC design process, several path supporters noticed that they were regularly attending MTC bridge-related meetings and decided that they should come together to work on pathway advocacy to create a larger, more unified presence before MTC and Caltrans. As a result, Caltrans and MTC later approached this group and asked it be to a recognized committee. According to a pathway interviewee, the group involved at the time “had long conversations about the wisdom of accepting their offer because we worried about losing our autonomy and our voice, but we also liked the opportunity to be working more from the inside.” In the end, this group formed the Bay Bridge Bicycle/Pedestrian Advisory Committee (BPAC).¹¹ MTC and Caltrans recognized it as the primary forum through which bicycle and pedestrian pathway supporters would develop their design recommendations.¹² The committee was

composed of representatives from bicycle and transportation accessibility advocacy groups, the Association of Bay Area Governments, and the Bay Area Air Quality Management District. Further, anyone interested in the path could attend the meetings. The committee's main interest was having a "shore to shore" bicycle and pedestrian pathway in which there would be a new pathway on both the new east span and the west span. A pathway interviewee described BPAC participants as follows,

"There were different camps in the committee and that kind of changed depending upon what stage we were in the process, but there were a number of people, maybe half the people understand that we may not get exactly what we want but just saw this as a 'once in a lifetime' opportunity and then there were a few people who felt really strongly about particular design issues and felt like it was 'all or nothing'. This pathway became the meaning of life. There was sort of a continuum of (supporters for whom this was for) 'after work' to 'it's my work to work on this committee' to 'this is my life. I'm not being paid to do this but this is the most important thing happening and it has to be done the right way or it will be such a boondoggle and I'll be saying I told you so for the rest of my life.' "

Throughout the design process, the committee met regularly with MTC and Caltrans, testified before MTC, and developed recommendations about the design of the pathway.¹³ The committee later earned an MTC Award of Merit in September 1998.¹⁴ However, not all were enamored with the committee, as one participant commented,

"the sort of the more establishment-side activists looked at it (the committee) as a big break that we are now part of the official process, but on the other hand it made them closely aligned to Caltrans and more likely to sell out with Caltrans and it made it so much more formally a special interest unit."

The Pathway Supporters' Advocacy Techniques and Strategies

The BPAC and other supporters worked on many different political, advocacy, and technical design fronts in part because of the diversity of participants and skills. The

participants' backgrounds varied and included experience in citizen activism, law, and transportation and bicycle facility planning. An interviewee noted that one BPAC member was even an engineer and labeled as the committee's "technical ace in the hole." As a result, it was generally a highly experienced set of activists and supporters.

Some supporters negotiated directly with MTC commissioners and elected officials, testified before MTC, the legislature and city governments, wrote or analyzed technical reports and information, or managed petitions and postcard drives. Others wrote numerous letters, emails, sent faxes, and made phone calls.¹⁵ It is important to note that pathway supporters flooded MTC, Caltrans, and legislators with letters of support and attended bridge-related meetings regularly and in high numbers, and took every opportunity to make their support known. For example, MTC tallied comments received (via letters, email, phone message or a pro-pathway petition) for a three month period in 1997 about the overall Bay Bridge design. The tally calculated 6,700 responses in favor a bicycle lane (of which 5,501 responses were part of a petition) and 68 against it. This number of positive pathway responses was overwhelmingly higher than the other design issues, in which the maximum response tabulated was only 228 responses.¹⁶ Using examples similar to this, several project staff members and public officials noted that the pathway supporters were relentless in communicating to decisionmakers. In terms of strategy, BPAC co-chair Victoria Eisen suggests to BPAC committee members:

"As you may know, MTC is informally polling the public on their preferred bridge design...Even though the poll does not ask about a pathway, of the hundreds of calls MTC has received, eleven people said they want a pathway on the new bridge. Although I do not think that telephone voting is a good way to make important public policy decisions. We can play this game too. To have your vote counted, call 817-1717, press 7. Vote for a bridge design if you like, then tell them how important the pathway is."¹⁷

In addition, pathway advocates lobbied for city resolutions that were adopted in support of the pathway from Emeryville, Oakland, Berkeley, and San Francisco to legitimize their effort by demonstrating local jurisdiction support. These resolutions also assisted the pathway get past “the giggle test” as one advocate said that the pathway was only being supported by a few bicyclists and that it did indeed have a broader support base. Further, the *Oakland Tribune* and *San Francisco Chronicle* came out with earlier editorials supporting the pathway.¹⁸

BPAC’s main approach to developing technical recommendations was to undertake a systematic data gathering effort about the issues at hand. A BPAC participant stated,

“Sort of my training as an activist, I had been told, ‘don’t argue with an engineer, deal with the politicians, but more and more we found that we really needed to be able to do our initial feasibility and determine ‘gee what could happen here’ because so often, traffic engineers are paid to do one thing and if their contract, their grant does not say examine the bike access, we are not going to be considered. So it became clear that we needed to become conversant in feasibility and in large part the tremendous number of meetings we had with engineering staff on the Bay Bridge, and the Richmond-San Rafael, and the Hayward led to a familiarity at least with the lingo. We became savvy with the acronyms and the various aspects that needed to be addressed to actually build a path on a bridge... Some of the public and some of the officials might have thought, ‘oh god, here comes those bicyclists again’ but there was no denying the rationality of the overall message (which was) include the path in the construction, it’s economic, cost-effective, engineering wise it’s feasible, and the public wants it. And that’s really what we were testing, could the public get behind this? And they did.”

A pathway supporter also noted that their work “...wasn’t (done) in a vacuum, so at the same time we were gathering politically what was going to fly in terms of both budget

and in terms of design.” This often meant there were meetings after meetings. On the political front, a pathway supporter commented,

“...(W)e were in almost constant negotiations with political staff be it the MTC Bay Bridge Task Force led by Mary King (MTC Commissioner), legislators (such as) Carole Migden, engineers. To be an advocate at that time required just a whole lot of skills, public speaking abilities, a lot of time to figure out what we are going to do next, what will the approach be. For every public hearing that Mary King chaired, for every meeting that Steve Hulsebus (of Caltrans) set up, we had one or two separate meetings and of course a whole flurry of emails, and that was at the outset of the sort of email revolution that allowed us to transmit information and organize effectively.”

Other interviewees also noted that email and the internet were fairly new and effective ways to communicate and organize in 1997 and 1998 and that they served to spread the word about the project, communicate among themselves, comment on the project to MTC and Caltrans, and organize supporters to attend public meetings.

With respect to specific advocacy techniques, the Bike the Bridge! Coalition, for example, collected over 6,000 signatures on a petition to demonstrate support of the bikeway.¹⁹ It also conducted an analysis using census data that estimated how many people might use the facility and asked local residents to sign a pledge that they would use the path as means of providing a response to those who questioned whether the pathway would be used. Additionally, participants went on site visits to other bicycle/pedestrian facilities on bridges and freeways to become acquainted with their usability and to translate these insights into comments or recommendations made during the Bay Bridge process. Lastly, when issues became contentious within the committee as discussed below, some participants hired an outside consultant, Steven Grover, paid with funds they raised to conduct an independent analysis.²⁰

Pathway Consideration in the Design Process

Many participants or observers considered the pathway a long shot. However once BPAC was established, many members thought that the pathway concept was gaining momentum and being taken seriously. Further, due to the intense and non-stop lobbying by its supporters, the east span pathway became one of three additional bridge elements, called “amenities” in state legislation (Senate Bill 60 of 1997), eligible for funding through the bridge toll increase.²¹ However, in July 1997 MTC had prioritized it as the last of three items to be considered for funding.²²

To provide the most politically and technically feasible design to MTC in light of the funding prioritization, BPAC continued to meet regularly and discuss via email pathway design recommendations for MTC’s consideration. It developed a multi-point fact sheet summarizing its position, which evolved over time. The committee deliberated on several issues related to making the pathway comfortable, pleasant, cost-effective and safe, including:

- Who would be eligible to use the facility? In particular, would bicyclists, pedestrians, wheelchair users and other non-motorized users be eligible?
- How many paths should there be?
- Should the path(s) be located on the north and/or south side of the bridge, or in the middle of the bridge?
- Should pedestrians and bicyclists use the same lanes or should they be separated?
How wide should the lanes be?

- Should the path(s) be above or below traffic lanes and if so, how far above or below? Or should it be at bridge deck level?
- What should be the treatment of the pathway's surface, how should the lighting and railings be designed, and should there be belvederes ("look out" areas) and benches?
- How would the pathway connect to Oakland/East Bay and Yerba Buena/Treasure Islands?

A contentious and divisive issue for the committee was whether the path should be above, below or alongside the traffic lanes on the bridge deck. Some participants strongly advocated for a "below deck" location. In this case, the pathway would be below the deck sufficiently to be out of the line-of-sight of motor vehicles so that bicyclists could be protected from noise and tailpipe emissions, headlight glare and debris from the roadway. Alternatively, a sufficiently high pathway above the roadway (such as the Brooklyn Bridge pathway) also was suggested as an option. Others supported a path that was alongside or just above the deck for personal security reasons so that path users would be in the line of sight of motorists in the event of an accident or incident on the pathway, particularly for female users who some feared could be targets for harassment. Some supporters also felt that path users would have better views on a path above the deck, whereas a "below deck" location would have limited views. Further, MTC, EDAP, the Bay Conservation and Development Commission and others such as the City of Oakland were concerned about the path's location in that it could impede motorists' views. Lastly, one interviewee who supported the "alongside or above" deck option stated that motorists, particularly those sitting in traffic, would be able to see path users unimpeded

by auto traffic moving at a faster pace than the cars, and that this could entice motorists into using the pathway.

As a result, both sides of the debate worried that if the pathway they opposed were approved, it would be unpleasant and uncomfortable. They argued the pathway might not attract as many users and could end up being an embarrassment to the bicycling community. After much debate and acrimony, BPAC provided two recommendations in May 1998 to MTC for consideration. The first priority recommendation was for the bridge to have two paths, at least ten feet wide and one foot above deck (with an estimated cost of \$70 million). A path would be located on each side of the bridge in which one path would be for bicycles and the other one would be for pedestrians. If MTC did not support two paths, then the second priority recommendation was for one 15-foot wide path on the south side one foot above deck (with an estimated cost of \$48 million).

The committee also provided a “Minimum Desired Alternative” whereby:

“If a raised pathway is unacceptable to EDAP, we would prefer a below deck pathway in which the total height of the solid barrier plus the depression is at least six feet. This could be accomplished, for instance, by depressing the path 3-1/2 feet given a standard 2’8” concrete barrier.”

The committee concluded its recommendations stating that it hoped to work with bridge designers on a “world class pathway,” thereby playing into the “world class” theme of the larger bridge design process.²³

Although the committee’s recommendation had a “below deck” component, it was the last choice and negatively labeled as the “minimum desired alternative.” Further, the recommendation did not suggest a pathway as far below the deck as the Bike the Bridge! Coalition (BTB!C) had. The main difference was that in the BTB!C

recommendation the cyclist's head would be "just out of line-of-site." Jason Meggs, the group's main advocate, wrote this could substantially reduce noise to path users and eliminate headlight glare.²⁴ The BTB!C proposed two bicycle/pedestrian pathway alternatives: 1) a path at least four feet below the bridge deck on the south side because the coalition argued in part that the path would receive sunlight, motorist views of Oakland would not be affected, and have reduced noise and air pollution, and 2) a "compromise design" in which there would be two paths with one above deck and one below where pedestrians would use the north side path above the deck and bicyclists would use the south side below deck during "high use periods."²⁵

Weighing these positions, MTC's Engineering and Design Advisory Panel (EDAP) recommended to MTC a single bicycle/pedestrian path on the south side of the eastbound deck. The two-path option was rejected because of: 1) concern that the north side path could affect motorist views when heading uphill from Oakland to Treasure Island/Yerba Buena Island, and 2) security reasons in that all users should be combined onto one path when "what may be on many days, a modest number of path users on one facility, instead of spreading them over two." Although EDAP agreed to one path (even though BPAC preferred two), it didn't specify the dimensions of the path.²⁶ Rather, EDAP recommended the path's dimensions are at "a width and height (relative to the deck) adequate to ensure the safety and comfort of path users and protect the views of motorists."²⁷ An EDAP interviewee noted concern with whether bicycle and pedestrian travel would be compatible, and recommended that the pathway be designed to separate users by mode. Later, Caltrans and MTC recommended a pathway that was 15.5 feet wide and one foot above the deck because it would "satisfy EDAP's criteria for the safety

and convenience of both the path users and motorists.”²⁸ These dimensions are almost identical to the dimensions that BPAC made in its second priority single pathway recommendation.

In the end after nearly a year of intense and persistent lobbying by BPAC and other advocates, MTC approved the pathway in June 1998 and a seismic retrofit surcharge to fund it at \$50 million. The bicycle/pedestrian pathway selected was 15.5 feet wide and 1 foot above deck on the eastbound deck’s south side (see Exhibit 5-1). It also was “permanently guaranteed” to avert concern that it later could be converted to an automobile lane or rail line.²⁹ Belvederes (rest stops) along the path were later added to the design.³⁰ MTC’s rationale for approving the pathway was as follows,

“The Bay Conservation and Development Commission, the Bay Area congressional delegation, and the vast majority of public commenters have supported the inclusion of a bicycle/pedestrian path. The new Carquinez and Benicia bridges to be constructed in the next few years also will include bicycle/pedestrian paths.”³¹

With respect to the pathway’s utility, MTC stated,

“Some have contended that building a path only on the new eastern span makes little sense because it will not enable users to travel all the way to San Francisco. However, we expect that many bicyclists and pedestrians will use the path for recreational purposes, and the destinations of Yerba Buena Island, Treasure Island, and even the bridge itself will attract these users.”³²

The State Legislature later named the East Span’s pathway after Alex Zuckermann, a well known bicycle advocate and a BPAC co-chair who suffered a fall and serious injury in October 2002 during a Bay Bridge bicycle ride.

When a BPAC interviewee was asked about the single path being chosen over the two-path option, the response was, “I wasn’t at all surprised, and it still felt like an

enormous victory. We were getting it (the pathway), we were getting the nicer one, they were making accommodations to separate users...”

Pathway Protests

As discussed, BPAC was not fully united on whether the pathway should be elevated or depressed below the bridge deck. Those who were mainly in support of the “below deck” option, which was not the design approved by MTC, wrote numerous letters, called for additional technical study on potential harmful impacts such as hearing loss to users of the selected path, and rode on the Bay Bridge in protest against the pathway design.³³ There also were complaints about the BPAC committee itself in that some felt that the committee was insular, primarily only represented organized bicycle interests and not the day-to-day bicyclists on the street, and that MTC and Caltrans only recognized BPAC recommendations. Jason Meggs of BTB!C wrote, “In short, working with BPAC was like having to tackle two CalTrans/MTC organizations at once—much to their delight I’m sure.”³⁴

Although there was dissension within BPAC, MTC and Caltrans did not alter the approved pathway’s design. In response to the opposition, Caltrans stated in the East Span’s Final Environmental Impact Statement,

“Although differences among members of the cycling community concerning the design of the bicycle/pedestrian path have been stated, and complete consensus may not have been achieved within the BPAC, its recommendations have not changed.”³⁵

MTC’s Commissioner Mary King, chair of the Bay Bridge Design Task Force, looked at the larger Bay Bridge project as a whole which was facing opposition as well and said, “With increasing competing and acrimonious issues around the replacement span, it

would be easier to drop the bike lane than change it (at this point). We've all had to compromise."³⁶ As a result, the pathway design remained unchanged, and BPAC turned its focus to the pathway's detailed design and engineering issues.

West Span Pathway and Study

While path supporters were advocating for an east span pathway, they were simultaneously seeking the addition of a pathway on the Bay Bridge's western span. Design and funding challenges needed to be examined, such as: 1) how and whether a pathway could be included on the existing western span that was approximately sixty years old and undergoing a seismic retrofit, and 2) how a new pathway could be funded. According to Deb Hubsmith of the Marin County Bicycle Coalition, "The whole world is watching. It will be completely laughable if we don't have a lane on the west span."³⁷

As a result, pathway advocates took matters into their own hands by seeking funding and state legislative approval for the West Span pathway since Caltrans was the primary agency working on this span's retrofit and MTC did not have authority over it. A participant said,

"Once we got moving and rolling (on the East Span path), and we started talking to people, we felt like the west span was going to fall into place. It was a dominos (effect). If we could get the east span, we felt like we had enough assurances from people that the west span could be made to work somehow."

Advocates sought legislation to add the western pathway to the "amenities" list so that it would be eligible for funding through the toll increase allowed by Senate Bill 60 of 1997 that funded the signature span, the east span pathway, and the Transbay Terminal.

Assemblywoman Carole Migden, former San Francisco Supervisor, authored a west span pathway bill, Assembly Bill 2038. An interviewee said that her office volunteered to be

the bill author after being inundated with information about how the pathway was only going to be built on the eastern span, thereby not providing San Franciscans direct access to the eastern span's pathway or to Treasure/Yerba Buena Islands. A supporter summed up the pathway's west span legislative effort as follows:

“(W)e were lobbying the Task Force real hard, we were working on a name and propaganda. Propaganda (in terms of) what were we going to call our strategy: ‘all the way across the Bay’, ‘bike the bridge’, ‘shore to shore’. We had reached a fairly sophisticated level by late ’97 that really set us up for making the legislative pitch the following year and a strategy for success--we were working on op/ed pieces, lobbying legislators to extend the toll, keeping them apprised...”

Governor Davis signed AB 2038 in June 1998, thereby allowing the West Span pathway to be eligible for bridge toll funding through the “amenities” budget. As a result, Caltrans later conducted a pathway design and engineering study that was funded through the amenities budget. The 2001 study concluded that a west span pathway could be built by cantilevering it off the existing bridge or by building a new lightweight steel bridge deck that would be wider and could accommodate the pathway. The estimated cost ranged from \$160 million for the cantilevered lanes to \$387 million for a new bridge deck (in 2001 dollars). Maintenance and security costs over a 75 year period were approximately \$60 million.³⁸ Further, the western and eastern pathway could be connected by a path that would run on Treasure Island, rather than through the bridge tunnel which was not wide enough to accommodate the path unless it was suspended above auto traffic. Of the design, Robert Raburn, Executive Director of the East Bay Bicycle Coalition said,

“It looks like the assembled cast of bridge designers of the world have come up with an elegant and cost-effective solution. Folks

will be cashing in their frequent flier miles to bike on this. It will be quite an attraction.”³⁹

Pathway advocates strategized on how to make the western pathway appealing to Caltrans. An interviewee said they made sure that a new path could pass the “pick up truck test” so that Caltrans’ maintenance and emergency vehicles could use the pathway rather than closing lanes for access since lane closures were estimated to cost \$2,000 per closure. As a result, this interviewee advocated that with a west span path:

“...(Y)ou can save money, you can improve safety--collisions on these bridges occur when there are lane closures, you can improve the emergency access to the people who have been in a collision or stall (as they) would have a refuge. So we were building and trying to buttress our arguments that I think resonated with Caltrans, with their day-to-day issues and again, we were becoming very conversant with bridge operations people, with the CHP’s need for enforcement zones, and breakdown lanes, with the maintenance so we were incorporating all these into...our work on assisting the cities on both sides in promoting the idea of this new facility that could bolster reasons for people to come to the Bay Area and visit, (and) that would provide for commuter access 24 hours a day.”

After the study concluded, the West Span pathway did not receive bridge toll funds for construction; however, pathway supporters continued advocating for it. In the worst case scenario, one supporter believes that when the ribbon is cut for the east span’s path, the public is going to ask and demand, “Why doesn’t the lane go all the way? When is it going to be done?” Further, the East Bay Bicycle Coalition, the San Francisco Bicycle Coalition and others have been organizing and seeking funding for the project. For example, SFBC wrote to its members:

“Want To Bike Across The Bay Bridge? As many of you know, the East Span of the Bay Bridge is being reconstructed. The new bridge will feature a 15’ wide bike/ pedestrian/ maintenance path connecting Oakland to Treasure and Yerba Buena Islands. The problem is what do cyclists/peds do if they want to get to or from San Francisco? Despite a costly study, multiple planning meetings,

and a clear need for a WEST span pathway, there is currently no funding in place for such a project. Now we need your help to launch an effort to identify the funding and spark the political will required to get a complete, shore to shore path from Oakland to San Francisco. A pathway would provide access to unparalleled views of the San Francisco skyline, opportunities for increased tourism, and reduced congestion on the bridge. Ultimately this is an issue of transportation equity—cyclists' tax dollars pay for it, and we should be able to use it.”⁴⁰

Pathway Advocacy Observations

The Bay Bridge pathway design debate demonstrates that effective organizing by a dedicated and persistent group of advocates can result in a significant change in the design of a megaproject. When considering the overall Bay Bridge project, pathway advocates were underdogs in the race to impact the Bay Bridge design since the pathway was not originally included in the bridge design and was later designated by MTC as the last priority in the amenities list to be funded with bridge tolls. An advocate said,

“The bike path took so much nonstop effort from so many people and yet by law and regulations and common sense it should not have taken any thought. It should have been embraced immediately yet they (MTC and Caltrans) added these two double shoulders in each direction in the name of safety and Federal Highway Administration regulations that cost tremendous amount of money and they went on without a second thought. They were not controversial at all.”

The advocates were a politically astute, well organized and mobilized set of individuals who largely donated personal time and came together to have Caltrans and MTC seriously consider the pathway’s inclusion. Further, many individuals represented established bicycle advocacy organizations. One of the first signs that this group was a force to be reckoned with was when Caltrans and MTC asked it to become a subcommittee of the overall bridge project. Prior to that request, the pathway advocates

did not have a direct form of communication with and access to MTC's Bay Bridge Design Task Force and EDAP. Further, with the group having an official role in the project, it would be difficult for MTC and Caltrans to exclude the pathway from the bridge design. An MTC interviewee noted a key factor in MTC's pathway support, however, was its recognition that the facility would attract many pedestrians even though pedestrian use had been far less emphasized during the process. This representative noted:

“The way you experience a bridge is by walking on it and whenever anyone visits you from out of town, you take them to the Golden Gate Bridge and that will happen here with the (new East Span's pathway.)”

Pathway advocates also were very strategic and calculating in their approach to the design process because they met or communicated regularly and strategized with one another before and after public meetings. Further, they purposefully developed a broader strategy than solely focusing on the new East Span because their overall goal was “shore to shore” access between Downtown San Francisco and Oakland. They sought inclusion of the east span pathway in the design as a means of “getting the camel's nose under the tent” for a pathway also to be built on the West Span. However, this strategy did not persuade one MTC commissioner interviewed who commented “(I) never was convinced that there ever will be a bike lane on the West Span or an easy way inside the tunnel or around. So as far as I'm concerned the bike lane is a very expensive sop or buyoff to an effective lobby.”

Advocates also tried to buttress pathway implementation with other non-seismic aspects of the overall bridge's design, such as 1) connecting their arguments for the pathway to the new bridge's shoulders as mentioned in the quotation above, and 2)

arguing that a “world class” signature bridge could only be viewed as such if it had a pathway. Advocates also made the most of attracting abundant and often positive media attention and news editorials, and relentlessly contacting decision-makers, all the while maximizing use of email and the internet, which were new advocacy and organizing tools at the time. Newsletters also covered the Bay Bridge pathway debate. In one newsletter, BTB!C prophesized there would be “a jubilant zoo of cycling advocacy” at an upcoming MTC public meeting.⁴¹ Finally, recognizing that they were playing both a technical and political game, BPAC tried to support their design recommendations through technical analysis and empirical observations of other pathways such as the Golden Gate and Brooklyn Bridges.⁴²

However, BPAC did not remain a cohesive group throughout the process as tensions and infighting developed when design details were debated, particularly on the pathway’s location and whether it should be above, below or alongside the bridge’s traffic lanes. The group tried to settle its disputes by bringing in a meeting facilitator and a third party technical consultant to provide an independent assessment, but consensus was not achieved. As a result, some participants felt bitter about the process and were concerned that the approved pathway would result in an uncomfortable and inhospitable facility. Still others felt that the design was solid, the pathway’s inclusion was a tremendous accomplishment and that the process broadened awareness about bicycling in general and the power of bicycling advocacy to affect a project.

CHAPTER 6

THE PURSUIT OF RAIL

The previous chapter discussed advocacy efforts to have a pathway located on the new Bay Bridge's eastern span. This chapter focuses on a similar yet distinct effort to have rail service included in the bridge design. First, the rationale and supporters behind the rail service and consideration of rail in the design process is presented. Next, the rail ballot measures and the resulting MTC rail study are discussed. Then, the motivations behind the positions of advocates, MTC and Caltrans are considered. The chapter concludes with a comparison of the rail and pathway advocacy efforts.

Rail service used to be offered on the Bay Bridge. Trains ran on the bridge's lower deck on the south side with trucks and buses on the remaining lanes while automobile traffic ran on the upper deck (see Exhibit 3-4). Major passenger rail service was provided as part of the Key System, which ran from 1939 to 1958. Key System trains crisscrossed the East Bay in the cities of Albany, Berkeley, El Cerrito, Oakland, and Richmond with transbay connections across the Bay Bridge to the Transbay Terminal in San Francisco. In addition, the Interurban Electric and the Sacramento Northern provided rail service on the Bay Bridge between 1939 and 1941.¹ As the bridge had historically provided rail service, rail proponents often stated rail should be considered for the new bridge, or at least the new bridge should be strong enough to carry Key System-type trains as the existing bridge had this capability.²

Rationale and Supporters of Rail Service

The rail issue attracted the attention primarily of two camps: 1) elected officials and their staff such as the mayors and cities of Emeryville, Oakland, Berkeley, and San Francisco who organized amongst themselves and fellow elected officials such as state legislators and 2) dedicated citizens some of whom were affiliated with non-profit organizations such as the Sierra Club and Modern Train Society. According to rail advocates involved, these citizens sometimes shared information, but they did not necessarily coordinate letter writing campaigns or attendance at public meetings. The level of participation also varied among the individuals from those who were regular active participants and testified at public meetings to those who simply wrote advocacy letters. In addition, dissemination of information between the two main groups (the elected officials and citizens) was done informally through personal communication, email/the internet and general meetings held on different topics such as the Alameda Conference of Mayors. It was not done through specifically organized channels, such as more formal and regular meetings as had been organized by the Bay Bridge Bicycle/Pedestrian Advisory Committee.³ An advocate believed a rail service committee was not created for the bridge project because Caltrans and MTC did not want to institute its consideration and potential.

In addition to participants who focused primarily on rail, there was overlap between individuals who supported both the rail and bicycle/pedestrian pathway in part because they were looking for non-auto modes to be accommodated on the new bridge. In particular, there were rail supporters who were also supportive of the bicycle pathway and attended meetings of the pathway committee. Likewise, some pathway advocates

were supporters of the rail line. However, as later discussed, pathway advocates had varying opinions and strategies about the extent to which and whether they should advocate for rail.

Perhaps because of the rail group's informality, there also were several interpretations of rail's accommodation on the bridge in terms of when it would be implemented, where it would run, and what type of rail technology would be used. Some recommended rail to be instituted simultaneously with the opening of a new bridge. Others advocated that the new eastern bridge should be built strong and wide enough to carry heavy rail service or intercity high speed rail at a later date. An interviewee took this position recognizing that years of regional planning and financial planning were needed. Additional recommendations were: 1) rather than build a new bridge, the existing bridge should be retrofitted since it already could carry rail or 2) if a new bridge were going to be built, the existing bridge could be reused by removing the upper deck and using the lower deck for rail service and a pedestrian/bicycle pathway.

Not all were enamored with the idea of rail across the bridge. The *Contra Costa Times* Editorial Board wrote, "Why anyone in his right mind would want heavy rail on a section of the bridge that ends in the middle of the Bay and connects with nothing at the other end is difficult to fathom."⁴ Further, those in opposition to rail on the bridge stated that it would be too costly; the corridor was already served by BART, AC Transit and ferries;⁵ the overall bridge project's construction could be delayed if heavy rail were studied or included; traffic lanes would need to be taken for rail; and, it was unclear whether and how rail would operate on the west span and through the Yerba Buena tunnel. Opponents also wondered how it would be paid for and whether revenues from a

toll increase would be needed to fund it. The most visible agencies in opposition were Caltrans and MTC. However, the MTC board was not united on this issue as some MTC commissioners were supportive of rail, such as then-Mayor Elihu Harris of Oakland (representative of Alameda County cities on MTC) and then-Supervisor Tom Hsieh of San Francisco. Supervisor Hsieh said, “I raised the rail issue, but it was absolutely impossible to make any progress. Their minds were totally closed.”⁶

Consideration of Rail in the Regional Design Process

As discussed in Chapter 3, MTC approved seventeen design and planning recommendations in July 1997 that guided the 30 percent design development stage of the overall bridge project. Of note, MTC’s Bay Bridge Design Task Force added a recommendation at the request of Mayor Harris to ensure that the new bridge would be designed to allow for possible future rail service. The approved recommendation stated, “The new eastern span should be designed in accordance with Caltrans’ proposed design loading which will accommodate the possibility of future rail” (Recommendation #8). The type of rail such as intercity passenger rail or light rail was not explicitly specified in the recommendation nor was it explicitly stated that two auto travel lanes (one lane in each direction) would need to be taken to accommodate rail. However, one could infer that auto lanes would need to be used for rail because a different recommendation (Recommendation #6) specified that the bridge would maintain the same capacity as the existing bridge (ten total traffic lanes, five westbound and five eastbound, but with additional new shoulders). As a result, the number of lanes to accommodate future rail would increase. The final bridge type selected by MTC in June 1998 allowed for light rail

only on existing traffic lanes, thereby requiring a traffic lane in each direction to be taken for rail. The design also did not consider rail's transition from the eastern span through the tunnel and onto the west span, and how it would terminate or extend beyond the bridge itself. It merely left open the door for future analysis and public debate.

Further, the September 1998 federal Draft Environmental Impact Statement for the Bay Bridge's eastern span did not include rail in the project alternatives citing that it was not part of the project's purpose and need, was too costly, not a part of any prior regional planning, and would require several institutional changes. Caltrans then reasoned rail's inclusion had the potential to delay the bridge project's implementation. In response, Dr. Robert Piper of the Sierra Club's San Francisco Bay Chapter wrote:

“The proposed east span is to be strong enough only to carry “Light Rail” (LRT). It will not carry cars that meet standards for sharing track with freight trains. Since the existing tracks to which it could connect in the east Bay carry freight trains, the promise of LRT is empty. Actually, rail of any kind is effectively precluded. There is no place to put it. Rail could be accommodated only by substituting tracks for a traffic lane and shoulder in each direction. This would reduce roadway capacity by 20 per cent. Many East Bay residents have no alternative to driving. More automobile sprawl is coming. Barring a cataclysmic change in public policy—decisions to make motorists pay the costs they engender or to reduce CO₂ (carbon dioxide) emissions, for example—the alternative of reducing vehicle capacity by 20% either for rail or shared bus/rail is illusionary.”⁷

Rail Ballot Measures of 1998

While these Caltrans and MTC decisions were made, key elected officials who supported rail asked the voters in four jurisdictions whether rail should be provided in the bridge design. Stating that the region had not taken them seriously during the design process, the cities of Berkeley, Emeryville, Oakland and San Francisco decided to let the

people speak for themselves on whether they would like rail on the bridge. “...(T)he best (maybe only) way to capture the attention of Caltrans and MTC is a showing of significant public support to restore passenger rail service on the Bay Bridge....” wrote then-Mayor Shirley Dean of Berkeley in support of a rail ballot measure.⁸ Then-Mayors Ken Bukowski of Emeryville, Willie Brown of San Francisco, Shirley Dean, Elihu Harris and later then-Mayor elect Jerry Brown of Oakland were the main mayoral proponents. Several participants in the overall bridge process point to the rail measures as Mayor Ken Bukowski’s brainchild because he personally organized meetings and campaigns for the measure’s ballot placement and public support.⁹

Prior to the election, MTC staff reaction to rail was revealed through William F. Hein of MTC when he commented, “It’s a crazy idea. It’s frustrating, but we live in a democracy, and people can bring it up any time, and they do...I see this as a sideshow without much merit.”¹⁰ Similarly, Professor Emeritus Wolfgang Homburger of UC Berkeley’s Institute of Transportation Studies observed, “This whole rail idea boggles the mind. We need to beef up AC Transit service, (r)amp up BART and increase ferry service before we think about trains on the bridge.”¹¹ On a more inclusive note, Stuart Cohen of then-named Bay Area Transportation Choices Forum recommended, “Rail is an idea that should be thrown in the pot. But so is speeding up buses, BART and ferries on a door-to-door basis so they beat out single drivers.”¹²

In November 1998, voters in the cities of San Francisco, Oakland, Berkeley, and Emeryville responded to the following question posited in a measure placed on the ballot in each jurisdiction:

“Shall it be the city policy to request the Metropolitan Transportation Commission to include passenger rail service as

part of the redesign of the Bay Bridge in order to reduce regional traffic congestion, promote regional mass transit use and protect the environment?”¹³

Voters overwhelmingly supported future rail, ranging from approximately 60 percent to 80 percent in favor as follows: 63 percent support in San Francisco (Proposition I); 66 percent support in Oakland (Measure Y); 76 percent support in Berkeley (Measure M); and 81 percent support in Emeryville (Measure EE).¹⁴ In total, 86,254 voters in the four cities supported these measures. “The voters are saying this is more than a seismic safety project. This is also a transportation project,” said Mayor Bukowski. On the other hand, Michael Cameron of the Environmental Defense Fund commented,

“It’s no secret that residents in the Bay Area are frustrated with traffic problems, but when you put a measure on the ballot that has no tax consequences...the only thing you can interpret is that people think we need alternatives to getting around. I don’t think you can interpret that the public is willing to spend the money necessary to run those services.”¹⁵

It is important to note that the measures were advisory and did not require action or a change in bridge design by MTC. Further, according to Mayor Bukowski, “We’re not talking about putting it in now. We (are) talking about 20 years, 30 years.”¹⁶

When considering the question posed to the voters, several details did not specifically identify how rail would be implemented or considered in a future planning process although the arguments in the official city ballots briefly covered some issues.

The question itself did not address:

- whether the measure was requesting a study or rail construction in concert with new bridge construction
- what the timeframe was for planning and/or implementing rail

- how much it would cost to plan, design and build any rail service and how it would be funded
- whether traffic and shoulder lanes would be needed to accommodate rail
- whether rail service was offered on the new east span or both spans, and how it would be accommodated on the west span and through the bridge tunnel
- how and whether this rail line would extend beyond the bridge and how riders would access the system
- whether any land use or station area planning would be undertaken

After the measures passed, several mayors asked MTC and Caltrans to: 1) conduct an in-depth passenger rail study which could address some of the above issues, and 2) current design work on the bridge cease. “Please join us in making this bridge an international model of safety, transportation excellence, and beauty; truly a world class bridge. The voters expect no less,” wrote the mayors. In response, MTC and Caltrans cited that rail was not an eligible expense per state law from state toll funds authorized through Senate Bill 60 of 1997, the state mandate was to proceed quickly with a new bridge, and rail’s inclusion would delay the bridge project. The agencies also emphasized that the ballot measures did not change state law.¹⁷ MTC wrote,

“The current design work on the new eastern span is approximately 50% complete and has cost the taxpayers \$40 million. To start anew with a substitute design would entail considerable cost and delay... (T)he constraint on initiating rail service across the Bay Bridge will not be the design of the new eastern span, but rather the financial and engineering challenges of accommodating such service on the existing western span, in downtown San Francisco, and in Oakland and conceivably other East Bay communities.”¹⁸

Critics of the MTC/Caltrans position claim a choice was made on Senate Bill 60's eligible expenses during the legislation's development, and rail was purposefully included. They feel that Senate Bill 60 was "hostile" to rail because it contained a provision that a mass transportation facility, such as rail, could not be required during the bridge project's permit approval process.¹⁹ Nonetheless, MTC agreed to commission two studies: 1) a rail feasibility and 2) an updated Bay Crossings Study to consider possible corridor improvements such as rail among other alternatives.

MTC Rail Study

The MTC rail study conducted in response to the rail ballot measure was completed in July 2000.²⁰ The study examined four different rail service alternatives:

- Transbay Light Rail Service (Alternative A), with light rail service operating between the Transbay Terminal and along three routes primarily in Oakland and Berkeley
- BART Relief (Alternative B), with relocating BART's Richmond-Daly City line from the Transbay Tube (on an elevated track beginning at the MacArthur BART station) and operating it on the Bay Bridge. This would allow additional BART train capacity in the Transbay Tube, particularly during peak periods. Also, this new line would bypass Downtown Oakland.
- "Basic" Bridge Railroad Passenger Service (Alternative C), in which electrified commuter rail and high speed rail service would be provided

that would run on the Peninsula and across the Bay Bridge through the Transbay Terminal to the East Bay

- “Aggressive” Bridge Railroad Passenger Service (Alternative D), similar to Alternative C, but with some trains running to Sacramento and San Jose.

According to an MTC official interviewed, a conscious decision was made on MTC’s part that auto capacity would not be reduced on the bridge because “the politics wouldn’t allow for reducing the number of lanes of traffic.” Therefore, for new rail to be added to the bridge, the new East Span would need to be structurally strengthened to accommodate rail and maintain five lanes of traffic, as the new span was designed only to accommodate rail with four traffic lanes and one shoulder in each direction. Rather than have the shoulders, the study assumed that the new rail would take the shoulder’s space. For the West Span, new rail service could be located under the lower deck or adjacent to the upper or lower decks.

The study concluded that it would cost about \$3 billion to structurally improve the eastern and western spans of the bridge to accommodate rail²¹ and another \$1.5 to \$5 billion to non-bridge infrastructure costs (such as the rail itself, signal systems and rolling stock). Thus, total capital costs ranged from \$5 billion to \$9 billion. Operating costs to run the service were not provided. The report also commented that the next step would be to conduct an updated Bay Crossings Study, which would examine a broader range of travel alternatives.²²

The rail study combined with the later Bay Crossing Study proved useful to MTC for putting aside the rail issue since the implementation costs were high and funds were

not immediately available for it. The rail study also was useful to Caltrans' responses to criticism that its draft Environmental Impact Statement (EIS) had inadequately addressed rail. Caltrans cited the MTC study in the final EIS, which strengthened its argument that rail was outside of the new East Span's seismic safety scope. However, to several rail proponents and observers, the capital costs estimated in the MTC rail study combined with the federal environmental documents provided nails in the coffin for the rail issue. A rail advocate labeled it a "rail infeasibility study." Mayor Ken Bukowski commented,

"MTC has blown this whole thing out of proportion... We never envisioned hanging rail off the side of the bridge and adding billions of dollars to the cost of the project. We have always talked about using existing lanes. These studies are way out of line."²³

Similarly, a rail supporter believed that the study clouded the debate by turning rail into a high cost "over the top" project in an attempt by MTC and Caltrans to discredit the notion of rail and impede its legitimate implementation. This interviewee further critiqued the MTC study stating a more comprehensive study would have considered existing and future land use patterns, potential changes on the land use side, and institutional arrangements needed to develop rail as a viable option. The Modern Train Society also commented the study was flawed because the problem had been defined incorrectly:

"The problem is 'how best to carry rail and motor traffic between Oakland and Yerba Buena.' The problem is not 'how best to modify the freeway-on-stilts concept to carry rail.'"²⁴

MTC's general response to these critiques was that regardless of the rail's type and breadth, it would cost an estimated \$3 billion to increase to strengthen the bridge to accommodate rail and five traffic lanes. Further, MTC Task Force chairperson, then-Supervisor Mary King stated, "These studies are an absurd waste of money satisfying a

minority group who has obstructed the work on the bridge in any number of ways...
Adding costs to an underfunded project is not feasible.”²⁵

Advocates’ Motivations for Supporting Rail

In reflecting about the rail debate, it is useful to consider participants’ main motivations, which included:

- concerns about the environment, regional growth and traffic congestion
- nostalgia about the old Key system that used to inhabit the bridge’s lower deck and fan out across the East Bay and interest in constructing a new modern rail line
- inclusion of rail as part of a broader agenda to leverage support for other issues
- a combination of the above motivating factors

Concern for the Environment, Regional Growth and/or Traffic Congestion

Many rail proponents were motivated because of concern over the environment, regional growth and increasing traffic congestion. In fact, the MTC rail study acknowledged, “Total travel in the Transbay corridor is expected to increase by 22% over the next 20 years from 518,000 persons in 2000 to 633,400 persons in 2020.”²⁶ Rail proponents voiced concern that several billion dollars of public funds would be spent on a bridge that would not substantively add capacity to the bridge. Further, the new bridge’s life span was estimated at between 100 to 150 years during which there would be population and travel growth. They also thought that the new bridge would be less strong than the existing bridge if it were not designed to carry loads similar to the level carried previously.

With respect to MTC commissioners who supported rail, then-Mayor Elihu Harris stated, “All we are doing for \$2 billion is trading one congested bridge for another congested bridge.”²⁷ In addition, then-commissioner and former San Francisco Supervisor Tom Hsieh similarly advocated,

“...The bridge design proposed by MTC has exactly the same capacity as today’s bridge. It will have five lanes of automobile traffic in both directions. This means that the redesigned bridge will be just as congested the day it opens. The gridlocked cars and trucks will stack up and spew more polluting fumes. We can do better. By putting a rail line on the bridge, we can significantly increase the capacity of the bridge and ensure that the Bay Area can handle traffic in the future...”²⁸

Nostalgia for the Key System and Interest in a Streamlined Modern Rail Line

Many rail recommendations also had nostalgic and sentimental references to the historic Key System that used to operate on the bridge. Rail proponents often cited that these trains carried transbay rail passengers at numbers far higher than today’s BART system, and offered personal memories of riding on the Key system. “I used to ride the Key line. You could ride it from downtown Berkeley all the way to San Francisco. It was cheap and it was fast,” stated Mayor Shirley Dean.^{29, 30} The Modern Train Society commented, “...The tracks (on the Bay Bridge) carried more people than all the auto lanes COMBINED. Yet, the tracks used only 20% of the bridge area.” Further, rail proponents also passionately stated that the Bay Bridge rightfully deserves having rail returned to it since they believed that it was unfairly removed. In a letter to Governor Davis, the Modern Train Society wrote,

“...we urge you to require that electric trains again be allowed on the Bay Bridge. These trains were destroyed as a result of a hostile takeover of the transit company by General Motors Corporation. This was despite a State report from 1947 stating trains are "essential" on this bridge. Let’s right a wrong here. The Bay

Bridge must be 'future-ready' for trains, to the same weight capacity as the present bridge. We urge you to reject the 'freeway on stilts' design that does not allow high speed trains!”³¹

Similarly, Gray Brechin of Berkeley proposed,

“Paying for rails on the new bridge would be easy if the Justice Department would simply send the bill to General Motors, Firestone Tires and the other automotive companies that set up the National City Lines company to wreck the Nation’s trolley systems.”³²

In concert with dreams for revitalizing the Key System, some advocates viewed the new bridge project as an opportunity to construct a modern rail line that would provide additional transit capacity and serve as a noteworthy international example that the Bay Area was at the forefront of transit technology. Others argued that the bridge could not be a “world class” bridge unless it offered rail. These interests demonstrate that the “technological sublime” was at work in the bridge’s rail. As shown in Chapters 2 and 3, the technological sublime provided a motivating factor for those interested in building a landmark bridge, and within the rail component there also was motivation to create a technologically superior transit system.

Rail as part of a Broader Agenda

Inherent in the above discussions were the interests of some proponents who had a broader agenda beyond rail, and some of them said as much. For example, Mayor-elect Jerry Brown publicly advocated for a new bridge design (as discussed in Chapter 3) and with respect to rail, he noted if the bridge were redesigned to accommodate rail, it could be redesigned for aesthetic purposes. He stated, “...If the majority of cities in the Bay

Area vote they want to see a new design including rail, that will give another opportunity to rethink the bridge design.”³³ He similarly said,

“I see it as a great mandate to the next governor, Gray Davis, to help Willie Brown and myself and the other mayors take a second look at the bridge in terms of rail and also for a design that is worthy of the next century and the sophistication of the East Bay. I think that this vote (on the rail ballot measure), together with the political support of Mayor Brown in San Francisco and the election of Davis, paves the way for change.”³⁴

For San Francisco, several interviewees on both sides of the debate noted that San Francisco used whatever issue was important at the time to reopen the overall bridge design process. As discussed in Chapter 4, San Francisco’s opposition to the larger bridge project stemmed from concerns about the northern bridge alignment’s impact on future Treasure/Yerba Buena Island development and lack of funding for bridge access ramps to the islands.

Perhaps the telltale sign for motivations beyond rail was a short joint letter addressed to newly elected Governor Davis in which Mayors Willie Brown and Jerry Brown request that the redesign must be done because it does not include the rail requested by over 65 percent of the voters in four cities. Using the rail measure to bolster their claim that the bridge design process needed to be reopened, they asked for several changes: first, a southern alignment and second, a world class design which “would involve an account of a gateway/park at the anchorage in Oakland and propose creative ways to resolve on/off ramps at Yerba Buena Island.”³⁵ Neither of these two requests address or impact whether rail is on the bridge. Then, finally, the third item on their list is rail on the bridge. However, any regional action on rail is independent of decisions

needed to alter the bridge's alignment or substantially redesign the bridge for aesthetic purposes.

With respect to other advocates, some were motivated by the Transbay Terminal issue because it seemed to them to be a logical extension of the bridge debate and improving transbay travel options. At the time, Caltrans, MTC, East Bay cities, the City and County of San Francisco, and AC Transit among others were strongly debating the Transbay Terminal's fate in terms of whether it should be retrofitted or relocated. There also were contentious discussions over whether the Terminal's east ramp that serves AC Transit buses and could potentially serve rail should be removed. As a result, the Transbay Terminal had its own intense and controversial history drawing players from that debate into the Bay Bridge process. Participants believed rail's inclusion in the bridge project would strengthen their argument that the Transbay Terminal is a critical regional asset which should remain in the current location and with its east ramp intact. Mayor Shirley Dean explicitly tied the Bay Bridge debate to the Terminal stating,

“This strategy (the rail ballot measure) also lays the foundation to keep the Transbay Terminal as a transit hub because the four levels for the passenger rail service still exist within the Terminal from the time that it served as the end point for the Key System trains that ran across the Bay Bridge from the East Bay to San Francisco.”³⁶

Further, the Terminal was an eligible expense for additional bridge toll funds along with the “signature” bridge and the pathway as a result of San Francisco's early negotiations on the alignment, thereby giving the Terminal a legitimate place at the table in the overall debate.

Lastly and often with cynical undertones, interviewee statements and news accounts alleged that some involved elected officials were running for reelection or trying

to court different constituencies, and rail advocacy may have been used to garner additional press, photo opportunities with other elected officials, and/or get their names out to the voters.

Advocates' Perceptions of MTC and Caltrans' Motivations

During interviews, several rail advocates also offered their perceptions about MTC and Caltrans' motivations behind their general rail opposition. They often stated that MTC and Caltrans purposefully and repeatedly acted to exclude rail as a viable option for the new bridge. For example, they believed these agencies allegedly sought to exclude rail as an eligible expenditure in the initial bridge funding legislation, Senate Bill 60, and that the subsequent rail study inflated costs. David Brower, former Executive Director of Sierra Club and chair of Earth Island board, observed,

“Much of the current rush to build a bridge based on questionable design is rooted in a desire to exclude meaningful passenger rail from the Bay Bridge. Through this bias, Caltrans and the Metropolitan Transportation Commission are harming the state's future. Both Caltrans and the MTC are defying the referendum that strongly favors rail on the new span. This also is a slap in the face of the Bay Area mayors and other elected officials outspokenly favoring intercity rail on the bridge. A Bay Bridge lacking intercity rail will be the ridicule of future generations. Turning away from the automobile and toward efficient intercity rail service is a key toward environmental progress both now and in the future.”³⁷

Some advocates believed both agencies were biased towards road building and increasing auto capacity. They commented that the MTC motivation was personal in that MTC's staff leadership favored the BART rail system in part because several management level employees held prior leadership positions at the transit agency, and did not want any new service that would compete with BART. MTC officials responded that this criticism was

an “old saw” of MTC critics, and that MTC has not favored BART over the years, and in some cases acted in the interest of other transit systems over BART. These statements demonstrate that rail advocates perceived a hidden agency agenda at play and did not trust public agency recommendations and commissioned studies.

Comparison of the Pathway and Rail Advocacy Efforts

The pathway and rail advocacy efforts had many similarities and differences. First, both groups advocated that the overall Bay Bridge project’s scope expansion beyond seismic safety to include consideration of alternative travel modes. Second, the groups were significantly different from one another. The pathway constituency evolved into a formal group consisting mainly of representatives from existing organized bicycle advocacy groups who had a history of working with each other, MTC and Caltrans. A few participants representing pedestrians and wheelchair users were added later to the committee. On the other hand, the rail constituency was an informal group, which consisted of a set of individuals and elected officials who were its main supporters. The bicycle and pedestrian supporters were provided with a legitimate and specialized forum through the Bay Bridge Bicycle and Pedestrian Advisory Committee while the rail advocates made their case through letters, public meeting testimony, and at the ballot box. Some pathway and rail advocates believed that this created a ‘divide and conquer’ atmosphere in which the rail and pathway supporters felt divided and in competition with one another for scarce resources and time. As a result, some pathway advocates publicly demonstrated that they were supportive of rail and the 1998 rail ballot measures by bicycling on the Bay Bridge (on the anniversary of the 1997 BART strike) while carrying a 61-foot structure representing a train on the bridge (see Exhibit 6-1).³⁸, ³⁹

There was some overlap between the pathway and rail groups, and the groups were generally supportive of the other's mode inclusion in the bridge project. However, there was some concern about the extent to which each group should advocate for the other mode due to competition for limited funds within the overall bridge budget, available space on the bridge, and the amount of time the supporters were able to dedicate to the effort. Those interviewed acknowledged that these factors hindered what could have been a stronger, more united advocacy front. With respect to limited funds, there was some apprehension that if pathway advocates supported rail too eagerly, bridge toll funds that might be available to the eastern and western pathways could be used for the rail line if rail service became eligible for funding. Further, the Transbay Terminal (which would serve a rail line) was eligible for toll funding and was in direct competition with the pathway and the rail line.

Adequate bridge space also was a concern. Some pathway participants wondered where the rail line would be and how much space if any would be left for the pathway, particularly on the existing west span. There also was some uneasiness that the pathway could be converted to a rail line or for use by carpools, buses or even single-occupant vehicles. This anxiety was generated in part because of MTC/BCDC Commissioner Angelo Siracusa's proposal that BCDC only support a pathway with:

“two conditions, i.e., that it be designed to accommodate future light rail, buses or HOV, and that it be accompanied by a resolution allowing future policymakers the flexibility to convert that lane to transit or HOV (high-occupancy vehicles).”

He was concerned about how many people would use the pathway and wanted to provide future policymakers with the option of assessing whether the pathway was the most

efficient way for people to travel in the Transbay corridor or whether more high-occupancy options such as rail or bus would be more appropriate.⁴⁰ BCDC rejected Commissioner Siracusa's recommendation and voted instead to support the pathway as "permanently guaranteed" as the overall board did not support the possibility that it could be converted to an alternative use. An interviewee summed up the rail versus pathway issue:

"I think that if we had decided that was our goal number one, the (Transbay) Terminal and rail, we could have really pushed that, but there was always this subtle threat that the geography that we were talking about on the new bridge would possibly become that rail. We had heard that through (MTC and BCDC Commissioner) Angelo Siracusa, (who) was probably one of the first people to get behind the bike lane idea as long as we can convert it to some more useful transportation function."

Advocacy and participation also was time consuming for many participants, especially because many volunteered their time and could not devote extra time or energy to additional advocacy. There appeared to be many more active pathway advocates than rail advocates and as a result, pathway supporters had a more visible and impressionable presence at meetings and in writing.

Third, pathway and rail supporters advocated for design provisions that were viewed as a long shot by many because neither mode was provided in Caltrans' 1997 bridge designs and the project's primary project purpose, as defined by the state and region, was seismic safety. Further, only half of the bridge was being rebuilt, and funding would be needed to provide these services on the bridge's west span. When simply comparing the estimated costs, the pathway cost much less (at \$50 million as compared to at least several hundred million dollars per MTC estimates for rail) and had a larger, more vocal advocacy group. This made it easier for MTC to include the pathway while rejecting the rail line because of its higher costs among other reasons.

Fourth, both groups aggressively used alternative methods when they decided to take matters into their own hands. Pathway advocates successfully pursued legislation to include the West Span pathway as an eligible expense in the bridge project. Rail supporters secured major approval of the rail measure in four jurisdictions. These separate efforts demonstrated that the regional process did not operate independently from the other levels of the government, and that advocates took advantage of these legal tools when all else failed. In both cases, however, the end result did not lead to actual design change, but rather to additional studies that MTC and Caltrans conducted in response (the west span pathway study and the Bay Bridge rail study). Lastly, according to pathway and rail interviewees, representatives from both groups held different viewpoints about the outcomes of the design process. Pathway advocates (but not all) generally thought the pathway effort was victorious, while rail advocates viewed their efforts with frustration and anger that the bridge design did not adequately include rail.

CHAPTER 7
BRIDGE STORY, PART II:
AFTER THE LAND TRANSFER
(2001 TO PRESENT)

Given the effort put forth over selecting the new Bay Bridge's design and alignment, one would assume that the bridge's construction proceeded full speed ahead. That was not the case, however, as project costs steadily increased and construction-related contracting proved difficult. As the dissertation focuses on the regional planning process covered in the Chapters 3 to 6, this chapter briefly describes the events that occurred just prior to and after the federal Record of Decision approved MTC's selected bridge design and alignment in July 2001. The discussion centers on the East Span's cost increases and state efforts to change the bridge design.

\$2 Billion Cost Increase in 2001

Several months after the announcement of the Yerba Buena land transfer, Caltrans released higher cost estimates for the toll bridge seismic retrofit program in its 2001 annual legislative report. The cost had grown from \$2.6 billion included in Senate Bill 60 of 1997 to \$4.6 billion (see Exhibit 7-1). Every bridge experienced increases, particularly with a doubling in cost for the Bay Bridge's new east span (from \$1.3 billion to \$2.6 billion) and the Richmond-San Rafael bridge (from \$329 million to \$665 million) as well as a significant increase for the Benicia-Martinez bridge (from \$101 million to \$190 million). Caltrans recommended that federal Highway Bridge Replacement and

Rehabilitation (HBRR) program funds should be used to cover the \$557 million needed for the six non-Bay Bridge projects. For the Bay Bridge, it recommended that the Bay Area “identify ways to allow this work to move forward in a timely fashion.”

Caltrans cited several reasons for the cost increase. First, the “strong economy and boom in construction” caused a general cost increase because construction costs, including steel and concrete prices, for Fiscal Year 1999-2000 had risen eighteen percent (up from the prior year’s annual 0.5 percent increase). Caltrans also stated that the two years of delay associated with the “regional process of selecting the design” caused “dramatic” cost increases. It also noted that the program’s authorizing legislation (SB 60 and SB 226 of 1997)

“...assumed that the entire (seismic toll bridge program) program would proceed without delay, and did not incorporate the customary contingencies and inflationary escalators associated with major capital programs. The legislation did, however, include a provision for additional funding beyond the \$2.6 billion provided initially, and required the California Department of Transportation (Caltrans) to notify the Legislature when such a need arose.”^{1, 2}

MTC disagreed with Caltrans’ assertion that the regional process delayed the East Span project. MTC argued that the delay occurred after MTC selected the bridge design because of disagreements over the bridge alignment and its potential impacts to Yerba Buena Island development. It also asked Bechtel Infrastructure Corporation to undertake an independent cost analysis as it was currently conducting a similar review of Caltrans’ cost estimates for bridge projects funded by Regional Measure 1 of 1989. The Bechtel/MTC review initiated a wave of oversight reviews since the 2000 Army Corps of Engineers’ studies discussed in Chapter 4.

With this news, Senator Don Perata recommended reconsideration of retrofitting the East Span rather than replacing it since that could be a less expensive alternative. After hearing from numerous sources favoring a bridge replacement, including the *Oakland Tribune*, Senator Perata later stated, “I don’t think anyone is interested in going back to the beginning. I don’t want to reopen the debate on the retrofit.”³

A few months later, MTC released Bechtel’s report, which indicated that the toll bridge program costs could run an additional \$250 (5.4 percent) to \$630 million (13 percent) more than Caltrans’ current estimate of \$4.6 billion due to different assumptions related to escalation rates, project contingencies, capital outlay support, and construction and demolition. MTC recommended that an overall program contingency of \$630 million should be added to state funding legislation, which would increase the program to \$5.3 billion overall (\$4.6 billion plus \$630 million).⁴ As a result, Caltrans and MTC strongly disagreed with each other over cost estimates and how the program should be funded. Caltrans supported its \$2.6 billion cost increase estimate and MTC supported Bechtel’s higher \$3.1 billion estimate.⁵ Of Caltrans’ cost estimates, then-Caltrans Director Jeff Morales commented, “These should be high-end numbers. We’re pretty comfortable with these numbers.”⁶ Caltrans proposed an indefinite extension of the one dollar toll seismic surcharge to fully cover the Bay Bridge’s cost increases to minimize impacts to projects in other parts of the state.⁷ MTC opposed this extension to fully cover the costs. It further opposed a one dollar Bay Area bridge toll increase to three dollars because “...it could seriously undermine our ability to negotiate a fair contribution from the state to retrofit these interstate highways...”⁸ Instead, federal funds were recommended to cover some costs since the bridge had been federalized in 2000. MTC and Bay Area legislators also

recommended that a project reserve should be created to fund other projects if such monies later became available.⁹

With Caltrans' cost estimates and Bechtel's review in hand, the state legislature struggled over forging a funding agreement. Similar to debates prior to Proposition 192 in 1996 and SB 60 in 1997, state legislators exhibited strong concern over how costs would be distributed statewide and the impact this could have on local non-toll bridge projects throughout the state.¹⁰ According to Jodie Day, chief of staff to Senator Bob Margett of Arcadia, "It's not a north-south thing, it's every community. When you're talking about a \$2 billion overrun, that's not just L.A. County, that's the entire state that is not getting \$2 billion of road improvement."¹¹ The *Los Angeles Times* similarly described the situation: "Like warring siblings arguing over their share of the weekly allowance, both sides are trading barbs and stamping their feet over who deserves the money most."¹²

With this backdrop and after much hostile statewide debate, Governor Gray Davis signed Assembly Bill 1171 by Assembly member John Dutra to fund the cost increases in October 2001.¹³ The legislation specified that the bridge would be built on the northern alignment (N-6), the preferred alignment selected in the east span's May 2001 Final Environmental Impact Statement. The bridge's main span would be the MTC-recommended single-tower self-anchored suspension (SAS) design. This specificity of bridge type would prove useful in later debates as the state advocated changes in design, which would necessitate amending current law. In addition, the legislation's toll bridge funding program followed the path of SB 60, which set the precedent for additional state sources and bridge tolls to contribute equally to funding cost overruns.¹⁴ Toll funds would contribute \$1.4 billion (at 56 percent) and state/federal funds would contribute \$1

billion (at 44 percent) for a total of \$2.4 billion (which covers the \$2 billion cost overrun and \$448 million program contingency in the event of future cost increases) (see Exhibits 7-1 and 7-2).^{15,16} “It’s the best deal we could arrive at, and it does move the project forward. It insulates us from what we were worried about—open-ended cost overruns,” stated Senator Tom Torlakson.¹⁷

Two years later, another toll bridge bill passed. However, it was not related to the toll bridge seismic retrofit program. Senate Bill 916 of 2003 by Senator Don Perata was enacted, which authorized a ballot measure, Regional Measure 2, to increase tolls on Bay Area state-owned bridges by one dollar. Voters in the nine Bay Area counties approved Regional Measure 2 in March 2004 with 57 percent of the votes in favor. The toll increase took effect in July 2004 and the total roundtrip toll became three dollars (see Exhibits 7-2 and 7-3). The toll increase generates approximately \$125 million annually. MTC’s Bay Area Toll Authority (BATA) oversees and manages the revenues, which funds the Regional Traffic Relief Plan, an expenditure plan provided in the ballot measure that identified specific capital and operating projects. Some viewed this bill as the region’s preemptive move to increase the toll for non-seismic projects while it had a chance before retrofit project costs rose again. Others view the bill as a regional attempt to respond to growing traffic concerns in the bridge corridors, and that seismic retrofit cost increases were not anticipated at the time.

The “Big One” of Cost Increases in 2004

After AB 1171’s passage, the State broke ground on the Bay Bridge’s new east span in January 2002. Governor Davis stated at the groundbreaking festivities held on

Treasure Island that the bridge would be completed in five years. On a ceremonial bridge pile, he wrote, “This is a great undertaking! With God’s blessing, this new bridge will stand magnificently for decades”¹⁸ (see Exhibit 7-4). Over the next few years, Caltrans entered into several bridge construction contracts, and the bridge’s cost slowly started rising. By mid-2004, Caltrans planned to contract out the bridge’s last major component, the self-anchored suspension tower. Only one bid was received, which a consortium led by American Bridge Corporation submitted. Since the bid documents followed “Buy America” requirements instituted by the Davis Administration, the submitted bid contained two options: a \$1.4 billion alternative using foreign steel and a \$1.8 billion alternative using domestic steel. Both alternatives were significantly over Caltrans’ contract estimate of approximately \$750 million. With this single bid in hand, the State officially announced in August 2004 that the new span’s overall cost had doubled to approximately \$5 billion. The overall toll bridge seismic retrofit program cost escalated to \$8 billion (from the 2001 estimated cost of approximately \$5 billion) (see Exhibit 7-1).¹⁹ Caltrans cited several factors that attributed to the increase: insurance and bonding costs have continued to increase due to concerns about terrorism; steel prices have increased by fifty percent in the last few years; technical experts and staffing needs were greater than anticipated; project construction took longer and was more difficult than expected, particularly due to marine construction activities; and construction costs generally have increased industrywide. In addition, there was limited capacity on the part of the construction industry to bid on the east span’s suspension tower contract. According to Caltrans, “There were too many concurrent large bridge and highway contracts in the Bay Area, nearly \$4 billion underway in 2003. Competing demands for

heavy marine equipment nationwide and the Bay Area have limited availability. The resulting costs due to limited availability were unanticipated.” The report also asserted that 53 percent (\$1.35 billion not including program contingencies) of the East Span’s cost increase was related to the self-anchored suspension tower.²⁰

Then, to the surprise and dismay of many participants, Governor Arnold Schwarzenegger and his administration proposed in December 2004 that the bridge’s “signature” suspension tower should not be built and that a viaduct should be constructed in place of the tower. The Administration’s stated goal was to reduce financial/construction-related risk and project costs by \$300 to \$500 million (or roughly five percent of the total east span cost) by pursuing a more standard design. According to Will Kempton, Caltrans’ then-newly appointed Director, “There are some challenges (with the skyway design). But there are few unknowns with the skyway. This is a much simpler kind of design, and we are very familiar with this type of work.”²¹ The Administration’s news came as a particular shock because the bridge’s viaduct segment was approximately seventy percent complete and a portion of the suspension tower’s foundation was under construction (see Exhibit 7-5). Critics of the Administration’s recommendations argued that cost savings would not be realized and that the bridge process would get lost in endless environmental, design and permit delays if the viaduct option were selected. They were also skeptical of Caltrans’ ability to make such recommendations given its track record thus far. Senator Perata commented, “The same agency that botched the last estimate is the same agency recommending we build the skyway, saying it won’t take any longer and promising it will save money. I’m not sure there’s a lot of confidence in Caltrans there.”²² With the vehement opposition of the Bay

Area, the Governor recommended that the Bay Area substantially fund the cost increase, potentially through a bridge toll increase, Regional Measure 2 toll revenues, and/or other transportation sources available to the Bay Area. Others suggested a funding package that included a general obligation bond and a smaller toll increase. Of the Administration's proposal, Senator Tom Torlakson said, "It's blatantly unfair to say the Bay Area has to pay eighty percent of the costs for a bridge they never wanted."²³ Of the overall project, Senator Tom McClintock of Ventura County later stated, "It's the biggest fiasco in California transportation history. This was a simple retrofit of that bridge that has been botched beyond anyone's wildest imagination."²⁴

The suspension tower's single bid expired in September 2004 and a contract was not awarded because the state was at a standstill over the bridge's design and funding. The Legislature did not come to an agreement in part because it was only notified of the increase ten days before the 2004 regular session's closing and six weeks prior to the single bid's expiration date. Various agencies and review panels then commissioned several studies that resulted in conflicting recommendations over bridge design and funding, and intense legislative hearings were conducted. These studies compared the suspension tower to viaduct and cable-stayed tower alternatives.²⁵ State officials argued that these studies generally demonstrated that there were less construction and cost risks associated with a skyway design. In commenting on its key December 2004 design review, Caltrans stated,

"... (T)hat report, if closely examined, provides ample support for the decision to proceed with the Skyway Extension Alternative and clearly identifies the potential for cost increases and schedule delays associated with the SAS Alternative design."²⁶

Bay Area officials responded that the state cost and schedule estimates were overly optimistic because the skyway design was only five percent complete and needed numerous permits; whereas, the tower span was fully permitted and designed, and even was partially under construction. They also argued that the new East Span had been designed to function as whole, and that the main structural element (the tower) could not be simply switched out like one might do when playing with an erector set. Further, some noted that Bay Area tollpayers have been paying an additional one dollar bridge toll since 1998 to fund the tower (as well as pedestrian/bicycle pathway). MTC Chairman Steve Kinsey wrote,

“The notion of redesigning the SAS portion of the new bridge to a cable-stayed or viaduct structure comes far too late in the evolution of the project. Foundation elements of the SAS are already under construction, the entire bridge has been designed as a single system, and a redesign process would impose unacceptable further delays on this much-delayed project.”²⁷

The California State Auditor Elaine Howell, a non-partisan state official, also released a stinging audit of the toll bridge seismic retrofit program, which focused on the Bay Bridge and contained much criticism of Caltrans’ program management. The auditor’s report suggested that Caltrans had knowledge of the Bay Bridge cost increases far in advance of its August 2004 notification to the state legislature, and did not provide this information to the legislature in a timely manner as required by law. Further, the auditor stated that Caltrans failed to institute risk and cost management plans and did not have systems in place to adequately monitor project risks and costs. Finally, the auditor attributed approximately thirty percent (\$930 million) of the August 2004 Caltrans-reported cost increase to the Bay Bridge’s suspension tower and approximately seventy percent (\$2.3 billion) to other aspects of the toll bridge program, such as Caltrans’

support costs and a larger program contingency. The Auditor recommended that Caltrans institute comprehensive risk and cost management plans as well as significantly improve its communication and reporting to the Legislature and key stakeholders of major issues as they arise.²⁸

In response, the Business, Transportation and Housing Agency and Caltrans denied that cost information was intentionally withheld from the legislature and disputed the level of cost increases attributable to the signature tower and Caltrans' project management. Caltrans asserted that seventy percent (\$1.2 billion) of a \$1.7 billion increase in capital costs, as reported in the audit, was related to the suspension tower span and that the program contingency's increase was largely attributable to the tower. Both agencies did acknowledge that program management and communication with the legislature could be improved, and that they would undertake aggressive measures to do so.²⁹ This exchange between the Auditor and the transportation agencies provides yet another example in the Bay Bridge project's history of public agencies arguing with each other over technical, yet politically important issues. In this case, the debates centered on: 1) the extent to which program cost increases should be attributed to (and blamed on) the signature tower, external factors such as labor and materials costs, and project (mis)management, and 2) whether state agencies intentionally withheld information from the legislature.

Nearly a year after the release of Caltrans' cost estimates, state legislation was signed for the fourth time to cover retrofit costs and allow the Bay Bridge project to move forward (see Exhibit 7-6).^{30,31} Assembly Bill 144 by Assemblyperson Loni Hancock established that the suspension bridge tower would be built rather than a viaduct. "We're

ready to move forward with a bridge that will be beautiful, that will keep the people of our state safe and that will keep commerce flowing across a very, very important state bridge,” stated Assemblyperson Hancock.³² The legislation also set forth the state and region’s financial contributions to the program whereby the state would provide \$630 million from various state sources and the region would provide \$2.9 billion (\$2.15 billion from a \$1 toll increase on all state-owned Bay Area bridges effective no earlier than January 1, 2007, and \$820 million from consolidating all toll revenues under MTC/BATA’s management and debt refinancing). The total toll on Bay Area state-owned bridges for single-occupant vehicles will become four dollars (see Exhibits 7-1 to 7-3).

In addition to the required toll increase, the prior cost sharing arrangement in which project cost overruns were roughly divided between the state and region changed. With AB 144, the Bay Area was required to cover a greater proportion of funding at 82.5 percent and the state contributing 17.5 percent. The region also assumed future liability for any additional cost increases. According to the Governors’ spokesperson, Vince Sollito, “Beyond getting a safe bridge for the Bay Area as quickly as possible and at a reasonable cost, he (Governor Schwarzenegger) wanted to make sure taxpayers were saved from future cost increases and that other much-needed transportation projects would not be negatively impacted.”³³ In other words, the transfer of liability to the region meant that the Administration and Legislature hopefully will not have to endure future statewide debates about funding the Bay Bridge from state sources should there be additional cost increases. The legislation also transferred additional oversight authority to MTC/BATA so that it was vested with full management responsibility for the toll bridge

program's revenue and projects as well as maintenance and operations. Additionally, the legislation created the Toll Bridge Program Oversight Committee, which is composed of MTC/BATA, the California Transportation Commission (CTC) and Caltrans' directors. The committee's purpose is to oversee the toll bridge seismic retrofit program and the new Benicia-Martinez bridge's construction, which is funded by Regional Measure 1 and has experienced major implementation difficulties. It reviews project specifics such as costs, expenditures, implementation status, and staffing as well as contract specifications, and bid documents. Caltrans then must seek BATA/MTC's approval on specifications and bid documents prior to public issuance. Further, the committee must submit quarterly reports to the legislature and the CTC.

In August 2005, the Toll Bridge Program Oversight Committee released revised bid documents for the suspension tower contract with bids due in February 2006. Major changes in the bid documents included: 1) an increased bid estimate of \$1.5 billion (as opposed to \$750 million in the 2004 tower bid documents), and 2) removal of "Buy America" requirements whereby bidders do not have to submit a domestic steel alternative, and such an alternative would not receive preference in bid selection. This could potentially lower costs as the foreign steel alternative was \$400 million less expensive (at \$1.4 billion) than the domestic steel alternative (at \$1.8 billion) in the May 2004 single bid. The new tower's contract award is scheduled for March 31, 2006, nearly two years after the original single tower bid had been submitted. Work also was allowed to begin again on the tower's foundation and east pier, which had been awarded in April 2004, but was put on hold while the debate continued on the East Span's design and funding.³⁴

Statewide Debate Déjà vu

The recent statewide debate focused on two main issues: the distribution of state and regional funds to cover rising project costs, and whether the bridge should be redesigned. The funding issue was reminiscent of earlier disputes, as detailed in Chapter 3, in which northern and southern California legislators argued over whether the state-owned bridges were a state or a regional responsibility and how retrofit projects should be funded. A state legislative interviewee summed up the legislative evolution as follows. In the debates over SB 60 in 1997, key Bay Area goals were to protect Regional Measure 1 funding from being diverted for toll bridge seismic retrofit and to secure significant state funding. For AB 1171 of 2001, Regional Measure 1 funds were no longer an option because MTC/BATA had legal authority over them. In addition, the bridge program was still a statewide issue because all bridges, including non-Bay Area bridges, experienced cost increases. However, in the 2004/05 legislative process resulting in AB 144, the focus was on one Bay Area bridge, the new east span with staggering cost increases and a complex design. To complete the project, the Bay Area agreed to a toll increase in part to protect Regional Measure 2 funds and other sources, which the Governor suggested diverting. In exchange, MTC sought full control of all toll revenues so it could consolidate and refinance debt.

Others interviewed also noted differences in the legislative debates given the legislative climate and political leaders in place. First, in the earlier debates, the Bay Area could work with Senators Quentin Kopp, then-Senate Transportation Committee chairman, and Senate leader William Lockyer, even in the face of Governor Wilson and

other legislative leaders from Southern California. In 2001 when AB 1171 was under consideration, Senators Kopp and Lockyer were no longer in office due to state-mandated term limits, and Senator Kevin Murray of Los Angeles was chairman of the Senate's transportation committee. He was reluctant to use additional state funds and stated, "The whole point of having a bridge with tolls is for those tolls to pay for the bridge. I just think there are ways to do this without asking the entire state to pony up the rest..."³⁵ In the end, however, SB 60's funding precedent was honored whereby the state and region roughly split the funding of cost increases. In 2004/2005, the governor and legislative leadership also had significantly changed in part due to former Governor Gray Davis' recall. Governor Schwarzenegger then came into office and his administration was not constrained by prior funding or design decisions, particularly in the face of major cost increases. Second, California's economy was robust in 1997 when the new bridge design was under consideration, particularly in the Bay Area with the internet industry's then success. However, the "dot com" bubble later burst, and the state was in the midst of a major energy crisis and budget deficit in 2001. As a result, few extra dollars were available for the toll bridge program.³⁶ Then, in 2004/05, even less funding was available to contribute to a Bay Area toll bridge. Third, legislators had grown increasingly leery of the toll bridge issue by 2004 as funding already had been provided three times (through Proposition 192 of 1996, SB 60 of 1997, AB 1171 of 2001). Senator Murray stated in 2001, "We have already agreed twice to chip in for a share. Now they're here for a third time. It's like if you have a relative who makes good money always borrowing from you. Eventually, you say, 'But I've already helped you out.'"³⁷

Other issues also were raised in 2004/05 that brought back memories of prior public debates in part because they were never fully resolved during the regional planning process, at least from the perspective of some participants. In effect, this project never stopped being debated even while under construction. As discussed below, these issues included bridge aesthetics, seismic safety, and conflict of interest/bias and “closed door” allegations.

Bay Bridge Aesthetics

Bridge aesthetics was the focus and main driver of the 1997 regional design process. MTC thought it had made a design decision, albeit a contested one, that it hoped would balance the Bay’s geological constraints and seismic safety concerns with aesthetic appeal. Aesthetics also were part of the recent debates as state officials questioned whether the bridge ought to make an aesthetic statement, particularly since they were concerned with potential construction and cost challenges ahead for the suspension tower. Regional officials and others reasoned the Bay Bridge should have a signature landmark design because of its prominent position on the Bay. Mayor Sheila Young of San Leandro and MTC commissioner commented,

“Does it matter what the bridge looks like? It's like asking somebody in New York if it matters what the Brooklyn Bridge looks like, or what the replacement for the World Trade Center will look like, or asking people in Paris if it matters what the Eiffel Tower looks like. We're from the Bay Area, one of the most beautiful places. I'm sure [the new bridge] will put its imprint on the Bay Area. It's our bridge, it's the signature bridge we wanted.”³⁸

Remarkably, even *Los Angeles Times* journalist Chris Hawthorne advocated maintaining the suspension span and suggested that if the viaduct were built, "...it will be a lasting monument to lowered expectations, crowning a series of financial mistakes with an aesthetic one."³⁹

The Schwarzenegger Administration did not buy into the aesthetic argument, however, noting that it had inherited the bridge issue from the Davis Administration and was simply trying to resolve it in a cost-efficient, time sensitive manner. This administration's position was similar to the Wilson Administration's position that if the Bay Area preferred a signature bridge, it would have to pay for it. Aesthetics then became part of the rhetoric again to save the Bay Area from a "freeway on stilts" viaduct as had been the case in 1997. This time, however, the 2004/05 statewide debate focused on what was the "quickest route to seismic safety" particularly since the earthquake occurred nearly twenty years earlier. Regional officials appeared equally and often far more concerned that a viaduct redesign would result in an expensive bridge that would take longer to complete than the aesthetic design itself. As a result, they concentrated their efforts on disputing and demonstrating their lack of trust in the state's viaduct cost estimates and schedule projections. Interestingly, Senator Don Perata who previously voiced opposition to the MTC bridge design and suggested a plebiscite in 1998 to reverse its selection, as discussed in Chapter 3, became one of its strongest supporters in the recent debates.

New Bridge's Seismic Safety

During the 1997-2001 regional design process, the suspension tower's seismic safety was contested, particularly by the City/County of San Francisco and U.C. Berkeley Professor Astaneh. The charges resulted in an Army Corps of Engineers report that reviewed the bridge's seismic safety (see Chapter 4). According to Caltrans and MTC, the bridge was considered structurally safe although others interpreted the findings differently. When the state legislature conducted hearings on the toll bridge seismic retrofit program in early 2005, the new east span's structural safety was questioned again in reference to these past charges. Professor Astaneh also released recommendations on how to modify the bridge's design to make it structurally sound, particularly against terrorist attacks. (As discussed in Chapters 3 and 4, Professor Astaneh expressed concerns over the bridge's structural safety beginning in 1998.) His 2005 recommendations were called, "Astaneh's Solution to the Problems of the East Spans of the Bay Bridge." He proposed the addition of two separate suspension cables connected into new anchorages, and relocation of the suspension span hinges. This redesign would maintain the bridge's aesthetics, but would transform the bridge from a self-anchored to an anchored structure. He requested that if the bridge were redesigned, it should be called "The Freedom of Speech Bridge" or "The Freedom Bridge." Professor Astaneh also proposed that the existing bridge could be retrofitted as he had in the past and that travel capacity could be added in the corridor by building a new facility (a bridge or underwater tube/tunnel) between Yerba Buena Island and South San Francisco.⁴⁰ With respect to the self-anchored suspension bridge's seismic strength, state and regional officials accepted the Army Corps report and prior MTC/EDAP process as sufficient

evidence that the process had resulted in a structurally sound bridge. On the issue of potential bridge damage from terrorist attack, private meetings were held with state legislators and federal officials with the Office of Homeland Security. They determined that the suspension bridge was no more at risk to damage from terrorist attacks than any other bridge.⁴¹

With respect to bridge safety, the Federal Bureau of Investigation also conducted a probe in early 2005 to investigate claims made by fifteen bridge workers. They claimed that the new East Span's skyway segment had substandard welds, which were purposefully covered over in concrete and could jeopardize bridge safety. The Federal Highway Administration then completed welding tests at three locations, two of which workers had identified as substandard.⁴² In October 2005, the FBI closed its investigation without pressing criminal charges because, according to FBI spokesperson LaRue Quy, "For all intents and purposes, the case is closed because we did not have the forensic evidence to prove the allegations." Agent Quy further noted, "It came down to a battle of experts and witnesses, and we just didn't have the evidence to go on."⁴³ FHWA also released the following statement:

"Results of these (FHWA) studies found welds that are larger and stronger than contract requirements, providing additional structural capacity, and concluded that an extensive quality control process verified that materials and workmanship used during construction met contract studies."⁴⁴

Although the investigations did not find any wrongdoing or structural compromises, the claims that precipitated them added to the negativism, uncertainty and controversy plaguing the project.

Conflict of Interest/Bias and “Closed Door” Allegations

The 1997 regional design process had its share of allegations that there were perceived conflicts of interest and bias in the design selection, EDAP’s membership composition, and contractor selection. Others thought that key decisions had been made behind “closed doors” without sufficient public participation. These issues were raised again in the early 2005 legislative hearings. Senator Tom McClintock led the conflict of interest allegations on the MTC process. He stated, “You had a process at (MTC’s advisory panel) which is at best questionable. It cries out for more attention.”⁴⁵ Professor Astaneh also made detailed claims about alleged conflicts of interest on the part of MTC EDAP and Caltrans Seismic Advisory Board members. He noted that some participants were affiliated with firms or were individuals who had/have contracts with Caltrans.⁴⁶ In the end, legislative staff interviewees stated MTC and Caltrans’ general responses demonstrated to them that there were not substantial conflicts of interest and the process had been an open and inclusive effort. Interestingly, the state’s 2004/2005 redesign recommendation also became subject to similar closed door accusations. When Bay Area officials questioned the state’s viaduct decision, they argued that the decision been made without a public participation process and substantive consultation with Bay Area officials and legislators. The reemergence of conflict of interest and closed door allegations in the 1997 design and 2004/5 redesign processes demonstrates that much skepticism and distrust could be claimed about how key policy decisions were made and whether inappropriate actions, if any, influenced these decisions. Underlying the recent allegations was the possibility that if an agency could be shown at fault, then it should contribute the larger funding share of the cost overruns.

Overall, as the Bay Bridge's design and funding have been considered and reconsidered, the public's level of trust has diminished with the bridge's seismic safety, cost estimate reliability, bridge completion schedules, the process itself, and even the participants and their affiliated agencies. Lisa Vorderbrueggen of the *Contra Costa Times* summed up the situation by simply commenting in early 2005, "The problem now is no one believes anybody about anything."⁴⁷

CHAPTER 8

SUPPLEMENTING THE MEGAPROJECTS THEME:

SYNTHESIS AND OBSERVATIONS

An interviewee once remarked that the Bay Bridge tale has more subplots than a Russian novel. With this in mind, this research has been aimed at examining how the multifaceted project evolved from a straightforward retrofit to the “Big Dig Project of the West,” as some have anointed it.¹ To assist in this goal, comparisons are drawn in this chapter between the Bay Bridge case and the literature synthesis on megaproject characteristics and results discussed in Chapter 2. Then, recurring themes observed in the bridge debates are reviewed using literature from the fields of problem definition, agenda setting, policy implementation and the technological sublime. Recommendations for future research related to megaprojects are provided in the final section.

Megaproject Characteristics and Results

Megaprojects tend to be colossal, costly, captivating, controversial, complex and laden with issues of control over financing, design and project development (see Chapter 2). These characteristics, called the “Six C’s”, are interrelated and affect project results in that:

- multiple, fragmented governmental bodies, advocacy groups and interested citizens flock to the project out of interest and/or as legally required (with respect to permitting authorities and legislative bodies)

- competing interests negotiate and compromise over issues related to financing (in terms of who pays how much), design, project control, and project mitigations/add-ons in scope
- time-consuming, lengthy processes are undertaken to resolve conflicts and follow projects through to completion;
- technical experts and studies are used for analytical purposes and/or to legitimize claims due to the complexity and risk associated with project design and implementation
- public distrust and skepticism may develop as the public learns of project difficulties, such as cost increases or construction-related complications.

The discussion that follows assesses the Bay Bridge case in light of these characteristics and results.

Colossal: The Bay Bridge east span project, as originally conceived by Caltrans between 1989 and 1996, was never intended to be a megaproject. Caltrans' mission was to engage in a straightforward, albeit technically challenging retrofit project. However, the East Span retrofit spiraled into a colossal undertaking as Caltrans undertook several studies and learned of the technical complexities associated with the bridge and attempted to adhere to the stringent seismic safety standards it had established.² When the agency decided in 1997 to consider a bridge replacement, the Bay Bridge project evolved into yet another colossal endeavor as the region developed a new "signature" span. As a result, the project metamorphosed from the relatively low-profile cocoon of a retrofit project into a full-fledged butterfly fluttering in the prevailing winds.

Costly: The new Bay Bridge also evolved to megaproject scale with respect to its cost. The initial estimate for retrofitting the bridge was \$250 million in 1995, a sum which could be viewed as a “rounding error” for later estimates. For the new bridge, the estimate was approximately \$1 billion in 1997 and then increased drastically to \$6 billion in 2004. The bridge’s unsettling pattern of inaccurate cost estimating is similar to other documented megaprojects, which Flyvbjerg, Bruzelius, and Rothengatter have labeled as a “calamitous history of cost overruns.” According to the United States General Accountability Office, cost estimating often is inaccurate because initial estimates are developed during the planning/environmental document stages to compare alternatives and then are adjusted upward as project design and engineering is completed. Costs also increase due to inflation, changes in project scope, design error, and inconsistent contingency amounts.³ In the Bay Bridge case, several similar elements affected project cost. As stated by Caltrans and documented in Chapter 7, initial cost estimates were done prior to completed engineering and design, and inflation and contingency amounts were not adequately included. Further, although not a design error per se, the complex bridge design necessitated additional staff and consultant support that were unanticipated, and disagreements over project scope in terms of the bridge’s location and tower construction led to project delay that increased costs. Flyvbjerg and others have recommended improving project accountability and oversight to minimize cost overruns, as will be discussed in this chapter.

Captivating: Megaprojects often are captivating because of their colossal size and the technical hurdles and complexities they often overcome. The term, the “technological sublime,” has been used to describe this feature of major infrastructure in

the landscape such as bridges. In the Bay Bridge case, the goal of developing a sublime, new structure became the focus of the public debate and the project's regional planning process. It also became a source of contention as participants argued about which bridge type best would fulfill "world class" status and notoriety. Some argued that the bridge should have multiple towers and/or be redesigned. In response, MTC and Caltrans rejected these recommendations with responses that budgetary restrictions (because multiple towers were more costly) and the Bay's geological characteristics limited the location and number of towers. As a result, a balancing act occurred between the overall goal of developing a captivating structure and the project's fiscal and geotechnical constraints. Recent debates in 2004/05 also featured the Bay Area region's efforts to maintain the signature tower structure. Regional positions were based on two justifications, one of which was related to maintaining a captivating structure: 1) the Bay Area should have a signature structure to enhance the beauty of the San Francisco Bay, and 2) the tower segment would be completed more quickly than a redesign because the tower was fully designed and permitted. The Schwarzenegger Administration rejected the region's positioning on both counts arguing that the tower was not a necessary structural element. This time, a balancing act occurred with the state and region on opposite sides by either agreeing to maintain the signature structure or remaining at a standstill over design type and funding. The state later consented to the tower span with the Bay Area funding the majority of cost overruns and assuming full liability for additional costs, if any.

Controversial: Different stakeholders negotiated key project issues, as detailed above and these discussions became points of controversy as they sought to have their

perspectives affect the process. The bridge's repeated cost overruns and its alignment location were the project's largest stumbling blocks as public agencies and officials argued over recommended courses of action and sought explanations for excessive cost overruns and why the bridge's alignment was in question. Aesthetic decisions also were controversial as trained experts, public officials, and lay persons advocated different designs based on subjective and technical considerations. Local jurisdictions and interested citizens then recommended additional project elements, such as the pathway, rail, and the Transbay Terminal, which spurred contentious discussions. The suspension tower's technical complexity also fueled controversy in current and past debates over whether it should be constructed. Finally, the construction itself became another area of heightened concern when the structural integrity of constructed bridge segments was questioned and the FBI launched an investigation into these allegations.

Complex: The Bay Bridge project and the toll bridge seismic retrofit program have been a complex, intensive undertaking fraught with risk and uncertainty in terms of design, funding, and construction. According to Caltrans Director Will Kempton,

“In truth, the toll bridges are the largest and most complicated bridges in the state, and nowhere in the world have bridges as complex as these been seismically retrofitted. The replacement spans included in the program are also extremely complex structures that involve difficult seismic issues and underwater work. By way of example, a self-anchored suspension span (SAS) has never been built with the main span's length, its asymmetrical configuration, and under the seismic requirements of this location.”⁴

With respect to the East Span's design, uncertainty with a bridge retrofit's long-term value led to an abandonment of this strategy. The state and region then engaged in discussions of new bridge types and which would perform to a “lifeline” (no collapse)

seismic standard. Critics of the selected bridge design questioned the bridge's safety in terms of seismic performance and its ability to withstand terrorist attacks.⁵ With respect to funding, complex arrangements were negotiated and renegotiated between the state and region. These acrimonious statewide debates added to the project complexity as it was not just a matter of creating a new fund source, but tapping into sources that might be available to other regions and programs.

The project's construction also has been problematic. Constructing this bridge, much like other megaprojects, requires significant levels of materials (such as concrete and steel), machinery and labor; underwater construction; complex geotechnical considerations; and contract bidding and procurement. The latter requirement is particularly challenging given that Caltrans' is in the midst of a massive Bay Area toll bridge program in which it is simultaneously building new bridges and retrofitting others. Lastly, the suspension tower's construction complexity was one of the Schwarzenegger Administration's stated reasons for attempting to abandon the design. Its justification focused on the risk and uncertainty associated with the tower's cost, contract bidding (with whether more than one competitively priced bid would be submitted), and construction (over whether unforeseen complications, cost increases and project delay would continue).

Control: The Bay Bridge project has been laden with issues of control related to who the key decisionmakers are, which agencies manage the project, and who funds it. Similar to other megaprojects, there was not a single agency in charge that could make decisions independently. Caltrans, MTC, and the state legislature were dependent upon each other to design and implement the project. They also sought control over toll bridge

program funding and cemented their agreements in law.⁶ The state officially turned over design authority to MTC/BATA with the passage of Senate Bills 60 and 226 of 1997. However, Caltrans was still required by federal environmental law to go through a process of reselecting the regional design and alignment. The door then opened for continued opposition by some local jurisdictions and other participants who also sought to take control over elements of the process. In 2004, the Schwarzenegger Administration questioned the design, and attempted to take back the design authority the state had given to the region years before.

A lack of control also was exhibited over resolving the bridge's alignment, and the federal government was brought in to arbitrate the final decision (see Chapter 4). The decision took the form of transferring federal land on Yerba Buena Island from one federal entity (the Navy) to another (Federal Highway Administration), who then passed it on to the state (Caltrans). Caltrans and MTC, as state and regional agencies, did not have legal control over the stated positions and actions of the Navy as a federal agency and needed the Clinton Administration to intervene. This situation also demonstrated that San Francisco was able to yield tremendous control over the process and command enough attention to draw the federal government in as arbiter and author of several bridge studies.

Throughout the toll bridge debates, the lines were blurred between which level of government had control over the program. As a result, MTC developed a vested interest in the program and achieved incremental acquisitions of control as it tried to maintain the regional bridge design, and minimize toll increases and diversion of Regional Measures 1

and 2 toll revenues to the retrofit program. In effect, the region expanded its authority from just the Bay Bridge's design to the entire Bay Area state-owned toll bridge program.

Results: Similar to other megaprojects, these characteristics of the Bay Bridge's process led to the involvement of multiple, fragmented governmental bodies, advocacy groups and interested citizens. Competing interests then negotiated and compromised over issues related to financing, design, and project control. The resulting process was time-consuming, lengthy and delayed as resolution to conflicts was sought. Technical experts and studies also were used routinely for research and design/engineering purposes and/or to legitimize claims related to the complexity and risk associated with the project's design and implementation. Finally, public distrust and skepticism over the design's safety, the cost estimate's accuracy, and/or Caltrans and MTC's project management capabilities increased as project difficulties arose, particularly during the latest debates as the new span cost escalated to \$6 billion.

By using the framework of the "Six C's" characteristics and results, the Bay Bridge case provides evidence documenting what other researchers have found because these characteristics and results are pervasive both in the bridge case and the megaprojects literature. There are differences between the Bay Bridge project and other megaprojects in part because the megaprojects literature to date has focused on major expansion or hybrid expansion/reconstruction projects; whereas, the new span is fundamentally a bridge replacement project. First, the bridge project was not envisioned initially as a large-scale multi-dimensional project as have been most projects reviewed in the literature. Its original purpose was not related to spurring economic development nor did it have major business community involvement. Second, it did not have major

impacts related to displacement of existing residents or businesses (although it did have substantial land ownership issues to overcome related to the bridge's termini located on Navy and the Port of Oakland land). Third, the project is physically much smaller than many documented megaprojects as it is only two miles in length, half of an existing bridge, and does not add new travel capacity (except for the new shoulders and pathway on half of the overall bridge).

Recurring Themes in the Bay Bridge Case

Several themes prevalent in the Bay Bridge case's decision-making process are reviewed in this section to further evaluate key issues of debate on a megaproject and how different participants characterized and perceived them. The recurring themes include conflicts over project definition; perceptions of crisis; and, disputes over accountability for cost overruns and project delay. Literature related to problem definition, agenda setting, program implementation, and the "technological sublime" assists in interpreting the themes. As a result, this section contributes to the megaprojects literature by connecting it to other fields of inquiry.

Project Definition Conflicts

The new bridge debates centered on the wide range of interpretation of the project's purpose and affected how different actors characterized and advocated their positions. According to Schön,

“When we set the problem, we select what we will treat as the ‘things’ of the situation, we set the boundaries of our attention to it, and we impose upon it a coherence which allows us to say what is wrong and in what directions the

situation needs to be changed. Problem setting is a process in which, interactively we *name* the things to which we will attend and *frame* the context in which we will attend to them.”⁷

Similarly, Cobb and Coughlin refer to actors involved in public policy debates as “expanders” or “containers” of a policy’s scope as they seek to expand or maintain it.⁸

As the Bay Bridge is a major infrastructure project, it is useful to consider it in light of Nye’s statement, “Each technology is an extension of human lives: someone makes it, someone owns it, some oppose it, many use it, and all interpret it.”⁹ In the bridge case, the interpretation centered on the extent to which different actors viewed the bridge’s primary function as an auto-oriented facility or whether it should also serve alternative transportation modes. Beyond transportation function, many felt strongly that the bridge should provide a remarkable experience in its own right and alter the landscape by assuming landmark, iconic qualities. In a sense, the bridge took on social meanings beyond transportation access across the Bay as participants strongly argued that the new bridge should become a symbol of the Bay Area’s progress in engineering and design, and/or create a gateway and sense of arrival to Oakland and the East Bay.

Caltrans’ initial framing of the bridge problem set the stage for the project’s ongoing debate. The agency’s intention was to limit the bridge project’s scope to a retrofit or streamlined viaduct replacement. Using Schön’s framework, Caltrans set the project’s boundaries by naming what it would attend to, namely a bridge retrofit or basic replacement. It also framed the context as one in which the bridge needed upgrading to increase seismic safety as quickly as possible and at the least cost because of potential earthquake damage. This problem definition was consistent with its general approach to the 2,000 seismic retrofit projects that were part of the state’s overall retrofit program. In

this light, Caltrans could be seen as a “container” of the problem definition and its boundaries.

Other actors such as local jurisdictions, citizen groups, and interested individuals could be viewed as “expanders.” They sought to broaden the project’s boundaries as they did not agree with Caltrans’ strict definition in part because of the Bay Bridge’s prominence as a major Bay Area transportation facility and historic landmark. They aspired to incorporate additional project features into the scope such as aesthetic design, and additional access/capacity for public transportation and a pathway. Many saw this as a “once in a lifetime opportunity” that should not be missed, and as Bardach has noted, “missing an opportunity is (also) a problem.”¹⁰

MTC could be viewed as a “joint container and expander” because it facilitated scope expansion for aesthetic design purposes. It also contained and limited inclusion of bridge rail capacity, as discussed in Chapter 6. Further, it attempted to contain project scope, but then supported the pathway and potential Transbay Terminal funding due to pressure from outside interests. Overall, once the bridge’s project definition was expanded to include aesthetics, project participants saw that the “Pandora’s Box” could be opened. They then advocated for additional project components and strategically connected their positions to the aesthetic notion of a “world class bridge” in that the bridge could not be viewed as such if it did not, for example, include bicycle, pedestrian, rail, additional automobile access, or an enhanced gateway to Oakland and the East Bay. San Francisco took this one step further and later argued against the bridge design on the grounds that it was not seismically safe, and thus not a “world class” facility.

Conflict over the bridge's problem definition manifested itself in the process in two distinct ways. First, the design process was transferred to the region because some state officials hoped that MTC would resolve conflicts and forge a regional bridge design agreement since the region was willing to pay for a signature design through increased tolls. This then created a new forum for local jurisdictions, citizens groups and others to advocate their positions before a regional planning body on a state facility's design. Stone has recognized transfers of authority between governmental agencies in other policy fields as "constitutional engineering." With such structural change, "The hope...to split up old or potential alliances, establish new ones, and so place a favored interest in a position of dominance."¹¹ In the Bay Bridge case, the structural change between Caltrans and MTC resulted in solidifying the initial alliance between Caltrans and MTC during the design process as MTC commissioners and staff worked with Caltrans on a regular basis. As stated in Chapter 3, an interviewee commented that the MTC/Caltrans alliance made for a formidable team that others found difficult to confront when advocating for expansion of the project's definition. This structural change also allowed MTC to become heavily invested in the project's long-term implementation as Caltrans was to build the bridge it selected. (This alliance later weakened with the 2001 cost increases and Caltrans' criticism of the MTC process in its 2001 toll bridge report.)

This transfer of authority is consistent with evolving state and federal policies in transportation planning and programming in which regional or local agencies have been given decision-making authority on programs that typically would be under state purview.¹² It should be noted, however, that this devolution generally focused on plans and programs and not on infrastructure design of state-owned facilities as was the case

with the Bay Bridge. The bridge design transfer to the region has been part of a continuum of transferring state responsibilities to regions. With Caltrans, MTC initially became involved in state facility operations and maintenance with the development of several programs.¹³ Later, it took on new roles with the MTC/Bay Area Toll Authority's creation in 1997, and culminated with BATA's full control over the Bay Area toll bridge program and revenue in 2005.¹⁴

Second, project definition conflicts routinely affected state legislative debates. Bay Area officials typically advocated that the Bay Bridge was a state facility, the Bay Area was paying for the project's scope expansion, and that the state should contribute substantial funding to state toll bridges. This argument was generally borne out with SB 60 and AB 1171, albeit with great debate and dissension from non-Bay Area legislators. The Bay Area's project definition and positioning were later rejected in 2004/05 because the Schwarzenegger Administration did not view the region's tower design as necessary to the bridge's basic function and attributed cost increases to it. As a result, resolution to these conflicting positions further delayed the project as both sides advocated their case.

Crisis

"Crises" are an identified subset within the problem definition literature. Rochefort and Cobb define it as "a special condition...where corrective action is long overdue and dire circumstances exist."¹⁵ According to Stone, the effect is that crises "...create a mentality of absolute prevention. People want to ensure that 'that kind of tragedy' never happens again."¹⁶ A "policy window of opportunity" then opens that allows involved actors to advocate that the problem must be resolved quickly to avoid

future disaster or complications.¹⁷ It creates opportunities for some actors, referred to as “policy entrepreneurs” in the literature, who attempt to insert their particular issue into the process, even if it is related only tangentially.¹⁸

This conception of crisis assists in explaining some of the bridge policy decisions and project characterizations. One crisis after another punctuated the Bay Bridge process. These crises included: the 1989 Loma Prieta Earthquake, which was the main impetus for continuing investigation into the bridge’s structural safety, and, escalating construction costs throughout the project’s history. These crises fueled concerns related to: 1) potential future harm to bridge travelers and the regional economy in the event of another major earthquake, and 2) inaccurate cost estimates and funding cost overruns.

The new bridge was designed to the highest seismic standard to avert future earthquake disaster and minimize repetition of ‘that kind of tragedy.’ MTC, Caltrans, and others often cited the latest probabilities of the next major earthquake’s occurrence to bolster the project’s safety basis. A state interviewee hoped the notion that “fear sells” would assist in persuading others to allow the project to progress. This strategy generally did not work, and as Steve Heminger, MTC’s Executive Director, quipped, “This has been a race against time from the get-go. That fact seems to be all too often forgotten...I think part of it is that Californians live in denial about earthquakes. If we thought about them all the time, we would move to Montana.”^{19, 20}

Another disaster that the state and region hoped to avoid was repeated cost escalation as it required reopening fragile funding agreements. An atmosphere of crisis arose with every legislative cost review. At each juncture, Bay Area and/or state officials argued that the legislature must resolve funding issues quickly because the project could

be stalled, which would increase project delay and the public's exposure to another major earthquake. In the 2004/05 debates, concern over future earthquake disaster was combined with the notion that delay raised project costs in an effort to retain the region's suspension tower. The region advocated that changing the tower's design would cost time, money, and lives. MTC posted on its website, "Every day of delay also brings us that much closer to the major earthquake that could topple the existing 70-year-old structure and cause massive loss of life"²¹ A "delay clock" also was displayed that ticked by the second and dollar to illustrate "time was money." As of August 1, 2005, \$147 million dollars had been "lost."²² On the notion of future crisis, the *Oakland Tribune* similarly editorialized,

"...(W)e certainly don't need to wait for another earthquake to convince us to finish the new eastern span. Sixteen years have lapsed since Mother Nature gave us a glimpse of what she can do when the Loma Prieta earthquake brought a section of the bridge crashing down. That's far too long to wait to replace such an aging structure. Since it's inevitable that another major temblor will hit this area in the future, we need to finish the new bridge ASAP. The lives we save by getting on with the project -- and completing it -- may be many."²³

Policy entrepreneurs also became involved as they saw opportunities to insert their issues as the state and region attempted to complete the design process quickly in their "race against time." They were successful on some issues and not on others. In exchange for its initial support for the northern alignment, San Francisco secured eligibility in state legislation for the Transbay Terminal funding, but not for improvements to bridge access ramps on Treasure Island. San Francisco later argued that the regional bridge design was unsafe and future harm would come to bridge travelers in

the event of an earthquake. This strategy succeeded in attaining the federal government's repeated investigation into bridge project. It did not succeed, however, in altering the bridge's alignment. Bicycle and pedestrian advocates succeeded in the pathway's approval in part because these advocates were viewed as part of an organized constituency that was appeasable at a relatively low cost (\$50 million for the pathway in a then \$1.5 billion project) in comparison to the opposition it could mobilize if the pathway was not included. They also were praised often during interviews for inserting activism into the process. (As discussed in Chapter 5, there were disagreements among some advocates over the specific pathway design.)

The issue of crisis also was prevalent in the rail constituency's attempt to insert rail recommendations in the process. They argued that a transportation crisis was looming because traffic congestion and regional growth continued to increase and long-term alternative transportation solutions were not being provided to address this. The bridge's rail constituency was not a large, organized group and was not viewed as one that could impede the project significantly. As a result, they were unable to successfully play the crisis card. Further, MTC and Caltrans were not convinced that rail service was a necessary project component, as described in Chapter 6.

Accountability, Blame and Project Delay

Another prevalent theme in the bridge process was related to the continual search for project accountability in terms of which agencies were responsible for the project, and to whom they were held accountable. Numerous entities and researchers have called for increased accountability and oversight in megaproject processes. Flyvbjerg, Bruzelius,

and Rothengatter suggest that institutional relationships should be restructured to create “checks and balances” between different entities. Private sector financing is recommended to transform public agencies from both a project promoter and financier to an auditor who ensures that the project is meeting public-oriented objectives, such as reliable cost estimates and demand projections.²⁴

Although the Bay Bridge project does not involve private sector financing,²⁵ the state legislature has restructured institutional arrangements to increase project accountability, delivery, and transparency. Until 2004, Caltrans was responsible for the Bay Bridge’s construction, as state legislation provided Caltrans with “full and sole responsibility for completion of all seismic retrofit projects on the Bay Area bridges.”²⁶ After the 2004 cost increases, state and regional officials attempted to create a greater system of checks and balances over Caltrans’ cost estimates and implementation. MTC sought expanded involvement arguing that it could provide “intensive and transparent oversight of Caltrans’ design and construction of SRP projects (toll bridge Seismic Retrofit Program),” which would include project monitoring, audits, improved financing capacity, and bid document/change order approval.²⁷

Through enactment of several toll bridge bills (see Exhibit 7-2), MTC/BATA acquired an incrementally greater role in overseeing state functions related to the Bay Bridge, Bay Area toll bridges, and toll revenue. Of note, MTC/BATA has acquired a \$1 billion debt portfolio for financing toll bridge projects funded by Regional Measure 1.²⁸ Through AB 144, it also assumed increased risk associated with future Bay Bridge cost increases, if any, as it will be required to finance them. The latest transfer of authority in 2005 provides MTC/BATA with management and oversight responsibilities of the entire

Bay Area toll bridge program. As a result, the state and region's quest for increased accountability and transparency as well as the region's interest in protecting toll revenues influenced policy decisions related to megaproject implementation by significantly restructuring institutional arrangements. Indeed, Caltrans' role was reduced from lead agency to one that must report to and receive MTC/BATA approval on most toll bridge matters. In addition, as noted by a state legislative interviewee, the successive toll bridge bills transformed the toll bridge program and its revenues from a state-controlled responsibility and funding source to a regional program and funding source.

Another facet of accountability is that the project's long implementation timeframe allowed for turnover in public officials because of changes in gubernatorial administrations or other factors, such as state legislative term limits, retirement or employment changes. Several interviewees commented that it became difficult to hold particular administrations or individuals accountable for decisions made because they were no longer in office or affiliated with a government agency. "The people who were going to enforce accountability were turning over as were people who were going to be held accountable," commented a staff legislative representative. Another interviewee reflected,

"With all the time and effort put into a project like this, it was difficult to have the game plan changed between changes in administration. It is hard to steer a project from beginning to end when people are switching out. That is one of the reasons why it makes sense for the region (to be the lead agency) because there is not as much turnover (at the regional level)."

Most notably, with Governor Davis' recall, a wholesale change in state officials occurred and the new Schwarzenegger Administration initially elected to not uphold prior design and funding agreements in the face of excessive cost increases.

Restructuring institutional arrangements and project accountability goes hand in hand with the allocation of blame to others who are perceived to have impeded the project's implementation. Rochefort and Cobb have noted, "Blaming is one of the great pastimes of politics...It may be a way to create momentum for a particular policy thrust or to rule out seeming alternatives; but those being blamed are bound to do all they can to deflect incrimination."²⁹ The act of blaming became a way for Bay Bridge participants and observers to inflict accountability on others for program outcomes as they tried to identify who was at fault. Interviewees routinely offered their perspectives without prompting about which agencies or individuals were to blame and/or should be held accountable for cost increases and perceived project delay. Similarly, interviewees who knowingly had been subject to such blame often explained their positions without prompting in an effort to deflect culpability.

Beginning in 2001, the state and region regularly blamed each other for project impediments, delay and cost increases. Pressman and Wildavsky have noted that delay occurs because the numerous governmental agencies involved have differing perceptions of a program's urgency and need, and as a result it is difficult to get agencies to act in a timely manner or as desired. This notion of delay may be extended to the Bay Bridge case. The state's allocation of blame centered on delay it attributed to the region in general and the region's suspension tower design selection. (It also blamed rising labor and material costs that were outside of its control.) The blame towards the region focused

primarily on San Francisco and the Navy's opposition to the project. The state's viewpoint was that these agencies did not regard the project as urgently as the state, and that MTC had not achieved regional consensus on the bridge alignment. The Schwarzenegger administration also blamed the region's bridge design as a key factor for cost overruns and delay. MTC, on the other hand, blamed Caltrans' inaccurate cost estimates and project management for project difficulties, which in turn led to delay. These dueling characterizations exemplify Rochefort and Cobb's point that those who are blamed seek to deflect incrimination. These recrimination efforts tarnish the image of those involved, and fuel public sentiments of dissatisfaction in the government's ability to deliver major infrastructure programs and projects.

The three themes described above are interrelated because project definition conflicts and perceptions of urgency and crisis influence characterizations of the project and positions taken, particularly related to who is charged with not meeting project expectations. The incessant allocation of blame by most parties involved drove the state and region to improve toll bridge program accountability and transparency to minimize future embarrassment and financial crises. These prevailing themes taken together with the megaproject characteristics highlight the challenge of shepherding a large-scale project from design to construction in a highly fragmented decision-making environment. No stone is left unturned as different agencies and citizens become involved and evaluate how the project's stated goals compare to their objectives. Unfortunately, the bridge project's results to date reveal negative aspects of a megaproject's development. They also do not contribute to positive public perceptions about the project and government institutions, particularly as the new bridge became linked figuratively to Boston's Big

Dig and led one journalist to characterize it as a “monument to politics and impediments.”³⁰ Time will tell, however, if the toll bridge program’s recent restructuring will reverse past implementation trends of projects over budget and behind schedule as MTC/BATA takes the reins in a new era of expanded toll bridge management and oversight. The public also will be able to judge how the new Bay Bridge, once finally completed, will have changed the landscape and whether it instills a sense of awe and wonder as regional officials and the bridge designers had imagined.

Future Research

Through applying a framework for assessing megaprojects, several areas in need of additional research emerge. As opportunities exist to improve project delivery, oversight and accountability, the following research agenda focuses on uncovering and developing effective planning, management and implementation strategies that would be applicable to large scale projects. These recommendations also build on others’ recent research efforts.

First, much published megaproject literature, as does this dissertation, highlights projects that have suffered from suboptimal cost estimating, public relations and participation, and project delivery. Detailed case studies of projects that have succeeded in these areas would prove informative to the research and professional communities. They could highlight particular practices and techniques that facilitated implementation, and recommendations could be made on their adaptability to address the needs of individual projects. These case studies also could apply the megaproject framework developed in this dissertation.

Second, the use of a contracting method, known as “design-build” in which public agencies contract with a firm(s) to both design and construct a public works project, may be a useful technique for some megaprojects. Additional consideration of its advantages and disadvantages is needed within the megaproject literature and made available to policymakers. Benefits may be gained in controlling costs in part because projects can be delivered more quickly. Another benefit is that the project designers and construction contractors work together to develop an implementable design. However, there may be disadvantages, such as the public’s loss of flexibility on design decisions or organized opposition from public employee labor unions who may attempt to block authorizing state legislation to permit it. Some megaprojects also may have far too many uncertainties and complications that would make a design-build approach less advantageous.³¹

Third, research is needed to assess whether oversight models in the public or private sectors could be adapted to improve megaproject accountability and delivery. For example, do county transportation sales tax citizen/stakeholder oversight boards provide an effective model for project oversight? Are there practices related to corporate governance and strategic management controls that may be applicable to megaprojects? Would the presence of a diverse advisory megaproject board similar to a corporate board of directors provide an additional “check and balance” in project oversight and cost estimating? A board could be composed of representatives who have substantive knowledge and experience in the following fields: cost estimating, finance, strategic management, public involvement, risk assessment, logistics, project delivery, design and engineering. Board members would have the capability of directing tough questions and evaluating responses from the project’s executive and technical staff/consultants. Clearly,

significant institutional and practical issues and impediments would need consideration, including a megaproject oversight board's level of authority, relationship to project stakeholders, composition, and recruitment of impartial and unbiased members, particularly from the infrastructure industry. In particular, perceptions and potential for undue board influence as discussed with the Bay Bridge case's Engineering and Design Advisory Panel would need to be evaluated. In addition, corporate boards have been controversial to recent high profile failings. However, numerous successful boards exist that may serve as models that could be tailored to address the public nature of a megaproject.³²

Finally, additional research should be undertaken specifically to improve megaproject cost estimating. Cost estimates are a critical variable considered during decisionmaking processes, and better quality cost estimates are needed to assist policymakers and the public evaluate project options. Additional research is needed to further develop and institute ways in which cost estimates would include realistic contingencies that account for a megaproject's inevitable uncertainty and difficulties. For example, recent research for the British Department of Transport recommended that an "optimism bias up-lift" should be added to a project's budget when the Department is considering its approval or disapproval. The up-lift would be a standardized percentage budget increase based on: 1) a quantitative cost overrun analysis of similar projects by infrastructure type, and 2) the level of risk an agency or set of investors would accept if a project exceeded the budgeted amount. The researchers note that establishing too high of a project budget has drawbacks because local areas or contractors might view that the full project amount, including the up-lift, would be available. Similar research also should be

undertaken to assess the benefits and challenges with the federal government in the United States requiring or providing stringent guidelines on contingency levels that could be designated at each stage of a project's development.³³

While the identified research areas may not provide a cure-all for megaproject ills, the generated findings could serve to improve project performance and public debate over projects that require substantial public funding, and change the way we travel and perceive the landscape.

ENDNOTES

CHAPTER 1 — THE MAKING AND UN-MAKING OF THE SAN FRANCISCO-OAKLAND BAY BRIDGE

¹ This comment was made in an editorial written about Mr. Charles Evan Fowler's design proposal for a San Francisco-Oakland Bay Bridge. For the bridge's western span, Mr. Fowler proposed a four-tower suspension bridge similar to the one completed in 1936 and a four-tower cantilever bridge for the eastern span. A road crossing on Yerba Buena Island (then referred to as "Goat Island") would connect the two bridges. This crossing would be created through major land excavation to fill the island's western side (*Engineering Record*, "Proposed Long Spans," New York, 10 October 1914 in Fowler, Charles Evan, *The San Francisco-Oakland Cantilever Bridge*, self-published manuscript: New York, 1915, 15.)

² Maria L. La Ganga, "Bay Bridge Design Spans a World of Controversy," *Los Angeles Times*, 24 June 1998.

³ Robert K. Yin, *Case Study Research: Design and Methods* (Beverly Hills: Sage Publication, 1994), 2-3.

⁴ *Ibid.*, 38-40.

⁵ *Ibid.*, 147.

CHAPTER 2 — FIELD GUIDE TO MEGAPROJECTS

¹ Please see the references section for listing of megaprojects-related literature.

² Federal laws include the National Environmental Protection Act, the Intermodal Surface Transportation Efficiency Act, and the subsequent Transportation Equity Act of the 21st Century at the federal level. State law includes the California Environmental Quality Act.

³ Federal Highway Administration, "FHWA Active Status Report," n.d., <http://fhwapap06.fhwa.dot.gov/foisp/publicActive.do>

⁴ In Milwaukee's Marquette interchange project, existing freeway access ramps and approaches are being reconstructed and moved from the left side of the facility to the right side to improve operations.

⁵ The Boston's Central Artery/Tunnel project began as a replacement of downtown Boston's I-93 Central Artery viaduct. Additional elements were later included to increase the project's political feasibility and address other concerns, including a new Charles River cable-stayed bridge and a 7.5 mile extension of the Massachusetts Turnpike (I-90) with a tunnel to Logan Airport. The Woodrow Wilson Bridge project replaces a six-lane bridge with a new twelve-lane bridge as well as major interchange reconstruction. Colorado's T-REX project will add nineteen miles of light rail and reconstruct eighteen

miles of interstate freeway. [Federal Highway Administration, "FHWA Active Project Status Report," n.d., <http://fhwapap06.fhwa.dot.gov/foisp/publicActive.do>; Alan Altshuler and David Luberoff, *Mega-projects: The Changing Politics of Urban Public Investment* (Washington, D.C.: Brookings Institution Press, 2003); and Robert Douglass et al, "Adventures in Building Another Washington Monument: Rebid Outcomes of Woodrow Wilson Bridge Project," *Transportation Research Record* no. 1900 (2004): 114-121.]

⁶ Altshuler and Luberoff, *Mega-projects*, 2.

⁷ Donald A. Schön, "Generative Metaphor: A Perspective on Problem-Setting in Social Policy," in *Metaphor and Thought*, ed. Andrew Ortony (Cambridge: Cambridge University Press, 1988), 268-269.

⁸ Deborah Stone, *Policy Paradox: The Art of Political Decision Making* (New York: W.W. Norton Company, 1997), 11.

⁹ Schön, "Generative Metaphor: A Perspective on Problem-Setting in Social Policy," 269.

¹⁰ John W. Kingdon, *Agendas, Alternatives and Public Policy*, 2d ed., (New York: Addison-Wesley Educational Publishers, Inc., 2003), 94-98; Thomas A. Birkland, *After Disaster: Agenda Setting, Public Policy and Focusing Events*, (Washington D.C.: Georgetown University Press, 1997).

¹¹ These earthquakes include Northern California's 1989 Loma Prieta earthquake and Southern California's 1971 San Fernando and 1994 Northridge earthquakes.

¹² Then-Governor Pete Wilson signed Senate Bill 60 of 1997. Then-Governor Gray Davis signed Assembly Bill 1171 of 2001. Current Governor Arnold Schwarzenegger signed Assembly Bill 144 and Senate Bill 66 of 2005. See Chapters 3, 4, and 7 for more legislative information.

¹³ Jeffrey L. Pressman and Aaron Wildavsky, *Implementation: How Great Expectations in Washington are Dashed In Oakland* (Berkeley, California: University of California Press, 1984), 143-146.

¹⁴ Anthony Downs, *New Visions for a Metropolitan America* (Washington D.C.: Brookings Institution Press, 1994); National Research Council, *Governance & Opportunity in Metropolitan America* (Washington D.C.: National Academy Press, 1999); David Rusk, *Cities without Suburbs* (Baltimore: Johns Hopkins University Press, 1993).

¹⁵ Douglas Yates, *The Ungovernable City* (Cambridge, Massachusetts: MIT Press, 1977), 34-35.

¹⁶ Mayor-Elect Jerry Brown, City of Oakland, "'There' Needs to be a More Fitting Bridge," *San Francisco Chronicle*, 22 June 1998.

¹⁷ Also see Del Upton, *Architecture in the United States*. (Oxford: Oxford University Press, 1998), 165-168.

¹⁸ Leo Marx, *The Machine in the Garden* (Oxford: Oxford University Press, 1964), 205.

¹⁹ Leo Marx, *The Machine in the Garden*, 2000 edition, 203.

²⁰ David Nye, *American Technological Sublime* (Cambridge, Massachusetts: The MIT Press, 1994), xvi and 282.

²¹ *Ibid.*, 76.

²² Hal Rothman, *Devil's Bargains: Tourism in the 20th Century American West* (Lawrence: University of Kansas, 1998), 292.

²³ Alan Trachtenberg, *Brooklyn Bridge: Fact and Symbol* (Chicago: University Chicago Press, 1970), 118.

²⁴ United States Steel Corporation Subsidiaries, untitled advertisement, *San Francisco Examiner*, 12 November 1936.

²⁵ Marx, *The Machine in the Garden*, 2000 edition, 203.

²⁶ Nye, *American Technological Sublime*, 282.

CHAPTER 3 — ALL ROADS LEAD TO A NEW BRIDGE

¹ California Transportation Commission, *Transcript of Item 4.11B, Update on Eastern Span of Bay Bridge Replacement, Including Comments from U.S. Navy, From May 11, 2000 Meeting of the California Transportation Commission*, (Sacramento, California, n.d.), 1.

² California Department of Transportation, *San Francisco-Oakland Bay Bridge East Span Seismic Safety Project, Replacement vs. Retrofit* (Oakland: California Department of Transportation, April 2000), 2-1.

³ Federal Highway Administration (FHWA), and the State of California, Department of Transportation (Caltrans), *San Francisco-Oakland Bay Bridge East Span Seismic Safety Project: Final Environmental Impact Statement (FEIS)/Statutory Exemption and Final Section 4(f) Evaluation*, no. FHWA-CA-EIS-98-01-F, 5 May 2001, 1-8.

⁴ *Ibid.*, 1-8.

⁵ The Association of Bay Area Governments also estimated that damage from the Loma Prieta earthquake resulted in a loss of \$181 to \$725 million to the Gross Regional Product and that San Francisco lost \$73 million in taxable sales. [Association of Bay Area Governments, *Macroeconomic Effects of the Loma Prieta Earthquake* (Oakland, California, 1991) cited in FHWA and Caltrans, *East Span FEIS*, 1-8 to 1-9.]

⁶ FHWA and Caltrans, *East Span FEIS*, 1-9.

⁷ California State Auditor, Bureau of State Audits, *California Department of Transportation: Seismic Retrofit Costs of State-Owned Toll Bridges have Significantly Exceeded the Department's Original Estimates and May Go Even Higher* (Sacramento, California: Bureau of State Audits, August 2002), 16.

⁸ California Transportation Commission, *Transcript of May 11, 2000 Meeting*, 1.

⁹ FHWA and Caltrans, *East Span FEIS*, 1-9.

¹⁰ *Ibid.*, 1-9.

¹¹ *Ibid.*, *East Span FEIS*, 3-104 to 3-105.

¹² Federal Transit Administration, City and County of San Francisco, Peninsula Corridor Joint Powers Board, San Francisco Redevelopment Agency, *Transbay Terminal/Caltrain Downtown Extension Project/Redevelopment Project, Final Environmental Impact Statement/Environmental Impact Report and Section 4(f) Evaluation*, March 2004, 5-90 to 5-91; FHWA and Caltrans, *East Span FEIS*, 3-104.

¹³ The Bay Bridge's West Span consists of two suspension bridges with a total of four towers. Caltrans determined that it was able to retrofit this structure to lifeline standards at a cost of \$391 million in early 1997, but that later climbed to \$553 million in summer 1997 (as provided in Senate Bill 60 of 1997) and \$700 million in 2001 (as provided by Assembly Bill 1171 of 2001). The West Span project also includes replacement of the western approach's main travel lanes and access ramps on I-80 in San Francisco from Fifth Street to the bridge's west anchorage. Further, an interim seismic retrofit was completed in 2000 on the East Span at a cost of approximately \$19 million. This interim retrofit allows the East Span to "withstand a likely earthquake (estimated to be an earthquake that induces less than 0.25g on the existing structure), but not an MCE." (Edward G. Jordan, California Transportation Commission. Letter to State of California Senator Deidre Albert, 10 March 1997); and FHWA and Caltrans, *East Span FEIS*, 1-10 to 1-11.)

¹⁴ FHWA and Caltrans, *East Span FEIS*, 3-105.

¹⁵ Caltrans, *Replacement vs. Retrofit*, 3-6.

¹⁶ FHWA and Caltrans, *East Span FEIS*, 3-104.

¹⁷ The truck toll varies by vehicle axles, and at the time generally ranged from \$1.00 to \$10.50. When the bridge opened in 1936, the round trip toll was \$1.30. From 1937 to 1940, the toll was continuously lowered until it was 50 cents. In 1977 as a result of state legislation (Assembly Bill 664) the toll was increased to 75 cents with a portion of the funds from the increase to be used for corridor transit capital improvements. In 1989 after the passage of Regional Measure 1, the toll was increased to \$1.00 with the majority of funds from the increase to be used for highway and transit improvements in the bridge corridor. In 1997, the toll was raised to \$2.00 per Senate Bill 60 to fund increased seismic retrofit costs, and in 2004, the toll was raised to \$3.00 per Regional Measure 2 primarily to fund transit and highway improvements. (See Chapter 7 for a discussion of Regional Measure 2 and Exhibits 7-2 and 7-3 which provide the toll schedule's history.)

¹⁸ Metropolitan Transportation Commission, *San Francisco Bay Crossings Study* (Oakland, California: Metropolitan Transportation Commission, July 2002), 10-11.

¹⁹ Caltrans, *Replacement vs. Retrofit*, 3-3 to 3-6.

²⁰ Prior earthquakes and resulting damage, namely the 1971 San Fernando and the 1987 Whittier Narrows earthquakes in Southern California, also alerted Caltrans to the need to

seismically retrofit the state's transportation facilities. (FHWA and Caltrans, *East Span FEIS*, 1-8).

²¹ The other state-owned bridges in the Bay Area included the Benicia-Martinez, Carquinez, Richmond-San Rafael, and the San Mateo-Hayward bridges. The westbound Carquinez Bridge's replacement was funded through Regional Measure 1 of 1989. The Carquinez's eastbound span was to be retrofitted and funded through the state-owned toll bridge program. The Southern California bridges are the San Diego-Coronado and the Vincent Thomas (Long Beach) bridges. At the time, Caltrans believed the Bay Area's state-owned Antioch and Dumbarton bridges did not need retrofitting. The Bay Area's Golden Gate Bridge has its own seismic retrofit program that its owner and operator, the Golden Gate Bridge, Highway, and Transportation District, oversees. This facility is not a state-owned bridge.

²² The program costs listed are from a 2001 Caltrans report. At the time, the locally-owned bridge program consisted of bridges in Los Angeles and Santa Clara counties due to the unavailability of data on other bridges statewide. The local agencies administer the projects and the program was funded through federal Highway Bridge Replacement and Rehabilitation funds (Allen M. Lawrence, California Transportation Commission. Letter to State of California legislators, 22 May 2001)

²³ As of September 2004, the phase 1 program is 100% complete, the phase 2 program is 98% complete, and the locally-owned bridge program is 45% complete. (Cindy McKim, Caltrans Acting Chief Financial Officer to California Transportation Commission, Memorandum Action Item no. 4.14 regarding "Annual Report on Seismic Safety Retrofit Program," 14 September 2004)

²⁴ Caltrans, *Replacement vs. Retrofit*, 2-2.

²⁵ *Ibid.*, 2-5 and 7-1. Please also see U.S. Army Corps of Engineers, *Final Report*, Appendix 7, 3-7.

²⁶ Caltrans, *Replacement vs. Retrofit*, 5-2.

²⁷ *Ibid.*, 5-7.

²⁸ *Ibid.*, 1-5.

²⁹ Ray Zelinski, Caltrans, "SFOBB East Spans Retrofit- Performance Criteria Statement" January 1997, in United States Army Corps of Engineers, *Final Report: Evaluation and Assessment of Proposed Alternatives to Retrofit/Replace the East Span of the San Francisco-Oakland Bay Bridge*, 27 October 2000, Appendix 4, 3.

³⁰ Caltrans, *Replacement vs. Retrofit*, 2-7.

³¹ For comparison purposes, Caltrans estimated that a new east span bridge could be constructed in five years, and an additional two years would be needed to remove the original bridge. (Caltrans, *Replacement vs. Retrofit*, 4-1; FHWA and Caltrans, *East Span FEIS*, 2-17.)

³² As discussed in the Chapter 4, the U.S. Army Corps of Engineers reviewed Caltrans' retrofit strategy in 2000 and commented that this strategy, particularly regarding bridge isolation, was an "unreasonable" approach to retrofit the bridge.

³³ California Statutes, Street and Highways Code, Article 4.8

³⁴ James w. van Loben Sels, California Department of Transportation. Letter to California Senators Alfred E. Alquist, Quentin L. Kopp and Larry Bower, January 31, 1996; California Transportation Commission, California Transportation Resolution #G-96-03, "Support for the Seismic Retrofit Bond Act of 1996, 22 February 1996; and Greg Lucas, "Cost of the Bay Bridge Retrofit Quadruples," *San Francisco Chronicle*, 31 January 1996.

³⁵ Greg Lucas, "Cost of the Bay Bridge Retrofit Quadruples," *San Francisco Chronicle*, 31 January 1996.

³⁶ James W. van Loben Sels, California Department of Transportation. Letter to California State Senators Alfred E. Alquist, Quentin L. Kopp, and Larry Bowler, 31 January 1996, 3-4.

³⁷ Greg Lucas, "Cost of the Bay Bridge Retrofit Quadruples," *San Francisco Chronicle*, 31 January 1996.

³⁸ A fourth study, entitled "Retrofit vs. New Bridge: An Economic Analysis for the East Span of the San Francisco-Oakland Bay Bridge" was conducted in April 1997 by Caltrans' Transportation Economics Planning Program. This economic analysis was completed after the Governor Wilson's recommendation to consider a new bridge in January 1997. The study contained a cost/benefit analysis, which attributed costs to users such as traffic delay and accidents, as well as lifecycle costs such as maintenance and earthquake damage. Based on the lifecycle/user cost analyses, the study found that a replacement bridge would cost approximately \$437 million to \$625 million less than retrofitting the existing bridge and depending upon the type of new bridge structure considered (such as a skyway for the bridge's entire length or a cable-stay span connected to a viaduct alternative). The basic facility costs that did not account for lifecycle/user costs were fairly close. The retrofit alternative was estimated at \$1.138 billion and a new skyway bridge replacement was estimated at \$1.162 billion, a difference of approximately \$25 million, thereby providing additional support for a new span. Dr. Robert Piper of the Sierra Club San Francisco Bay Chapter has criticized the study's assumptions and argues that if these were changed, the results would be reversed so that a bridge retrofit would be favored over a replacement project. He wrote on January 6, 2000, "Over a 50-year time period, the new span would cost Caltrans over \$500 million more than retrofit. Construction cost is the largest input. The September 1998 DEIS... (the East Span's draft environmental impact statement) showed cost for the adopted span to be \$1.5 billion, 50 percent greater than that used 15 months earlier in the April 1997 Analysis. Compare this with the \$900 million shown in the DEIS for retrofit, both figures in 2002 dollars. MTC reports that cost of the new span has continued to climb. Such escalation of the principal input has substantial economic consequences." He further comments since the study was done after Governor Wilson's bridge replacement decision, he views it as a state effort to justify a decision that it had already

made. [California Department of Transportation, Transportation Economics Planning Program, *Retrofit vs. New Bridge: An Economic Analysis for the East Span of the San Francisco-Oakland Bay Bridge*, (Sacramento, California: California Department of Transportation, April 1997); Robert R. Piper, Ph.D. Translog, Transportation and Logistics Consulting. Memorandum to Oakland City Council regarding “Bay Bridge East Span Alternatives: Costs and Capabilities, 25 May 1999; Harry Y. Yahata, California Department of Transportation District 4. Letter to Dr. Robert Piper, Sierra Club San Francisco Bay Chapter, 7 June 1999; Robert R. Piper, Sierra Club San Francisco Bay Chapter. Letter to Jose Medina, California Department of Transportation, 19 June 1999; Jose Medina, California Department of Transportation. Letter to Dr. Robert Piper, Sierra Club, 21 July 1999; Robert R. Piper, Sierra Club San Francisco Bay Chapter. Letter to Jose Medina, California Department of Transportation, 6 January 2000; and Jose Medina, California Department of Transportation. Letter to Dr. Robert Piper, 18 February 2000.]

³⁹ Suspension bridges and cable-stay bridges differ structurally and aesthetically. For a suspension span, the roadway hangs from suspender cables that are attached to a main cable, which is draped between two towers. Examples include the Golden Gate Bridge and the Bay Bridge’s West Span. In a cable-stay bridge, the roadway is connected directly to the bridge’s tower by cables. There are no examples of cable-stay bridges in California; however, numerous structures exist in Europe and Asia. A recent West Coast example was built in Tacoma, Washington in 1997 (Robert Oakes, “Bay Bridge II Designs on Display,” *Contra Costa Times*, 3 February 1998.)

⁴⁰ California Department of Transportation, Office of Structure Design, SFOBB Special Analysis Unit, and Structure Estimating, *Cost Estimate Investigation for a Replacement Structure for the East Spans of the San Francisco-Oakland Bay Bridge*, (Sacramento, California: California Department of Transportation, September 1996), 1.

⁴¹ State of California, Business, Transportation and Housing Agency, Department of Transportation/prepared by Ventry Engineering, The National Constructor’s Group, Tokola Corporation and OPAC Consulting Engineers, *San Francisco-Oakland Bay Bridge, East Bay Crossing Replacement Value Analysis Findings* (Sacramento, California: California Department of Transportation, December 1996), 1.2.

⁴² *Ibid.*, 3.5.

⁴³ *Ibid.*, 4.14.

⁴⁴ These costs include other costs such as permitting, design, inspection and right-of-way as well as maintenance. The cost increase for the bridge retrofit was mainly due to an estimated general maintenance cost of \$91 million, whereas the replacement bridge maintenance costs were significantly less at \$7 million to \$9 million. If these costs were removed from the estimate, the total estimated construction cost would be \$840 million for the recommended replacement bridge, \$725 million for the base case bridge replacement, and \$810 million for a bridge retrofit.

⁴⁵ The study also attributed an undefined “residual value bridge” amount of \$231 million for the recommended bridge replacement, \$199 million a base case replacement, and \$171 million for retrofitting the existing bridge. This resulted in a net total cost of \$897

million, \$801 million and \$1 billion respectively. The study then calculated that the recommended replacement bridge and the base case replacement would result in savings between \$158 million and \$254 million over retrofitting the existing bridge (State of California, *Value Analysis Findings*, 1.12).

⁴⁶ Ibid., 9.2.

⁴⁷ CTC later allocated \$19.2 million for bridge retrofit from Proposition 192 funds, and the retrofit was completed in 2000. (California Transportation Commission, California Transportation Commission Resolution FP-97-47, 12 October 1997)

⁴⁸ Brian Maroney, California Department of Transportation, *Replacement Study for the East Spans of the San Francisco-Oakland Bay Bridge Seismic Safety Project*, 17 December 1996.

⁴⁹ Secretary Dean Dunphy, State of California, Business Transportation and Housing Agency. Memorandum to Governor Pete Wilson regarding “Consideration of Replacement of the Eastern Spans of the San Francisco-Oakland Bay Bridge to Provide Seismic Safety,” 10 January 1997.

⁵⁰ The estimated costs for the other bridges were as follows: in Northern California, the Bay Bridge’s West Span at \$391 million, the Benicia Martinez at \$101 million, San Mateo Hayward at \$127 million, Richmond-San Rafael at \$329 million, and the Carquinez at \$83 million; and in Southern California, the Vincent Thomas at \$45 million, and the San Diego-Coronado at \$95 million. (Edward G. Jordan, California Transportation Commission. Letter to State of California Senator Deidre Albert, 10 March 1997)

⁵¹ Secretary Dean Dunphy, State of California, Business Transportation and Housing Agency. Memorandum to Governor Pete Wilson regarding “Consideration of Replacement of the Eastern Spans of the San Francisco-Oakland Bay Bridge to Provide Seismic Safety,” 10 January 1997, 6.

⁵² California Department of Transportation, press release, “Wilson Administration Recommends Replacing Bay Bridge,” 13 February, 1997, 1.

⁵³ Caltrans, *Replacement vs. Retrofit*, 2-5 and 7-1.

⁵⁴ State of California Governor’s Office, Governor Pete Wilson, press release, “Wilson Issues Statement After Accepting the Recommendation to Replace the Eastern Span of the San Francisco-Oakland Bay Bridge: Cites Safety as the Reason to Replace the Eastern Span,” #PR97:61, 13 February 1997.

⁵⁵ Erin McCormick, “Cost vs. Aesthetics: Bridging the Gap,” *San Francisco Examiner*, 14 February 1997.

⁵⁶ California Department of Transportation, press release, “Wilson Administration Recommends Replacing Bay Bridge,” 13 February 1997, 3.

⁵⁷ Erin McCormick, “Cost vs. Aesthetics: Bridging the Gap,” *San Francisco Examiner*, 14 February 1997.

⁵⁸ *San Francisco Chronicle*, editorial, “A New Bay Bridge, But What Design?” 14 February 1997.

⁵⁹ *Oakland Tribune*, editorial, “A New Front Door to the East Bay,” 19 February 1997.

⁶⁰ Allan Temko, “In Search of a Better Bay Bridge Design,” *San Francisco Chronicle*, 10 March 1997.

⁶¹ John Wildermuth, “Bay Bridge Design Task Force Starts Work Tomorrow: Debate over East Span Promises to be Contentious,” *San Francisco Chronicle*, 17 March 1997.

⁶² Lawrence D. Dahms, Metropolitan Transportation Commission. Memorandum to MTC Bay Bridge Design Task Force regarding “Recommendations Regarding Bay Bridge East Span Replacement,” 20 June 1998.

⁶³ John King, “Artistic Eye Urged for Bridge Design: Caltrans, However, Says Aesthetics ‘Way Down List’,” *San Francisco Chronicle*, 28 February 1997.

⁶⁴ The Bay Bridge design subcommittee consisted of nine members: two members each from Alameda, Contra Costa, San Francisco and Solano counties as well as MTC’s BCDC representative. Most members were elected officials who were appointed to MTC’s board by their respective cities or counties. The representatives were: then-Supervisor Mary King, the Task Force’s chair, and then-Oakland Mayor Elihu Harris for Alameda County (the late city of Alameda Mayor Ralph Appezato replaced Mayor Harris in 1999 when his term expired); Supervisor Mark DeSaulnier and then-San Pablo council member/Mayor Sharon Brown for Contra Costa County; Mr. Jon Rubin (as the Mayor of San Francisco’s appointee) and then-Supervisor Tom Hsieh for San Francisco (Supervisor Sue Bierman replaced Supervisor Hsieh in 1999 when his term expired); Suisun City Mayor Jim Spring for Solano County; and, Commissioner Angelo Siracusa for BCDC.

⁶⁵ Robert Oakes, “Bay Area Residents Have Until July to Pick Bay Bridge Design,” *Contra Costa Times*, 19 February 1997.

⁶⁶ The EDAP roster noted that members were participants in at least one of the following organizations: the American Institute of Architects, American Society of Civil Engineers, BCDC Design Review Board, BCDC Engineering Criteria Review Board, Caltrans Peer Review Panel, Caltrans San Francisco-Oakland Bay Bridge Review Panel, Caltrans Seismic Advisory Board, and the Structural Engineers Association of Northern California.

⁶⁷ William F. Hein, Metropolitan Transportation Commission. Memorandum to EDAP regarding “Future Role and Process of EDAP,” 9 June 1997. (Agenda Item #4 for June 16, 1997 EDAP meeting)

⁶⁸ Carl Nolte, “Case Made Against ‘Prima Donna’ Span,” *San Francisco Chronicle*, 10 April 1997.

⁶⁹ The Committee Chair was Charles Seim of T.Y. Lin International. Some of the members of this committee were affiliated with firms that had submitted proposals to the workshop including: Mr. Seim, Gerard Fox with HNTB, Tung-Yen (T.Y.) Lin, and Ben C. Gerwick (Caltrans Advisory Panel on Conceptual Designs, *Review of Conceptual*

Designs for the San Francisco-Oakland Bay Bridge East Bay Replacement Structure, submitted to James E. Roberts, Director, Engineering Service Center, California Department of Transportation, 30 May 1997).

⁷⁰ Ibid.

⁷¹ Steve Heminger, Metropolitan Transportation Commission. Memorandum to Bay Bridge Design Task Force regarding “Summary of Public Comment, 17 June 1997 (Agenda Item #4 of June 24, 1997 Bay Bridge Design Task Force meeting)

⁷² The Bay Bridge Coalition described its membership as “...a broad based organization including AIA (American Institute of Architects), SEAONC (Structural Engineers Association of Northern California), ASCE (American Society of Civil Engineers), SPUR (San Francisco Planning and Urban Research Association), SF MOMA (San Francisco Museum of Modern Art), Oakland Museum of California, Greater Oakland Chamber of Commerce, etc., committed to ensuring the very best solution for the replacement of the east portion of the Bay Bridge.” (Bay Bridge Consortium’s Technical Advisory Committee signed by Perry A. Haviland. Letter to Metropolitan Transportation Commission, 22 April 1997)

⁷³ Chris Arnold, Building Systems Development, Palo Alto. Memorandum to Joe LaClair regarding “Bay Bridge Criteria,” 21 April 1997.

⁷⁴ MTC Bay Bridge Task Force, Engineering and Design Advisory Panel, “Engineering and Design Considerations for the East Span Replacement of the San Francisco Oakland Bay Bridge” in Lawrence D. Dahms, Metropolitan Transportation Commission. Memorandum to MTC Bay Bridge Design Task Force regarding “Recommendations Regarding Bay Bridge East Span Replacement,” 20 June 1998

⁷⁵ Ibid.

⁷⁶ Terry E. Roberts, City of Oakland. Letter to Commissioner Mary King, Metropolitan Transportation Commission, 15 May 1997.

⁷⁷ Proposals were submitted by Caltrans; Gerwick/Sverdup/DMJM, Lin Tung-Yen, China, Inc. (Professor Emeritus T.Y. Lin, University of California, Berkeley), OPAC Consulting Engineers, Parsons Brinckerhoff, TY Lin International, URS Greiner, Professors Abolhassan Astaneh-Asl and R. Gary Black of U.C. Berkeley, Coman Feher Associates, DCM Studios, Garret Green, Michael Longo, and Zhong-Lin-Hsue (Caltrans, *Replacement vs. Retrofit*, 2-11).

⁷⁸ Metropolitan Transportation Commission, *Bay Bridge Design Task Force, Engineering and Design Advisory Panel, Workshop to Review Alternatives, Approved Record of Meeting*, n.d.

⁷⁹ Caltrans Advisory Panel on Conceptual Designs, *Review of Conceptual Designs*, 5.

⁸⁰ Michael Longo, Santa Cruz, “Unity Towers East Bay Bridge,” New East Span Proposal Submitted to MTC Bay Bridge Design Task Force, 6 May 1997.

⁸¹ D. Mark Abrahams. Letter to Metropolitan Transportation Commission, 19 June 1998.

⁸² Metropolitan Transportation Commission, press release, “Oakland Museum Exhibit Showcases Proposed Bay Bridge Designs,” 26 June 1997.

⁸³ Gordon Rose of London made this recommendation approximately two years later in November 1998 (Gordon Rose, “To Solve the Bay Bridge Dilemma, Chose a Straight-Line Solution, *San Francisco Chronicle*, 9 November 1998).

⁸⁴ Metropolitan Transportation Commission Bay Bridge Task Force. Memorandum to Metropolitan Transportation Commission regarding “Eastern Span Bridge Design and Planning Recommendations, 30 July 1997 (Agenda Item no. 2 of the July 30, 1997 Metropolitan Transportation Commission meeting).

⁸⁵ Lawrence D. Dahms, Metropolitan Transportation Commission. Letter to James W. van Loben Sels, Caltrans, 11 July 1997.

⁸⁶ James W. van Loben Sels, California Department of Transportation. Letter to Commissioner Mary King, MTC Bay Bridge Design Task Force, 18 July 1997.

⁸⁷ Commissioner Mary King, MTC Bay Bridge Design Task Force. Letter to James W. van Loben Sels, California Department of Transportation, 24 July 1997.

⁸⁸ Terry E. Roberts, City of Oakland. Letter to Commissioner Mary King, MTC Bay Bridge Design Task Force, 8 July 1997.

⁸⁹ AC Transit and other local jurisdictions advocated for an HOV (high occupancy vehicle) lane on the new bridge for either public buses and/or carpools of three or more occupants. According to Caltrans, the Bay Bridge’s metering lights and HOV bypass lanes “operate together as a system to ensure that the capacity of the five westbound lanes on the SFOBB is maximized.” Caltrans argued that an HOV lane would cause increased congestion on the bridge approaches because it would reduce the bridge’s vehicular capacity during periods other than the peak hour. (Terry Segerberg, West Contra Costa Mayor’s and Supervisors Association to Commissioner Mary King, MTC Bay Bridge Design Task Force, 12 May 1997; Mayor Norma Jellison, City of El Cerrito. Letter to Commissioner Mary King, MTC Bay Bridge Design Task Force, 30 April 1997; and FHWA and Caltrans, *East Span FEIS*, 2-24.)

⁹⁰ Caltrans determined prior to the MTC process that a double-decked replacement bridge could be built, but that it would be more expensive than a single-decked bridge. In addition, the seismic performance of a double-decked structure was uncertain and Bay views from the lower deck would continue to be limited as they are now on the existing bridge. As a result, a double-deck facility was not recommended. It also should be noted that double-decked structures such as the Bay Bridge’s east span, the Embarcadero Freeway, and the Cypress Freeway had collapsed. The latter two facilities suffered major irreparable damage from the Loma Prieta earthquake and were later removed. As such, there was general public concern about the seismic safety of double-decked structures. (FHWA and Caltrans *East Span FEIS*, 2-51)

⁹¹ Mark Katches, “Bay Area Bridge Pits North vs. South,” *The Orange County Register*, 9 June 1997.

⁹² Michael B. Marois, “California Lawmakers Draw Battle Lines Over Who Pays to Quake-Proof Bridges,” *The Bond Buyer*, 26 February 1997.

⁹³ Max Vanzi, “State Funding of Bridge Work Splits North and South,” *Los Angeles Times*, 26 May 1997.

⁹⁴ Ibid.

⁹⁵ California Department of Transportation, “Project Funding Sources,” *East Span News: The Newsletter of the San Francisco-Oakland Bay Bridge East Span Seismic Safety Project*, (Oakland, Fall 1997), 7.

⁹⁶ Assembly Bill 1171 (Dutra) of 2001, Chapter 907, section 31070(c).

⁹⁷ Steve Heminger, Metropolitan Transportation Commission. Memorandum to EDAP regarding “Summary of Events Since Last EDAP meeting,” 23 February 1998 (Agenda Item no. 2, March 2, 1998 Bay Bridge Design Task Force/EDAP meeting)

⁹⁸ Steve Heminger, Metropolitan Transportation Commission. Memorandum to Engineering and Design Advisory Panel regarding “EDAP Recommendations on Bridge Type and Bicycle/Pedestrian Access,” 11 May 1998.

⁹⁹ It appears that Senator Kopp’s statement was released in an effort to encourage the immediate pursuit of a bridge design, and not delay it as others advocated at the time. (Statement by the Honorable Quentin L. Kopp regarding Bay Bridge Replacement Span Design, 1 July 1998)

¹⁰⁰ Professor T.Y. Lin had founded the firm, T.Y. Lin International. However, at the time of the bridge design process, Professor Lin was not affiliated with the firm.

¹⁰¹ All of these options showed a single tower vertically and perpendicular to the water when the bridge is viewed from a distance. In other words, multiple towers would be located side-by-side rather than one tower following another.

¹⁰² Metropolitan Transportation Commission, “Bay Bridge Design Task Force, Engineering and Design Advisory Panel March 2, 1998 Meeting, Draft Record of Meeting,” n.d. (Agenda Item no. 2, April 15, 1998 Bay Bridge Design Task Force, Engineering and Design Advisory Panel meeting) (Subsequent minutes for the April 15, 1998 and May 18, 1998 EDAP meetings indicate that the March 2, 1998 draft record of meeting was approved.)

¹⁰³ Ronna Abramson, “New Bay Bridge Designs Narrowed to Two Options: Single Tower or Twin Towers.” *Oakland Tribune*, 3 March 1998.

¹⁰⁴ Metropolitan Transportation Commission, “Bay Bridge Design Task Force, Engineering and Design Advisory Panel May 18, 1998 Meeting, Draft Record of Meeting,” n.d. (Agenda Item no. 2, May 29, 1998 Bay Bridge Design Task Force, Engineering and Design Advisory Panel meeting) (Subsequent minutes for the May 29, 1998 and October 9, 1998 EDAP meetings indicate that the March 2, 1998 draft record of meeting was approved.)

¹⁰⁵ Terry E. Roberts, City of Oakland. Letter to Joseph Nicoletti, Engineering and Design Advisory Panel, Metropolitan Transportation Commission, 14 May 1998.

¹⁰⁶ Sam Diaz, “Concerns for new Bay Bridge include bikes, safety, beauty,” *San Jose Mercury News*, 18 April 1998.

¹⁰⁷ Alan Hess, “A Bridge to Take us from Whimsy to Expensive Looniness,” *San Jose Mercury News*. 5 April 1998.

¹⁰⁸ Frances Dinkelspiel, “Bay Bridge Options Narrowed,” *San Jose Mercury News*, May 19, 1998.

¹⁰⁹ Lawrence D. Dahms, Metropolitan Transportation Commission. Memorandum to Bay Bridge Design Task Force regarding “Engineering and Design Advisory Panel Recommendations, 4 June 1998 (Agenda Item no. 2, MTC Bay Bridge Design Task Force June 10, 1998 meeting).

¹¹⁰ The SAS bridge cost was estimated at \$1.506 billion to \$1.562 billion and the single-tower cable stayed bridge was estimated at \$1.450 billion to \$1.507 billion. With respect to seismic performance, both bridges would be able to meet the “lifeline” criteria previously established. (California Department of Transportation, United States Department of Transportation, and Metropolitan Transportation Commission, *The San Francisco-Oakland Bay Bridge East Span: Seismic Safety Project 30% Design Report, Executive Summary*, 29 May 1998).

¹¹¹ Engineering and Design Advisory Panel, Metropolitan Transportation Commission, 29 May 1998, cassette.

¹¹² Rafael Manzanarez, Brian Maroney, and Man-Chung Tang, T.Y. Lin International and Moffat & Nichol, *San Francisco-Oakland Bay Bridge*, 1999.

¹¹³ Also see Metropolitan Transportation Commission, “Bay Bridge Design Task Force, Engineering and Design Advisory Panel May 18, 1998 Meeting, Draft Record of Meeting,” n.d. (Agenda Item no. 2, May 29, 1998 Bay Bridge Design Task Force, Engineering and Design Advisory Panel meeting); and Metropolitan Transportation Commission, “Bay Bridge Design Task Force, Engineering and Design Advisory Panel May 29, 1998 Meeting, Draft Record of Meeting,” n.d. (Agenda Item no. 2, October 9, 1998 Bay Bridge Design Task Force, Engineering and Design Advisory Panel meeting).

¹¹⁴ Lawrence D. Dahms, Metropolitan Transportation Commission. Memorandum to Bay Bridge Design Task Force regarding “Engineering and Design Advisory Panel (EDAP) Recommendations, 4 June 1998 (Agenda Item no. 2, MTC Bay Bridge Design Task Force June 10, 1998 meeting).

¹¹⁵ Marjorie Blackwell, “Countdown Begins on Bay Bridge Decisions,” *Transactions* (Oakland: Metropolitan Transportation Commission), May 1998.

¹¹⁶ Engineering and Design Advisory Panel, Metropolitan Transportation Commission, 18 May 1998, cassette. Also see Metropolitan Transportation Commission, “Bay Bridge Design Task Force, Engineering and Design Advisory Panel May 18, 1998 Meeting, Draft Record of Meeting,” n.d. (Agenda Item no. 2, May 29, 1998 Bay Bridge Design Task Force, Engineering and Design Advisory Panel meeting).

¹¹⁷ Sam Diaz, “Opinion on Bridge Changes: Single Tower: Revised Model also Allows Bikes, Walkers,” *San Jose Mercury News*, 30 May 1998.

¹¹⁸ A single tower SAS bridge requires the use of a temporary structure to support the bridge deck while the tower is being constructed, which can increase the bridge's construction cost.

¹¹⁹ Engineering and Design Advisory Panel, Metropolitan Transportation Commission, 18 May 1998, cassette. Also see Metropolitan Transportation Commission, "Bay Bridge Design Task Force, Engineering and Design Advisory Panel May 18, 1998 Meeting, Draft Record of Meeting," n.d. (Agenda Item no. 2, May 29, 1998 Bay Bridge Design Task Force, Engineering and Design Advisory Panel meeting).

¹²⁰ Mayor Elihu M. Harris, City of Oakland; Mayor Shirley Dean, City of Berkeley; Mayor Ken Bukowski, City of Emeryville; Mayor Ralph Appezato, City of Alameda (signed by Vice Mayor Alfred DeWitt); Mayor Patricia White, City of Piedmont; Mayor Bruce Mast, City of Albany; Assemblyman Don Perata; Matt Williams, President, AC Transit Board; Assemblywoman Dion S. Aroner; and, Councilmember Larry Damon, City of El Cerrito. Letter to Commissioner Mary King, MTC Bay Bridge Design Task Force, 18 June 1998.

¹²¹ Laura Hamburg, "S.F. Joins 11th-Hour Stick over Bridge Design: Treasure Island Plan Could Suffer," *San Francisco Chronicle*, 19 June 1998.

¹²² Mayor-Elect Jerry Brown, City of Oakland, "'There' Needs a More Fitting Bridge," *San Francisco Chronicle*, 22 June 1998.

¹²³ Ronna Abramson, "Jerry Brown: Old Boys Drove Span Design Plan," *Oakland Tribune*, 20 June 1998.

¹²⁴ Mayor Willie J. Brown, Jr., City and County of San Francisco. Letter to Commissioner Mary King, MTC Bay Bridge Design Task Force, 22 June 1998.

¹²⁵ *San Francisco Examiner*, editorial, "No Need to Rush Bridge Design," 21 June 1998; and *San Francisco Chronicle*, editorial, "Bay Bridge Decision Needs Further Review," 22 June 1998.

¹²⁶ Governor Pete Wilson wrote to MTC recommending that the bridge design process should not be postponed and a decision should be selected at this time (Ethan Rarick, "Wilson: No Delay on Bridge," *Contra Costa Times*, 24 June 1998).

¹²⁷ Alex Barnum and Laura Hamburg, "Pitch to Delay Bridge Design Vote Fizzles: Task Force Majority Ready to Go," *San Francisco Chronicle*, 20 June 1998.

¹²⁸ Gerald D. Adams, "2nd Tower? No Way, Say Bridge Designers," *San Francisco Examiner*, 5 July 1998.

¹²⁹ Professor Abolhassan Astaneh-Asl, University of California, Berkeley. Memorandum to Metropolitan Transportation Commission, Bay Bridge Design Task Force, 20 June 1998 regarding "Concerns on Seismic Safety of the New East Span Bay Bridge Design."

¹³⁰ Ronna Abramson, "Bay Bridge Plan heads for Final OK: Critics Push to Delay Decision," *Oakland Tribune*, 23 June 1998.

¹³¹ Alex Barnum, "Task Force also Votes for Bike, Pedestrian Lane," *San Francisco Chronicle*, 23 June 1998.

¹³² Professor Abolhassan Astaneh-Asl, University of California, Berkeley. Memorandum to the Metropolitan Transportation Commission, 24 June 1998 regarding “Concerns on Seismic Safety of the New East Span Bay Bridge Design.”

¹³³ The vote in opposition was cast by former Mayor of Oakland Elihu Harris because he felt that the bridge design was unattractive and it did not sufficiently accommodate rail. MTC San Francisco Commissioners Jon Rubin and former Supervisor Tom Hsieh both abstained. (Ronna Abramson, “Bridge Design Survives Dissent: Opponents Promise to Challenge Vote,” *Oakland Tribune*, 25 June 1998)

¹³⁴ Federal Highway Administration, *Record of Decision: San Francisco-Oakland Bay Bridge East Span Seismic Safety Project*, 11 July 2001.

¹³⁵ Caltrans, *Replacement vs. Retrofit*, 1-2 to 1-3. Also see Chapter 4 for discussion of additional MTC/Caltrans seismic performance criteria analyzed in the U.S. Army Corps of Engineers October 2000 report (United States Army Corps of Engineers, *Final Report: Evaluation and Assessment of Proposed Alternatives to Retrofit/Replace the East Span of the San Francisco-Oakland Bay Bridge*, 27 October 2000).

¹³⁶ Rafael Manzanarez, Brian Maroney, and Man-Chung Tang, T.Y. Lin International and Moffat & Nichol, *San Francisco-Oakland Bay Bridge*, 1999.

¹³⁷ Lawrence D. Dahms, Metropolitan Transportation Commission. Memorandum to Bay Bridge Design Task Force, 4 June 1998 regarding “Engineering and Design Advisory Panel Recommendations.”

¹³⁸ *Ibid.*

¹³⁹ The total estimated cost for the suspension span was approximately \$171 million of which \$80 million was originally accounted for in Senate Bill 60 and the additional \$91 million would be covered through the toll surcharge extension. [Lawrence D. Dahms, Metropolitan Transportation Commission. Memorandum to Bay Bridge Design Task Force regarding “Engineering and Design Advisory Panel Recommendations,” 4 June 1998 (Agenda Item no. 2, MTC Bay Bridge Design Task Force June 10, 1998 meeting); and Bay Area Toll Authority, Bay Area Toll Authority Resolution no. 10, 24 June 1998.]

¹⁴⁰ Lawrence D. Dahms, Metropolitan Transportation Commission. Memorandum to Bay Bridge Design Task Force, 17 June 1998 regarding “Staff Recommendations on Bay Bridge Design and Amenities.”

¹⁴¹ Lawrence D. Dahms, Metropolitan Transportation Commission. Letter to Senator John Burton, 29 June 1998.

¹⁴² *San Francisco Chronicle*, “Bridge Bill Seeks Vote on Design: But Public Referendum Faces Tough Opposition,” 28 July 1998.

¹⁴³ Kathleen Sullivan, “E. Bay Lawmaker Wants Election on Bridge Design,” *San Francisco Examiner*, 26 June 1998.

¹⁴⁴ Kathleen Sullivan, “E. Bay Lawmaker Wants Election on Bridge Design,” *San Francisco Examiner*, 26 June 1998; and *San Francisco Chronicle*, “Bridge Bill Seeks Vote on Design,” 28 July 1998.

¹⁴⁵ Harry Y. Yahata, State of California, Department of Transportation, District 4. Letter to Vice-Mayor Ken Bukowski, City of Emeryville, 10 August 1999.

¹⁴⁶ See Table 2.4.1 in Federal Highway Administration (FHWA), United States Department of Transportation and the State of California, Department of Transportation (Caltrans), *San Francisco-Oakland Bay Bridge East Span Seismic Safety Project, Draft Environmental Impact State/Statutory Exemption*, no. FHWA-CA-EIS-98-01-D, 24 September 1998, 2-11.

¹⁴⁷ California law provides an exemption to the California Environmental Quality Act (CEQA) for certain projects including seismic retrofit projects. As a result, the East Span project was exempt from CEQA. However, the new Bay Bridge is an interstate facility, which required federal permits, and the federal environmental process through the National Environmental Protection Act (NEPA) had to be followed.

¹⁴⁸ FHWA and Caltrans, *East Span FEIS*, Volume II, 1-200.

¹⁴⁹ Alan Hess, "A Bridge to Take us from Whimsy to Expensive Looniness," *San Jose Mercury News*, 5 April 1998.

¹⁵⁰ John King, "Bay Bridge Plan Should Be Scrapped: Towerless Design is a Cheaper Alternative," *San Francisco Chronicle*, 16 April 1998.

¹⁵¹ Alex Barnum, "Readers Want Avant-Garde Span," *San Francisco Chronicle*, 18 May 1998.

¹⁵² Sam Diaz, "Bay Bridge Task Force draws Heavy Criticism," *San Jose Mercury News*, 23 June 1998; Eric Brazil, "Dispute Erupts Over New Bay Span," *San Francisco Examiner*, 23 June 1998.

¹⁵³ Christopher Merrill, "East Bay Mayors Try to Delay Decision on Bridge," *The Montclarion* (Oakland), 23 June 1998.

¹⁵⁴ Ken Norwood, "Bridge must include Alternatives" *Oakland Tribune*, 6 April 1999.

¹⁵⁵ Lloyd Bredehoft, letter to the editor, *Contra Costa Times*, 20 June 1998.

¹⁵⁶ Alex Barnum, "Clamor Grows Over Bridge Vote," *San Francisco Chronicle*, 24 June 1998.

¹⁵⁷ California Transportation Commission, *Transcripts of May 11, 2000 meeting*, 3.

¹⁵⁸ California Department of Transportation, *Toll Bridge Seismic Retrofit Program, Annual Report for the Legislature and Governor* (Sacramento, March 2001), 7.

¹⁵⁹ Some interviewees pointed out that tension between Caltrans headquarters office in Sacramento and MTC developed for a period after the regional planning process due to changes in Caltrans staff, rising cost increases for the East Span, and debates over which agency's actions contributed to these increases.

¹⁶⁰ Dashka Slater, "Forget Aesthetics and Politics: Will the Proposed Bay Bridge Withstand a Quake?" *Express*, 5 March 1999.

¹⁶¹ Alex Barnum, "Bay Plan Leaps Hurdle," *San Francisco Chronicle*, 25 June 1998. Similarly, according to Steve Heminger of MTC, "We heard from thousands of people.

The people who come in at the last minute who say the public did not have an opportunity to participate are just plain wrong. It was the most open and democratic public works project in the history of the Bay Area” (Kathleen Sullivan, “E. Bay Lawmaker Wants Election on Bridge Design,” *San Francisco Examiner*, 26 June 1998).

¹⁶² Bay Bridge Design Task Force, *Bay Bridge Design Task Force, EDAP Workshop to Review Alternatives, Waterfront Plaza Hotel, Oakland, May 12-14, 1997 Approved Record of Meeting*, (Oakland: Metropolitan Transportation Commission, n.d.); and Sean Holstege, “Legislators Blast Away at Caltrans, Lawmakers Attack Caltrans at Hearing Over Bridge Debacle,” *Oakland Tribune*, February 2, 2002.

¹⁶³ Daniel Coman and Rick Feher, Coman Feher Associates. Letter to Commissioner Mary King, MTC Bay Bridge Design Task Force, William F. Hein, MTC ; and Steve Heminger, MTC, 12 June 1997. Coman Feher Associates also later wrote to then-Caltrans Director Jose Medina on this and other issues (Daniel Coman and Rick Feher, Coman Feher Associates. Letter to Jose Medina, California Department of Transportation, 19 February 1999).

¹⁶⁴ Christopher Hawthorne, “On Shaky Ground,” *Metropolis*, November 1998.

¹⁶⁵ Alfredo Botello, “A Bridge so Far,” *The Monthly*, May 1998.

¹⁶⁶ Christopher Hawthorne, “Bland Span Plan: Not Even Bureaucrats Thrilled by New Bay Bridge Design,” *East Bay Express*, 12 June 1998.

CHAPTER 4 — BATTLE OF THE ALIGNMENTS

¹ The Port of Oakland commented that BCDC stringently monitors fill in the San Francisco Bay. As such, BCDC approval of such a major port development is not trivial and should be considered seriously in debates about a BCDC-approved project. (Richard J. Wiederhorn, Port of Oakland. Letter to MTC Commissioner Jon Rubin, Bay Relations, Inc., 10 August 1998)

² Gabe Madeway, “New Bridge Span’s Location Concerns Port,” *The Montclarion* (Oakland), 8 July 1997.

³ Richard J. Wiederhorn, Port of Oakland. Letter to MTC Commissioner Jon Rubin, Bay Relations, Inc., 10 August 1998.

⁴ Charles W. Foster, Port of Oakland. Letter to John Suderling, City of Oakland, 15 May 1997.

⁵ Richard J. Wiederhorn, Port of Oakland. Letter to MTC Commissioner Jon Rubin, Bay Relations, Inc., 10 August 1998.

⁶ Ibid.

⁷ Charles W. Foster, Port of Oakland. Letter to Commissioner Mary King, Bay Bridge Design Task Force regarding “San Francisco-Oakland Bay Bridge: East Span Seismic Safety Project,” 23 February 1999.

⁸ California Department of Transportation, *San Francisco-Oakland Bay Bridge East Span Seismic Safety Project, CCSF S-1 Modified Alignment and the Impacts to the EBMUD Sewer Outfall*, (Oakland: California Department of Transportation, November 1999), 1.

⁹ Jimi Yoloye, East Bay Municipal Utility District. Letter to Rudy Ryan, California Department of Transportation, 29 July 1997.

¹⁰ Jessica M. Scully, "Park District Envisions Park near Bay Bridge," *The Montclarion*, 14 November 1997.

¹¹ Oakland Base Reuse Authority, *Gateway to the East Bay: Final Reuse Plan for the Oakland Army Base*, (Oakland: Oakland Base Reuse Authority, 31 July 2002), 31, 34.

¹² Director John Sutter, East Bay Regional Park District. Letter to Mayor-Elect Jerry Brown, City of Oakland, 6 July 1998.

¹³ Jessica M. Scully, "Park District Envisions Park near Bay Bridge," *The Montclarion*, 14 November 1997.

¹⁴ MTC set aside \$120,000 in FY 1999-2000 agency budget funds to the East Bay Regional Park District to do Gateway Park's first year of planning. According to a Caltrans interviewee, Caltrans also provided funding through BCDC permitting which was originally intended for the Cypress Freeway mitigation to Gateway Park planning. (Commissioner Mary King, MTC Bay Bridge Design Task Force. Letter to Councilman Ignacio DeLaFuente, City of Oakland, 23 June 1999).

¹⁵ FHWA and Caltrans also considered the Section 4(f) provisions with respect to the existing bridge and the temporary and permanent impacts to Yerba Buena's historic structures.

¹⁶ Section 4(f) of the Department of Transportation Act of 1966, 49 U.S.C. Section 303 (FHWA and Caltrans, *East Span FEIS*, 6-1.)

¹⁷ FHWA and Caltrans, *East Span FEIS*, 6-19.

¹⁸ Federal Highway Administration, *Record of Decision for the San Francisco-Oakland Bay Bridge*, 11 July 2001, 4.

¹⁹ The 1993 Defense Base Realignment and Closure Commission slated NSTI for closure as one of many closures at the time. (City and County of San Francisco, San Francisco Planning Department, *Transfer and Reuse of Naval Station Treasure Island (NSTI), Draft Environmental Impact Report (DEIR)* (San Francisco, California: San Francisco Planning Department, August 2003), 1-1 to 1-3).

²⁰ *Ibid.*, 1-7.

²¹ The Navy transferred 11 acres of dry land on Yerba Buena Island in 1998 and 11 acres of submerged land in 2002 to the Coast Guard. [Department of the Navy, *Disposal and Reuse of Naval Station Treasure Island (NSTI): Final Environmental Impact Statement (FEIS)* (San Diego, California: Department of the Navy, June 2003), 1-12]

²² FHWA, *East Span Record of Decision*, 4.

²³ Lieutenant Commander R.L. Smith, II, United States Coast Guard. Letter to Commissioner Mary King, Metropolitan Transportation Commission, 13 June 1997.

²⁴ FHWA, *East Span Record of Decision*, 4.

²⁵ Urban Land Institute, *Treasure Island Naval Station, San Francisco, California: An Evaluation of Reuse Opportunities and a Strategy for Development and Implementation* (Washington D.C.: Urban Land Institute, 1996), 7.

²⁶ City and County of San Francisco, *NSTI DEIR*, 1-3.

²⁷ Department of the Navy, *NSTI FEIS*, 1-7.

²⁸ City and County of San Francisco, *NSTI DEIR*, 1-6.

²⁹ Admiral Chester W. Nimitz was the U.S. Navy's Commander of World War II's Pacific Fleet during his military career. He resided in Quarters 1 from 1963 to 1966 just prior to his death in 1966. His residence became known as the "Nimitz House". (USN Rear Admiral Veronica Z. Froman, *Draft Statement before the Metropolitan Transportation Commission Concerning the Proposed San Francisco-Oakland Bay Bridge, East Span Seismic Safety Project, Oakland, California, February 14, 1999*, 18 February 1999, 4.)

³⁰ FHWA and Caltrans, *East Span FEIS*, 6-37.

³¹ Department of the Navy, *NSTI FEIS*, 1-7 to 1-8; City and County of San Francisco, *NSTI DEIR*, 3-34 to 3-36.

³² City and County of San Francisco, *NSTI DEIR*, 3-7.

³³ In terms of public transportation, one bus line provides service between San Francisco and the islands (San Francisco Muni's Line 108). Passenger ferry service is not currently offered from the islands to San Francisco or the East Bay. However, TIDA and the San Francisco Bay Area's Water Transit Authority have examined the potential for increased ferry and bus service to serve the islands' new development. San Francisco's draft EIR on island development comments, "Ferries would be the primary mode of transportation to the islands under all development scenarios" In addition, pedestrian and bicycle access will be provided in the future on the new East Span's pathway between the East Bay and the Yerba Buena Island. Pathway supporters also have advocated for a pathway on the Bay Bridge's west span. (See Chapter 5.) (City and County of San Francisco, *NSTI DEIR*, 2-10; Department of the Navy, *NSTI FEIS*, 3.5-11 and 4.5-14-15; and Water Transit Authority, "A New Commute Option for Treasure Island," http://www.watertransit.org/treasure_overview.shtml)

³⁴ It appears that the bridge access ramps issue has not been fully resolved as of this writing. Representatives interviewed from the Navy, San Francisco and Caltrans all have different understandings of which agency will take ownership of them. The Navy's EIS on NSTI states that San Francisco will become the owner; however, San Francisco representatives feel strongly that the city should not operate them. Further, some believe that an agreement was made with Caltrans that it would take the ramps. At the request of Senators Don Perata and Carole Migden to resolve issues such as these, Caltrans and MTC/BATA agreed in October 2005 to develop a plan for the ramps with the

participation of key stakeholders. (Department of the Navy, *NSTI FEIS*, 3.5-1; Senator Don Perata and Senator Carole Migden. Letter to Will Kempton, California Department of Transportation and Commissioner Jon Rubin, Metropolitan Transportation Commission/BATA, 30 August 2005; Will Kempton, California Department of Transportation and Commissioner, Jon Rubin, Metropolitan Transportation Commission/BATA. Letter to California State Senator Don Perata and Senator Carole Migden, 6 October 2005).

³⁵ Military bases near NSTI also are in the process of conversion to non-military uses, including Hunters Point Shipyard in San Francisco; Naval Air Station Alameda and Fleet and Industrial Supply Center Annex; and the Oakland Army Base. (Department of the Navy, *NSTI FEIS*, 5-3). Other Bay Area base closures also include the Presidio in San Francisco, Point Molate Naval Supply Center, Mare Island Naval Shipyard, Hamilton Army Airfield in Marin County, and Naval Air Station Moffet Field (FHWA and Caltrans, *East Span FEIS*, 4-169.)

³⁶ Department of the Navy, *NSTI FEIS*, B-1.

³⁷ Urban Land Institute, *Treasure Island Naval Station San Francisco*, 8.

³⁸ City and County of San Francisco, *NSTI DEIR*, 1-3.

³⁹ In addition, approximately 22 acres of naval land was transferred to the U.S. Coast Guard (11 acres in the middle of YBI and 11 acres of submerged land). Approximately 36 acres and 12 structures on Treasure Island were transferred to the U.S. Department of Labor for a jobs corps training center. (Department of the Navy, *NSTI FEIS*, 3.1-12)

⁴⁰ California Department of Transportation, *Land Use Issues Associated with the SFOBB East Span Seismic Safety Project and the Naval Station Treasure Island Draft Reuse Plan* (Oakland: California Department of Transportation, January 2000), 2-1 and 4-12.

⁴¹ The Urban Land Institute reviewed economic feasibility and implementation issues related to the reuse plan at the request of San Francisco. See Urban Land Institute, *Treasure Island Naval Station San Francisco: An Evaluation of Reuse Opportunities and a Strategy for Development and Implementation* (Washington, D.C.: Urban Land Institute, 1996).

⁴² City and County of San Francisco Planning Department, Office of Military Base Conversion, and the San Francisco Redevelopment Agency/prepared by Roma Design Group. *Naval Station Treasure Island (NSTI) Reuse Plan: Draft Plan* (San Francisco: City and County of San Francisco, July 1996), xiv.

⁴³ *Ibid.*, xviii.

⁴⁴ The Navy took a position that Tidelands Trust did not apply to Treasure Island because the land was transferred in 1942 from the City of San Francisco to the Navy because the California legislation authorizing the transfer granted the land “free and clear of all conditions and reservations respecting the title to or use of such lands...” and did not include any trust restrictions or provisions in statute. As a result, the Navy believes that Treasure Island is no longer subject to the trust because of the 1942 transfer. The Navy’s

position on the trust's applicability is contrary to San Francisco's position. (Department of the Navy, *NSTI FEIS*, 3.1-6).

⁴⁵ City and County of San Francisco, *NSTI DEIR*; and California Department of Transportation, *Land Use Issues Associated with the SFOBB East Span Seismic Safety Project and the Naval Station Treasure Island Draft Reuse Plan*, January 2000, 2-3 to 2-4.

⁴⁶ California Department of Transportation, *Land Use Issues Associated with the SFOBB East Span Seismic Safety Project and the Naval Station Treasure Island Draft Reuse Plan*, January 2000, 2-4 and 2-6.

⁴⁷ Some observers of the base's reuse process noted that the developers, Mr. Anderson and Mr. Burkle may have close ties with Mayor Willie Brown and allege that these relationships affected San Francisco's selection of the developer. San Francisco representatives deny such claims. (Ethan Rarick, "Davis is Bay Bridge Pivot," *Contra Costa Times*, 19 February 1999; Chuck Finnie, "Key Brown Allies Eye Treasure Island," *San Francisco Examiner*, 11 June 1998; Dan Levy, "Treasure Island Marina Developers Selected: S.F. mayor's supporters to build \$12 million project," *San Francisco Chronicle* 11 February 1999; and Lisa Vorderbrueggen and Thomas Peele, "The Bay Bridge: Where the Fault Lies, Part 2; Haste Gives Way to Wasted time: Promises of Political Support Evaporate as Yerba Buena and Treasure Islands Changes Hands," *Contra Costa Times*, 4 February 2002)

⁴⁸ City and County of San Francisco, *NSTI DEIR*, xxix.

⁴⁹ Caltrans, *Land Use Issues Associated with the SFOBB East Span Seismic Safety Project and the Naval Station Treasure Island Draft Reuse Plan*, January 2000, 3-5.

⁵⁰ Kenn Y. Parsons, Naval Station Treasure Island, Department of the Navy. Letter to Harry Y. Yahata, Caltrans District 4, 10 March 1997; Mayor Willie L. Brown, Jr., City and County of San Francisco. Letter to Commissioner Mary King, MTC Bay Bridge Design Task Force, 12 June 1997.

⁵¹ Edward Epstein, "S.F. Must Choose between Pet Projects," *San Francisco Chronicle*, 13 November 1997; Philip Matier and Andrew Ross, "Brown Engineers Yet Another Bay Bridge Retrofit Study," *San Francisco Chronicle*, 10 April 2000)

⁵² Harry Y. Yahata, Caltrans District 4. Letter to Mayor Willie L. Brown, Jr., City and County of San Francisco, 17 December 1997.

⁵³ Edward Epstein, "S.F. Mayor Urges Change in Bridge Plan: Brown Worried of Decrease in Yerba Buena Island's Value," *San Francisco Chronicle*, 1 July 1998.

⁵⁴ These discussions took place in response to the federal notice of land availability as well as to fulfill the Bay Bridge project's compliance with the National Historic Preservation Act's Section 106 requirements for historic structures. It appears that Caltrans was trying to fulfill the NHPA requirements for an East Span retrofit while at the same time also requesting land for a new bridge in the event that a new bridge would be built. As evidenced in a few letters between the Navy and Caltrans, this may have led to misunderstandings about noise impacts levels for a bridge retrofit versus during the

construction period as well as how and when noise issues related to a new bridge would be considered. (Joe Browne signed by Tom McDonnell, Caltrans District 4. Letter to Kenn Y. Parsons, Naval Station Treasure Island, Department of the Navy, 10 October 1996; Kenn Y. Parsons, Naval Station Treasure Island, Department of the Navy. Letter to W.R. Till, United States Coast Guard, Eleventh District, 11 February 1997; Harry Y. Yahata, Caltrans District 4 signed by Robert L. Gross. Letter to Kenn Y. Parsons, Department of the Navy, 4 March 1997; Kenn Y. Parsons, Naval Station Treasure Island, Department of the Navy. Letter to Harry Y. Yahata, Caltrans District 4, 24 March 1997.)

⁵⁵ Joe Browne, Caltrans District 4. Letter to Kenn Y. Parsons, Naval Station Treasure Island regarding “R/W (Right of Way) Requirements for San Francisco Oakland Bay Bridge) at Yerba Buena Island,” 28 March 1996; Harry Y. Yahata, Caltrans District 4. Letter to Kenn Y. Parsons, Naval Station Treasure Island, Department of the Navy, 28 January 1997.

⁵⁶ FHWA, as a federal agency, also requested a land transfer on Caltrans’ behalf in March 1997. However, a September 1998 letter from the Navy stated that the Navy never received this request. Federal representatives interviewed on this matter had several different reactions to this oversight ranging from FHWA and Caltrans made a grave error in not tracking this request, to not being surprised that the request was not followed because federal land transfers often take an inordinate amount of time, and the related paperwork could sit on one’s desk for years before a response or follow-up action was made. (A.K. Mockus for Davis H. Densmore, FHWA, Region 8. Letter to Kenn Y. Parsons, Naval Station Treasure Island, Department of the Navy, 13 March 1997; Beverly Freitas, Department of the Navy. Letter to Jeffrey Lindley, Federal Highway Administration, Region 9, 30 September 1998.)

⁵⁷ Kenn Y. Parsons, Naval Station Treasure Island, Department of the Navy to Joe Browne, Caltrans District 4 regarding “Right of Way Requirements for San Francisco Oakland Bay Bridge at Yerba Buena Island,” 15 May 1996.

⁵⁸ Kenn Y. Parsons, Naval Station Treasure Island, Department of the Navy to Harry Y. Yahata, Caltrans District 4, 10 March 1997. Also see Kenn Y. Parsons, Naval Station Treasure Island, Department of the Navy. Letter to Joe Browne, Caltrans District 4, 26 August 1996; and, Kenn Y. Parsons, Naval Station Treasure Island, Department of the Navy, to W.R. Till, United States Coast Guard, Eleventh Coast Guard District, 11 February 1997.

⁵⁹ The first meeting of MTC’s Bay Bridge Design Task Force was held on March 18, 1997 and about a week after the Navy’s March 10, 1997 letter informing Caltrans its land requests were “premature.” (Kenn Y. Parsons, Naval Station Treasure Island, Department of the Navy. Letter to Harry Y. Yahata, Caltrans District 4, 10 March 1997)

⁶⁰ FHWA and Caltrans, *East Span FEIS*, 6-15.

⁶¹The temporary detour location changed in 2003 after completion of the East Span federal environmental impact statement. The detour structure will be a double-deck facility located south of the existing bridge. In effect, the structure will not be located north of the existing bridge and will not be in close proximity to the Senior’s Officers

District. [Federal Highway Administration, United States Department of Transportation and the State of California, Department of Transportation, *Environmental Re-Evaluation #2 East Span Seismic Safety Project in San Francisco and Alameda Counties* (Sacramento, California: Federal Highway Administration, 2003)]

⁶² The approximate vertical distance to the Nimitz House at the closest point is 37 meters (120 feet) from the existing bridge, a new bridge or the temporary detour structures (FHWA and Caltrans, *East Span FEIS*, 6-15).

⁶³ Harry Y. Yahata, Caltrans District Director. Letter to Colonel Robert A. Bonadio (ret.), Carlsbad, 12 March 1999

⁶⁴ Mayor Willie L. Brown, Jr., City and County of San Francisco. Letter to Commissioner Mary King, MTC Bay Bridge Design Task Force, 12 June 1997.

⁶⁵ The Transbay Terminal's 1997 cost estimate was \$125 million, which did not include the ramp work between the Bay Bridge and the Terminal. The estimated capital cost in 2003 dollars for a new terminal with a west ramp and tunnel to the Caltrain Downtown Extension was estimated at \$1.75 billion (Mayor Willie L. Brown, Jr., City and County of San Francisco. Letter to Commissioner Mary King, MTC Bay Bridge Design Task Force, 21 July 1997; Federal Transit Administration, *Transbay Terminal, Caltrain Downtown Extension EIS/EIR*, 6-1).

⁶⁶ Erin McCormick, "Bay Bridge Task Force Pushes for Spiffy Span," *San Francisco Examiner*, July 24, 1997.

⁶⁷ The Transbay Terminal is considered a contributory element of the Bay Bridge and is listed on the National Register of Historic Places with the bridge's west and east spans. The Bay Bridge was listed on the NRHP on August 13, 2001 (Federal Transit Administration, *Transbay Terminal, Caltrain Downtown Extension EIS/EIR*, 5-90 to 5-91).

⁶⁸ Metropolitan Transportation Commission, Planning and Design Recommendations, Bay Bridge Eastern Span, Oakland, CA: Metropolitan Transportation Commission, 30 July 1997.

⁶⁹ California Transportation Commission, *Transcript of May 11, 2000 meeting*, 3.

⁷⁰ Contra Costa Transportation Authority (CCTA), Resolution 97-18-P, "A Resolution in Support of Replacing the 1937 East Span of the San Francisco-Oakland Bay Bridge for Public Safety and Environmental Benefits," March 21, 1997. In Robert K. McCleary, CCTA to Letter to Commissioner Mary King, MTC Bay Bridge Design Task Force, 27 May 1997.

⁷¹ Peter Fimrite, "Bay Bridge Alignment Plan Goes to Governor: 10-Year Toll Increase is Part of Package," *San Francisco Chronicle*, 31 July 1997.

⁷² Ronna Abramson, "Commission will weigh move of S.F. Bus Terminal," *Oakland Tribune*, 13 May 1998.

⁷³ Erin McCormick, "Bay Bridge Task Force Pushes for Spiffy Span," *San Francisco Examiner*, 24 July 1997.

⁷⁴ Senate Bill 60 of 1997 specifically allowed funding for the Transbay Terminal's replacement or relocation. It did not permit toll funds to be expended on facility renovation. According to Steve Heminger of MTC, "We can only use that money for relocating or replacing the terminal. If we don't do either of those things, the question is do you renovate the building where it is?" Highly controversial debates erupted between San Francisco and East Bay cities and transit agencies, such as AC Transit, over whether the Terminal should be replaced, renovated or relocated and whether the terminal access ramps should be retrofitted or removed. In addition, there was much debate over whether the existing Terminal facility should undergo a short-term \$13 million seismic safety retrofit as recommended by Caltrans. (Robert Oakes, "Plans for Transbay Terminal," *Contra Costa Times*, 9 March 1998).

As of March 2004, Caltrans has been the owner and operator of the Transbay Terminal. Mayor Brown initially sought the Terminal's relocation, but then reversed his position in December 1998 and agreed that it could remain at the current location. This decision also was related to the long proposed extension of Caltrain, a heavy rail line that operates on the San Mateo Peninsula to San Francisco and which is approximately 1 mile short of reaching the Transbay Terminal. Many have advocated that Caltrain should be extended closer to San Francisco's downtown and that the existing terminal was the logical location because it would be closer to Market Street and could be linked in the future to BART and Muni Metro, San Francisco's light rail line. In September 1999, MTC approved \$550,000 in funding to evaluate the Transbay Terminal as part of the SB 60 amenities budget. It also approved a \$2 million study for a pedestrian/bicycle pathway on the Bay Bridge's West Span and \$1 million for five rest areas ("belvederes") for the East Span's pathway. (Federal Transit Administration, *Transbay Terminal, Caltrain Downtown Extension EIS/EIR*, 1-9 and 8-8; Tyche Hendricks, "Writing a Wish List for Transbay Terminal: Transit Advocates offer Ideas at Forum," *San Francisco Examiner*, 13 January 1999; and Bay Area Bridge Toll Authority Resolution Number 19, September 22, 1999, in Steve Heminger, Deputy Executive Director, Bay Area Toll Authority/MTC. Letter to Harry Yahata, Caltrans, District Director, 23 September 1999).

⁷⁵ Mayor Willie L. Brown, Jr., City and County of San Francisco. Letter to Governor Pete Wilson, 5 September 1997; Mayor Willie L. Brown, Jr., City and County of San Francisco. Letter to James van Loben Sels, Caltrans, 5 September 1997.

⁷⁶ The TIDA legislation, Assembly Bill 669, amended California Health and Safety Code (Section 33492.5) and added Section 2.1 to Chapter 1333, Statutes of 1968. (City and County of San Francisco, *NSTI DEIR*, 1-12).

⁷⁷ Others speculated that Mayor Willie Brown had development ideas of his own and have alleged that the authority was created to channel business to developers and board members. After AB 669's enactment, Proposition K of 1998 passed in the City/County of San Francisco and limited the authority of the Treasure Island Development Authority. Then-Senator Quentin Kopp and Clint Reilly, a political consultant, led the local ballot initiative. (Dan Walters, "New Plans for Treasure Island," *Oakland Tribune*, 23 November 1998; Chuck Finnie, "Key Brown allies eye Treasure Island," *San Francisco Examiner*, 11 June 1998)

⁷⁸ California Department of Transportation, record of meeting, *San Francisco-Oakland Bay Bridge Seismic Safety Project, Interagency Coordination Meeting with the City and County of San Francisco, 28 October 1997*, n.d., 3.

⁷⁹ California Department of Transportation, record of meeting, *San Francisco-Oakland Bay Bridge Seismic Safety Project, Interagency Coordination Meeting with the City and County of San Francisco, 20 November 1997*, n.d., 3.

⁸⁰ Annemarie Conroy replaced Larry Florin who was the City of San Francisco's redevelopment director and oversaw Treasure Island development plans prior to the creation of TIDA. (Chuck Finnie and Gregory Lewis, "Ex-Supe to Head Panel on Treasure Island," *San Francisco Examiner*, 10 March 1998). One of Conroy's first Bay Bridge meetings with Caltrans was on March 30, 1998 at an Interagency Coordination Meeting with the City and County of San Francisco. (Harry Y. Yahata signed by Denis J. Mulligan, Caltrans District 4. Letter to Annemarie Conroy, Treasure Island Project Office, City of San Francisco, 12 March 1998; California Department of Transportation, record of meeting, *San Francisco-Oakland Bay Bridge Seismic Safety Project, Interagency Coordination Meeting with the City and County of San Francisco, March 30, 1998*, n.d.)

⁸¹ California Department of Transportation, record of meeting, *San Francisco-Oakland Bay Bridge Seismic Safety Project, Interagency Coordination Meeting with the City and County of San Francisco, March 30, 1998*, n.d.; California Department of Transportation, record of meeting, *San Francisco-Oakland Bay Bridge Seismic Safety Project, Interagency Coordination Meeting with the City and County of San Francisco, April 27, 1998*, n.d.; California Department of Transportation, record of meeting, *San Francisco-Oakland Bay Bridge Seismic Safety Project, Interagency Coordination Meeting with the City and County of San Francisco, June 8, 1998*, n.d.; and California Department of Transportation, record of meeting, *San Francisco-Oakland Bay Bridge Seismic Safety Project, Project Development Team Meeting, July 6, 1998*, n.d., 5.

⁸² In this letter, Mayor Willie Brown asks that issues such as the Transbay Terminal also be postponed "until regional consensus is reached." (Mayor Willie L. Brown, Jr., City and County of San Francisco. Letter to Commissioner Mary King, MTC Bay Bridge Design Task Force, 22 June 1998)

⁸³ Dale Carlson, Treasure Island Development Authority. Letter to Commissioners James Spring and Mary King, MTC Bay Bridge Design Task Force, 23 June 1998.

⁸⁴ Alex Barnum and Laura Hamburg, "Pitch to Delay Bridge Design Vote Fizzles: Task Force Majority Ready to Go," *San Francisco Chronicle*, 20 June 1998.

⁸⁵ Edward Epstein, "S.F. Mayor Urges Change in Bridge Plan: Brown Worried of Decrease in Yerba Buena Island's Value," *San Francisco Chronicle* 1 July 1998.

⁸⁶ A Caltrans' interagency meeting record confirms MTC's near north alignment recommendation. (California Department of Transportation, record of meeting, *San Francisco-Oakland Bay Bridge Seismic Safety Project, Project Development Team Meeting, July 6, 1998*, n.d., 5)

⁸⁷ With respect to the Transbay Terminal, MTC set aside \$89 million but recommended that a study be completed to further evaluate whether the facility should be relocated or renovated (Lawrence D. Dahms, Metropolitan Transportation Commission. Memorandum to Bay Bridge Design Task Force regarding “Staff Recommendations on Bay Bridge Design and Amenities,” 17 June 1998).

⁸⁸ Mayor Willie L. Brown, Jr., City and County of San Francisco. Letter to Harry Yahata, Caltrans District 4 regarding “Draft Environmental Impact Statement (DEIS) for the San Francisco-Oakland Bay Bridge East Span Seismic Safety Project,” 23 November 1998, in FHWA and Caltrans *East Span FEIS*, vol. II, 1-212.

⁸⁹ The consulting firm, the Sedway Group, performed the preliminary economic analysis (Alan C. Billingsley and Elizabeth Allen Puccinelli, Sedway Group, San Francisco. Letter to Annemarie Conroy, Treasure Island Development Authority, 12 November 1998 in FHWA and Caltrans *East Span FEIS*, vol. 2, 1-229 to 1-230; and Annemarie Conroy, Treasure Island Project, City and County of San Francisco. Memorandum to Mayor Willie L. Brown, Jr., City and County of San Francisco regarding “Response to Caltrans’ Draft EIS on the New East Span of the Bay Bridge,” 23 November 1998)

⁹⁰ An earlier San Francisco-commissioned study done in June 1998 estimated that the potential revenue loss to San Francisco was \$12.8 million (\$1.2 million annually), which is “approximately 20% of the projected total revenue within the first three phases, or fifteen years, of the project.” (Richard Berkson, Economic and Planning Systems, Berkeley, California. Memorandum to Annemarie Conroy, Treasure Island Development Authority regarding “Potential Financial Impacts of Bay Bridge Project, EPS #7292,” 19 June 1998.)

⁹¹ Duncan L. Jones, Korve Engineering, Oakland. Letter to Annemarie Conroy, Treasure Island Development Authority regarding “Bay Bridge Modified S-1 Alignment,” 22 November 1998, 1, in FHWA and Caltrans *East Span FEIS*, vol. 2, 1-229 to 1-230.

⁹² Edward Epstein, “Brown Touts Fiscal Fitness of New Bay Bridge Plan: Critics Warn of Big Delays, Greater Costs,” *San Francisco Chronicle*, 2 November 1998.

⁹³ Patrick L. Williams, Berkeley, CA. Letter to Mara Melandry, Caltrans District 4, 23 November 1998, in FHWA and Caltrans *East Span FEIS*, vol. 2, 1-229 to 1-230.

⁹⁴ Annemarie Conroy, Treasure Island Project, City and County of San Francisco. Memorandum to Mayor Willie L. Brown, Jr., City and County of San Francisco regarding “Response to Caltrans’ Draft EIS on the New East Span of the Bay Bridge,” 23 November 1998

⁹⁵ Robert B. Pirie, Jr., Assistant Secretary, Department of the Navy to Mara Melandry, Caltrans District 4, 23 November 1998, in FHWA and Caltrans, *East Span FEIS*, vol. 2, 1-72.

⁹⁶ Caltrans District 4, press release, “Caltrans Identifies Northern Suspension Bridge as Preferred Alignment for Bay Bridge Seismic Project,” 28 December 1998.

⁹⁷ FHWA and Caltrans, *East Span FEIS*, vol. 2, 108.

⁹⁸ FHWA, *East Span Record of Decision*, 5.

⁹⁹ Venise Wagner, "Caltrans Oks Bridge Plan City Opposes," *San Francisco Examiner*, 29 December 1998

¹⁰⁰ Carl Nolte, "Caltrans Pushes Bay Bridge Plan that S.F., Oakland Oppose," *San Francisco Chronicle*, 29 December 1998.

¹⁰¹ Mr. Medina replaced Caltrans Director James van Loben Sels who had been appointed to this position by Governor Wilson in 1991. Jeff Morales later replaced Director Medina in April 2000. (Lisa Vorderbrueggen and Thomas Peele, "Bay Bridge Milestones," *Contra Costa Times*, 3 February 2002). Of the Medina appointment, San Francisco Supervisor Michael Yaki observed, "There's a delicious irony in the fact that the day after Caltrans' director tells the mayor (Willie Brown) to take a flying leap off the Bay Bridge, he's replaced by one of our own." Concerned that he might be perceived as too loyal to San Francisco, Medina comments, "I will be working for Governor Davis and implementing his policies. I'll be taking my direction from him. But I will be sensitive to the needs of The City." (Robert Salladay and Ray Delgado, "Medina to Run Caltrans for Davis," *San Francisco Examiner*, 31 December 1998.)

¹⁰² Susan Gard, "Cal-Trans bay Bridge Task Force," n.d., 29. Attachment to Harry Y. Yahata, Caltrans District 4 signed by Steven L. Hulsebus. Letter to Steve Heminger, Metropolitan Transportation Commission, 8 March 1999. The attachment by Susan Gard are transcripts for the January 13, 1999 Bay Bridge Design Task Force meeting.

¹⁰³ Carl Nolte, "S.F. Fails to Sway Panel on Routing Bay Bridge to the South: Task Force isn't Moved by Presentation for Another Design," *San Francisco Chronicle*, 25 February 1999.

¹⁰⁴ Stephen Green, "Dissent on Alignment, Design stalls new Bay Bridge Span" *Sacramento Bee*, 9 August 1999.

¹⁰⁵ Susan Gard, "Cal-Trans bay Bridge Task Force," n.d. Attachment to Harry Y. Yahata, Caltrans District 4 signed by Steven L. Hulsebus. Letter to Steve Heminger, Metropolitan Transportation Commission, 8 March 1999. The attachment by Susan Gard are transcripts for the January 13, 1999 Bay Bridge Design Task Force meeting.

¹⁰⁶ Annemarie Conroy, Treasure Island Development Authority. Letter to Harry Yahata, Caltrans District 4, 8 February 1999

¹⁰⁷ Charles W. Foster, Port of Oakland. Letter to Commissioner Mary King, MTC Bay Bridge Design Task Force, 23 February 1999.

¹⁰⁸ Chair Charles Abrams, Contra Costa Transportation Authority. Letter to Commissioner Mary King, MTC Bay Bridge Design Task Force, 18 February 1999; Chair Jane Bartke, Association of Bay Area Governmental Legislation Organization. Letter to Commissioner James P. Spering, MTC, 23 February 1999; Supervisor Mary Griffin, San Mateo County Board of Supervisors. Letter to Steve Heminger, Metropolitan Transportation Commission, 24 February 1999; Jim Jakel, Contra Costa Council. Letter to Jose Medina, California Department of Transportation, 19 February 1999.

¹⁰⁹ The Solano Transportation correspondence included STA board resolution 99-05 that supported proceeding with MTC selected bridge design and alignment. The resolution

states, "...1990 Census survey travel data estimate that 80% of the commuters using the Bay Bridge originate in the East Bay and Solano County—Alameda County, 40.9%, Contra Costa County, 32.5%, and Solano 6.5%." (Michelle Morris Brubaker, Solano Transportation Authority. Letter to Commissioner Mary King, MTC Bay Bridge Design Task Force, 16 February 1999.)

¹¹⁰ Philip Matier and Andrew Ross, "Bay Bridge Redesign Plan May Get Stuck in the Muck," *San Francisco Chronicle*, 1 March 1999.

¹¹¹ Mayor Willie L. Brown, Jr., City and County of San Francisco. Letter to Assemblyman Tom Torlakson, Assembly Transportation Committee, 5 April 1999; Eric Brazil, *San Francisco Examiner*, "Mayor Sides with Engineer: Caltrans Bridge Plan Unsafe," 16 March 1999.

¹¹² Edward Epstein, "S.F. Mayor Blasts Bridge Plan: Willie Brown says Approved Span will Fall in Big Quake," *San Francisco Chronicle*, 17 March 1999.

¹¹³ Tyche Hendricks, "Panel Cool to City's Ideas on Bay Bridge: Advisory Board not Impressed by Development Worries," *San Francisco Examiner*, 25 February 1999.

¹¹⁴ Ronna Abramson, "Retrofit Re-enters Debate on New Bay Bridge Span," *San Mateo County Times*, 15 April 1999.

¹¹⁵ Tyche Hendricks, "Panel Cool to City's Ideas on Bay Bridge: Advisory Board not Impressed by Development Worries," *San Francisco Examiner*, 25 February 1999.

¹¹⁶ City and County of San Francisco prepared by J. Muller International, *East Bay Bridge Modified S-1 Alignment Structure Evaluation*, n.d., 7. in Mayor Willie L. Brown, Jr., City and County of San Francisco. Letter to Governor Gray Davis, State of California 4 May 1999.

¹¹⁷ City and County of San Francisco prepared by J. Muller International, *East Bay Bridge Modified S-1 Alignment Structure Evaluation*, n.d., 4 in Mayor Willie L. Brown, Jr., City and County of San Francisco. Letter to Governor Gray Davis, State of California, 4 May 1999.

¹¹⁸ Edward Epstein, "New Study Says S.F. Bridge Plan Would Cost Less," *San Francisco Chronicle*, 6 May 1999.

¹¹⁹ Harry Y. Yahata, Caltrans District 4 to Mayor Willie L. Brown, Jr.. City and County of San Francisco, 28 May 1999.

¹²⁰ California Department of Transportation, *San Francisco-Oakland Bay Bridge East Span Seismic Safety Project: CCSF S-1 Modified Alignment and the Impacts to the EBMUD Sewer Outfall*, (Oakland: California Department of Transportation, November 1999), 39.

¹²¹ *Ibid.*, 39.

¹²² Michael Cabanatuan, "Navy, Willie Blasted for Delay on Bay Bridge Span," *San Francisco Chronicle*, 9 September 1999. Also see Harry Y. Yahata by Nick Fiorentinos, Caltrans District 4 to Kenn Parsons, Naval Station Treasure Island, Department of the Navy, 19 August 1999.

¹²³ Captain Ernest R. Hunter, Commanding Officer, Department of the Navy. Letter to Harry Y. Yahata, Caltrans District 4, 2 December 1998.

¹²⁴ Carolyn McMillan, "Navy Blocks Work for New Span," *Contra Costa Times*, 29 December 1998.

¹²⁵ Governor Gray Davis, State of California. Letter to Secretary Richard Danzig, Department of the Navy, 18 July 1999.

¹²⁶ Commissioner Mary V. King, MTC Bay Bridge Design Task Force. Letter to President William Jefferson Clinton, 9 September 1999.

¹²⁷ Steve Heminger, Metropolitan Transportation Commission. Memorandum to Bay Bridge Design Task Force regarding "East Span Update," 26 April 2000.

¹²⁸ An earlier iteration of federal mediation also occurred with the federal Council on Environmental Quality (CEQ) who oversaw the effort. The CEQ is housed in the Executive Office of the President and was created by the National Environmental Policy Act of 1968. According to the federal government, the CEQ "oversees federal agency implementation of the environmental impact assessment process; (and) acts as a referee when agencies disagree over the adequacy of such assessments." (White House, "Council of Environmental Quality," <http://www.whitehouse.gov/ceq/>; Robert F. Tally, Jr., FHWA. Facsimile to Annemarie Conroy, Treasure Island Development Authority, "January 27, 1999 CEQ Meeting Notes," 17 February 1999; and Annemarie Conroy, Treasure Island Development Authority. Letter to Robert Tally, Federal Highway Administration, 9 March 1999.)

¹²⁹ Steve Geissinger, "Governor: Bay Bridge Knot Untied" *Oakland Tribune*, 23 December 1999.

¹³⁰ The first NEC meetings on the Bay Bridge project appear to have been held in Summer 1999. (Dorothy Robyn, National Economic Council. Memorandum to unlisted Distribution List regarding "Bay Bridge Replacement Project," 1 September 1999; Joan Rummelsberg, Treasure Island Project, City and County of San Francisco. Memorandum to Mayor Willie L. Brown, Jr., City and County of San Francisco regarding "Update on Recent Events regarding Proposed East Span of the Bay Bridge," 14 October 1999.)

¹³¹ U.S. Army Corps of Engineers, *Letter Report: Assessment of the San Francisco-Oakland Seismic Replacement Project's Impact on the EBMUD Sewer Outfall*, 6 January 2000, 39.

¹³² Lisa Vorderbrueggen, "Realigning Span could Hike Costs," *Contra Costa Times*, 5 February 2000.

¹³³ *Ibid.*

¹³⁴ *Ibid.*

¹³⁵ Philip Matier and Andrew Ross, "Brown Engineers Yet Another Bay Bridge Retrofit Study," *San Francisco Chronicle*, 4 October 2000.

¹³⁶ U.S. Army Corps of Engineers, *Interim Final Report: Evaluation and Assessment of Proposed Alternatives to Retrofit/Replace the East Span of the San Francisco-Oakland Bay Bridge*, 22 September 2000, 17-19.

¹³⁷ The Corps further stated, “(T)he use of an isolation system appears unreasonable. Documents submitted for review (by Caltrans) do not demonstrate why a flexible structure with low seismic force demands should be stiffened by concrete encasement and then softened back to its original condition using isolation bearings. Computer analyses of the isolated bridge are based on unrealistic modeling and input assumptions and they provide limited results. The validity and effectiveness of the isolation retrofit strategy has not been demonstrated.” (U.S. Army Corps of Engineers, *Final Report: Evaluation and Assessment of Proposed Alternatives to Retrofit/Replace the East Span of the San Francisco-Oakland Bay Bridge*, October 27, 2000, 13.)

¹³⁸ *Ibid.*, Appendix 9, 1.

¹³⁹ *Ibid.*, Appendix 6, 7.

¹⁴⁰ An SEE measure is a probabilistic approach at measuring ground motions with a return period of 1500 years for the Bay Bridge. According to Caltrans, an SEE is “an earthquake that generates the largest motions expected to occur at a site within an established time period.” An MCE method takes a deterministic approach at measuring ground motions from a maximum earthquake. Caltrans states that an MCE is “the largest earthquake reasonably occurring based on current geological knowledge.” [FHWA and Caltrans, *East Span FEIS*, D-5, D-7, K-1 to K-2. Also see Ad Hoc Committee on Seismic Ground Motions (chairman, Bruce A. Bolt with members Norman Abrahamson, Roger Borchardt, Joseph Penzien). Memorandum to Joseph Nicoletti, Engineering and Design Advisory Panel, MTC, 7 December 2000. In Denis J. Mulligan, Caltrans District 4. Letter to Colonel Michael J. Walsh, District Engineer, U.S. Army Corps of Engineers, 27 December 2000.]

¹⁴¹ U.S. Army Corps, *Final Report: East Span*, 4.

¹⁴² Sean Holstege, “Doubts on Safety of Bridge Rise Anew: Eastern span Remains on Track, Caltrans Says,” *Oakland Tribune*, 28 October 2000.

¹⁴³ Denis J. Mulligan, Caltrans. Letter to Colonel Michael J. Walsh, U.S. Army Corps of Engineers, 27 December 2000. Attached to this letter was Ad Hoc Committee on Seismic Ground Motions (chairman, Bruce A. Bolt with members Norman Abrahamson, Roger Borchardt, Joseph Penzien). Memorandum to Joseph Nicoletti, Engineering and Design Advisory Panel, MTC, 7 December 2000, 6.

¹⁴⁴ Lisa Vorderbrueggen and Thomas Peele, “The Bay Bridge: Where the Fault Lies. Bridge Work Begins, Questions Remain, Navy, S.F. Stall Test Bores, Alter Construction,” *Contra Costa Times*, 5 February 2002.

¹⁴⁵ The land transfer’s announcement occurred in October 2000 and just prior to the Corps releasing the second part of its study. In May 2000, the FHWA wrote the Navy and stated that it had begun to initiate the land transfer process and that the Navy had agreed to this process (Michael G. Ritchie, FHWA Division, Region 9. Letter to Captain G.J. Buchanan, Department of the Navy, 19 May 2000).

- ¹⁴⁶ Michael G. Ritchie, FHWA Division, Region 9. Letter to Captain G.J. Buchanan, Department of the Navy, 10 October 2000; Title 23, Section 107 (d) (United States statute is available at <http://uscode.house.gov/uscode-cgi/>, 12 January 2005);
- ¹⁴⁷ Of the approximately 98 acres of YBI land transferred to Caltrans, 28 acres are on dry land and 69 acres are on submerged land. The permanent aerial easements are over two buildings (the Nimitz House, Quarters 1 and the Torpedo Building, Building #262) and comprise 0.6 acre. (City and County of San Francisco, *NSTI DEIR*, 1-5; and Department of the Navy, *NSTI FEIS*, 11-4.)
- ¹⁴⁸ California State Auditor, Bureau of State Audits, *California Department of Transportation: Seismic Retrofit Costs of State-owned Toll Bridges Have Significantly Exceeded the Department's Original Estimates and May Go Even Higher*, report no. 2001-122 (Sacramento: Bureau of State Audits, August 2002), 25.
- ¹⁴⁹ Caltrans, press release, "State Advances Construction of New Bay Bridge East Span," 12 July 2001.
- ¹⁵⁰ Dorothy Robyn, National Economic Council. Email Correspondence to John Podesta and Mickey Ibarra, White House staff regarding "FYI: Oakland-SFO Bay Bridge Replacement Project," 1 September 1999.
- ¹⁵¹ Lisa Vorderbrueggen and Thomas Peele, "The Bay Bridge: Where the Fault Lies, Part 3," *Contra Costa Times*, 5 February 2002.
- ¹⁵² FHWA and Caltrans, *East Span FEIS*, S-17.
- ¹⁵³ California State Senator Don Perata and Senator Carole Migden. Letter to Will Kempton, California Department of Transportation and Commissioner Jon Rubin, Metropolitan Transportation Commission/BATA, 30 August 2005; Will Kempton, California Department of Transportation and Commissioner, Jon Rubin, Metropolitan Transportation Commission/BATA. Letter to Senator Don Perata and Senator Carole Migden, 6 October 2005.
- ¹⁵⁴ Department of the Navy, *NSTI FEIS*, 11-35.
- ¹⁵⁵ *Ibid.*, 11-4.
- ¹⁵⁶ Jeffrey L. Pressman and Aaron Wildavsky, *Implementation: How Great Expectations in Washington are Dashed In Oakland*, Berkeley: University of California Press, 1984.
- ¹⁵⁷ Susan Gard, "Cal-Trans bay Bridge Task Force," n.d., 35. Attachment to Harry Y. Yahata, Caltrans District 4 signed by Steven L. Hulsebus. Letter to Steve Heminger, Metropolitan Transportation Commission, 8 March 1999. The attachment by Susan Gard to the March 8, 1999 Caltrans letter are transcripts for the January 13, 1999 Bay Bridge Design Task Force meeting.
- ¹⁵⁸ Robert Salladay, "Caltrans, Navy Feud over Site of Bay Bridge," *San Francisco Examiner*, 10 May 1999.
- ¹⁵⁹ *Ibid.*
- ¹⁶⁰ California Transportation Commission, *Transcript of May 11, 2000 Meeting*, 9-10.

¹⁶¹ Ibid., 12.

¹⁶² Harry Y. Yahata signed by Robert L. Gross, Caltrans District 4. Letter to Kenn Parsons, Naval Facilities Engineering Command, Department of the Navy, 4 March 1997.

¹⁶³ CTC Commissioner Jim Kellogg, then acting chair of CTC similarly commented, “The bottom line is: There is a designed bridge that he was supportive of, he was part of until he got some ideas about developing Yerba Buena Island” (*Oakland Tribune*, editorial, “Another Bay Bridge Delay is no Surprise,” 9 May 2000). Developer influence also is speculated on in the following news articles: Ethan Rarick, “Davis is Bay Bridge Pivot,” *Contra Costa Times*, February 19, 1999; Lisa Vorderbrueggen and Thomas Peele “The Bay Bridge: Where the Fault Lies, Part 2; Haste Gives Way to Wasted time: Promises of Political Support Evaporate as Yerba Buena and Treasure Islands Changes Hands,” *Contra Costa Times*, 4 February 2002; and Chuck Finnie, “Key Brown allies eye Treasure Island,” *San Francisco Examiner*, 11 June 1998.

¹⁶⁴ Ronna Abramson, “Navy Weighs in Against Bridge’s East Span Site,” *Oakland Tribune*, 29 December 1998. Also see Robert Salladay, “Caltrans, Navy Feud over Site of Bay Bridge,” *San Francisco Examiner*, 10 May 1999.

¹⁶⁵ Stephen Green, “Dissent on Alignment, Design stalls new Bay Bridge Span,” *Sacramento Bee*, 9 August 1999.

¹⁶⁶ Michael Cabanatuan, “Navy, Willie Blasted for Delay on Bay Bridge Span,” *San Francisco Chronicle*, 9 September 1999.

¹⁶⁷ Ibid.

¹⁶⁸ Mike Adamick, “Gubernatorial trio holds little back,” *Contra Costa Times*, 15 January 2005. Similarly, Philip Matier and Andrew Ross of the *San Francisco Chronicle* wrote, “The tug-of-war—which has gone all the way to the White House—started in 1998, when Mayor Brown found out that Caltrans’ plan didn’t include about \$25 million for new access ramps to Treasure Island. When the state didn’t act fast enough, the mayor dug in his heels joining with East Bay mayors in a call for a train line to be added to the bridge. But then a \$325,000 study by the Metropolitan Transportation Commission found that adding rail would cost an extra \$3 billion. Undeterred, the mayor and the Navy then argued that the new span should be moved a little to the south, because Caltrans plan would destroy ‘historic’ buildings on the island and disrupt Brown’s plans to build a bed and breakfast hotel, a brew pub and conference center.” (Philip Matier and Andrew Ross, “Brown Engineers yet another Bay Bridge Retrofit Study,” *San Francisco Chronicle*, 10 April 2000.)

¹⁶⁹ KRON-TV, produced by Ken Swartz, “Gridlocked: The Bay Bridge Fiasco,” 13 April 2005.

CHAPTER 5 — PEDDLING FOR A BICYCLE AND PEDESTRIAN PATHWAY

¹ As discussed in Chapter 3, Senate Bill 60 of 1997 allowed MTC to select the bridge design as well fund additional bridge components, called “amenities” which included a pathway, a signature tower, and improvements to the Transbay Terminal.

² Caitlin Roper, “Crossing the Bay Bridge Without a Car” *Transactions* (Oakland: Metropolitan Transportation Commission), September 1999.

³ The Bay Bridge pathway also is included in the Bay Trail Project, which will be a 400-mile network of bicycle and hiking trails that cross the San Francisco and San Pablo Bays. (Niko Letunic, Association of Bay Area Governments. Letter to Mara Melandry, Caltrans, 23 November 1998 in *FHWA and Caltrans, East Span FEIS*, vol. 2, 1-264 to 1-265.

⁴ Bike the Bridge! Coalition notice of an MTC Bay Bridge Task Force public hearing meeting held on May, 8 1997 in San Francisco, <http://guest.xinet.com/bike/access/sfobb/doi.html>

⁵ D. Mark Abrahams. Letter to Metropolitan Transportation Commission, 19 June 1998.

⁶ Ethan Rarick, “Cyclists Push for Bike Path on Bay Bridge, Obstacles: Caltrans says lane costly, tough to build on part of span,” *San Jose Mercury News*, 27 April 1997.

⁷ *Oakland Tribune*, editorial, “Take that Bike Path All the Way,” 24 February 1997.

⁸ Harold Gillem, “Back to Bikes,” *San Francisco Chronicle/Examiner*, 20 March 1988; Jack Spencer, Oakland. Letter to California Senator Quentin Kopp, July 22, 1992; and Jack Spencer, Oakland. Memorandum to Alex Zuckermann, East Bay Bicycle Coalition, 16 December 1992.

⁹ Ronna Abramson, “Bicyclists Lobby for Bay Bridge Access,” *Oakland Tribune*, 19 May 1997.

¹⁰ David T. Lui, San Francisco, letter to the editor, *San Francisco Chronicle*, 7 July 1998.

¹¹ In November 1997, about midway through the MTC design process, Bay Bridge Bicycle/Pedestrian Advisory Committee members included: Alex Zuckermann, Steven Bodzin, Stan Bukowski, David Burch, John Ciccarella, Victoria Eisen, Doug Faunt, Michael Katz, Jason Meggs, Robert Raburn. In later correspondence participants were identified as representatives of the Regional Bicycle Advisory Committee, East Bay Area Trails Council, East Bay Bicycle Coalition, San Francisco Bicycle Coalition, Bike the Bridge! Coalition, Bicycle-Friendly Berkeley Coalition, California Bicycle Advocates, Stanford University Bicycle Program, the Bay Area Air Quality Management District and the Association of Bay Area Governments/Bay Trail project (Bay Bridge Bicycle/Pedestrian Advisory Committee. Letter to Commissioner Mary King, MTC Bay Bridge Design Task Force, 12 November 1997; and Victoria Eisen, Association of Bay Area Governments and Bay Bridge Bicycle/Pedestrian Advisory Committee. Memorandum to MTC Bay Bridge Design Task Force, 11 February 1998).

¹² Initial BPAC co-chairs were Alex Zuckermann of REBAC and Victoria Eisen of ABAG. Subsequent co-chairs were Mr. Zuckerman and Gabriel Brovedani.

¹³ Although the committee disbanded at the end of the design process, some committee members among others are monitoring the design and construction process. They also were “standing ready to mobilize” if the pathway were under subject to possible elimination due to the larger project’s rising costs or designed contradictory to their understanding of it.

¹⁴ Caitlin Roper, “Crossing the Bay Bridge Without a Car,” *Transactions* (Oakland: Metropolitan Transportation Commission), September 1999.

¹⁵ Although numerous people were heavily involved in the pathway effort, several interviewees and newspaper accounts credited a substantial amount of bicycle advocacy to Jason Meggs, a co-founder of the Bike the Bridge! Coalition. One interviewee labeled him as a “media genius” and another observed that at MTC meetings replete with elected officials and key staff, the media would gather around Meggs rather than the officials.

¹⁶ This tally was not a formal survey and some individuals may have provided multiple responses that could be included in the results. [“Final Count: Public Comments to Bay Bridge Design Task Force Received from 3/18/97 through 6/16/97” in Steve Heminger, Metropolitan Transportation Commission. Memorandum to MTC Bay Bridge Design Task Force, 17 June 1997 (Agenda item no. 4, June 24, 1997 MTC Bay Bridge Design Task Force meeting)]

¹⁷ Victoria Eisen, Association of Bay Area Government. E-mail correspondence to BPAC and others regarding “Bay Bridge Site Visit?” 9 April 1998.

¹⁸ *Oakland Tribune*, editorial, “Take that Bike Path All the Way,” 24 February 1997; *San Francisco Chronicle*, editorial, “Bay Bridge Bike Lanes?” 7 April 1997.

¹⁹ Bike the Bridge! Coalition *Bugle Newsletter* #4, “Bay Bridge Urgency: Letters from Everyone Needed Now!” <http://guest.xinet.com/bike/bugle/bugle4.htm>

²⁰ The groups that specifically hired consultant, Steven Grover, were Bike the Bridge! Coalition, East Bay Bicycle Coalition, San Francisco Bicycle Coalition, Bicycle Friendly Berkeley Coalition. (Steven Grover & Associates, *Bike/Pedestrian Path Design Considerations: The San Francisco-Oakland Bay Bridge East Span*, Berkeley, California, 24 May 1998)

²¹ The other two amenities eligible for funding through the signing of SB 60 of 1997 were the signature span tower and the Transbay Terminal. As discussed later in this chapter, the west span’s bicycle/pedestrian pathway also became an eligible expense under separate legislation, AB 2038 of 1998.

²² Metropolitan Transportation Commission, Planning and Design Recommendations, Bay Bridge Eastern Span (Oakland, CA: MTC), 30 July 1997; and Ronna Abramson, “Officials Agree to Extend Toll Hike by 2 years to Improve Bay Bridge,” *Oakland Tribune*, 31 July 1997.

²³ Bay Bridge Bicycle/Pedestrian Advisory Committee, “Bay Bridge Bicycle/Pedestrian Advisory Committee Pathway Recommendation to the Engineering and Design Advisory Panel, May 29, 1998,” 29 May 1998.

- ²⁴ Jason Meggs, Bike the Bridge! Coalition. Email correspondence to Steven Eric Bodzen and others regarding “Spit in the face/Re: Bay Bridge Experience priority list,” 28 May 1998.
- ²⁵ Jason Meggs, Bike the Bridge! Coalition. Letter to MTC Engineering and Design Advisory Panel, 29 May 1998.
- ²⁶ Lawrence D. Dahms, Metropolitan Transportation Commission. Memorandum to Bay Bridge Design Task Force regarding “Engineering and Design Advisory Panel (EDAP) Recommendations, 4 June 1998 (Agenda Item no. 2, MTC Bay Bridge Design Task Force June 10, 1998 meeting)
- ²⁷ Ibid.
- ²⁸ Lawrence D. Dahms, Metropolitan Transportation Commission. Memorandum to Bay Bridge Design Task Force regarding “Staff Recommendations on Bay Bridge Design and Amenities,” 17 June 1998 (Agenda Item no. 2, MTC Bay Bridge Design Task Force June 22, 1998 meeting)
- ²⁹ Bay Area Toll Authority, Bay Area Toll Authority Resolution no. 10, 24 June 1998.
- ³⁰ In September 1999, MTC approved funding for \$1 million for five rest areas (“belvederes”) for the East Span’s pathway. These funds were part of the SB 60 amenities budget and require approximately three days of funds accrued from tolls per the seismic retrofit toll surcharge (Bay Area Bridge Toll Authority Resolution Number 19, September 22, 1999. In Steve Heminger, BATA/MTC. Letter to Harry Yahata, Caltrans, District Director, 23 September 1999)
- ³¹ Lawrence D. Dahms, Metropolitan Transportation Commission. Memorandum to Bay Bridge Design Task Force, 17 June 1998 regarding “Staff Recommendations on Bay Bridge Design and Amenities.”
- ³² Ibid.
- ³³ Steve Rubenstein, “Bike Protest Ties Up Bay Bridge: Cyclists Cause Huge Jam in bid for Lane on Span,” *San Francisco Chronicle*, 11 September 1998.
- ³⁴ Jason Meggs, “Who Decides Your Bay Bridge?” Bike the Bridge! Coalition, *Bugle Newsletter* #5, <http://guest.xinet.com/bike/bugle/bugle 5-3/index.html>
- ³⁵ FHWA and Caltrans, *East Span FEIS*, vol. 2, 1-421.
- ³⁶ Ronna Abramson, “Two Renegade Cyclists protest bridge path plan,” *Oakland Tribune*, 2 November 1998.
- ³⁷ Ann Lane, “Bike Lane May Cover Only Half of Bay Bridge,” *San Francisco Bay Guardian*, 29 December 1999.
- ³⁸ California Department of Transportation/prepared by CH2M Hill in association with SC Solutions, *Feasibility report: San Francisco-Oakland Bay Bridge West Span: Bicycle/Pedestrian/Maintenance Path Planning and Feasibility Study* (Oakland: California Department of Transportation, 2001), 2-3.

³⁹ Sean Holstege, “Two Options for Bay Bridge Bike Lanes,” *Oakland Tribune*, 1 May 2001.

⁴⁰ San Francisco Bicycle Coalition, *Biker Bulletin February 9, 2004*, <http://www.sfbike.org/?bb>

⁴¹ Bike the Bridge! Coalition, “Race Against Time,” Bike the Bridge! Coalition, *Bugle Newsletter #3*, <http://guest.xinet.com/bike/bugle/bugle3.html>

⁴² BPAC did not have a separate budget for technical analysis and consultants. A few organizations participating in BPAC paid and contracted for the technical design study done by Steven Grover mentioned previously in this chapter and endnotes.

CHAPTER 6 — PURSUIT OF RAIL

¹ Harre W. Demoro, *The Key Route: Transbay Commuting by Train and Ferry* (Glendale, California: Interurban Press, 1985) in FHWA and Caltrans, *East Span FEIS*, 2-20.

² For example, see Modern Train Society, “San Francisco-Oakland Bay Bridge: Reject the New ‘Freeway on Stilts’ Design That Does Not Allow Trains!” (San Jose: Modern Train Society, 24 June 1999), 1; and International Open Forum, “The Proposed New Bridge Will Not Support Rail as the Present Bridge Once Did,” <http://www.oaklandbridge.com>

³ Although the bicycle committee was highly and formally organized, this group did have its own tensions and factions of opposition as discussed in Chapter 5.

⁴ *Contra Costa Times*, editorial, “Davis’ Time of Decision,” 23 February 1999.

⁵ However, there was debate on both sides as to whether BART had sufficient long term capacity, and whether the Transbay Terminal could serve rail service from the East Bay and potentially had greater capacity than BART. Rail proponents also argued that BART did not provide west bay residents with a direct and pleasant connection to the existing Capitol Corridor for intercity passenger rail service that runs between Sacramento and San Jose. Since the state was planning for intercity high speed rail, the region should ensure that the bridge could accommodate such service if constructed.

⁶ Edward Epstein, “Adding Rail to Bay Bridge Could Double Auto Tolls” *San Francisco Chronicle*, 22 October 1998.

⁷ Robert R. Piper, Sierra Club Transportation Committee. Letter to Harry Y. Yahata, California Department of Transportation District 4, 23 November 1998 in FHWA and Caltrans, *East Span FEIS*, vol. 2, 1-345 to 1-346.

⁸ Mayor Shirley Dean, City of Berkeley. Memorandum to the Berkeley City Council regarding “Ballot Measure-Policy of Including Passenger Rail Service on Bay Bridge,” 28 July 1998.

⁹ Mayor Shirley Dean personally credited Mayor Bukowski for “initiating” the rail discussions among the mayors. (Mayor Shirley Dean, City of Berkeley. Memorandum to

the Berkeley City Council regarding “Ballot Measure-Policy of Including Passenger Rail Service on Bay Bridge,” 28 July 1998.)

¹⁰ Robert Oakes, “Mayors still pushing for bridge rails” *Contra Costa Times*, 1 August 1998.

¹¹ Laura Hamburg, “While Mayors Enthuse, Others Unsure About Bay Bridge Train,” *San Francisco Chronicle*, 8 August 1998.

¹² Ibid.

¹³ Edward Epstein, “Mayors get on the Train: Leaders Promote Ballot Measures in 4 Cities for Bay Bridge Rail Line,” *San Francisco Chronicle*, 26 October 1998.

¹⁴ Marianne Costantinou, “Four Cities want Trains to Run on Bay Bridge,” *San Francisco Examiner*, 4 November 1998.

¹⁵ Sam Diaz, “Bay Bridge-Rail Vote’s Effect is Unclear” *San Jose Mercury News*, 6 November 1998.

¹⁶ Associated Press, “Will Trains Travel Bay Bridge,” *Daily Republic*, 23 October 1998.

¹⁷ The relevant letters include: 1) Mayor-Elect Jerry Brown, City of Oakland; Mayor Willie L. Brown, Jr., City and County of San Francisco; Mayor Ken Bukowski, City of Emeryville; Mayor Shirley Dean, City of Berkeley; Mayor Elihu Harris, City of Oakland. Letter to Commissioner James Spering, Metropolitan Transportation Commission, and James W. van Loben Sels, California Department of Transportation, 7 December 1998; 2) Commissioner James P. Spering, Metropolitan Transportation Commission. Letter to Mayor Willie L. Brown, Jr., 16 December 1998; and 3) James W. van Loben Sels, California Department of Transportation. Letter to Mayor-Elect Jerry Brown, City of Oakland; Mayor Willie L. Brown, Jr., City and County of San Francisco; Mayor Ken Bukowski, City of Emeryville; Mayor Shirley Dean, City of Berkeley; Mayor Elihu Harris, City of Oakland, 28 December 1998.

¹⁸ Commissioner James P. Spering, Metropolitan Transportation Commission. Letter to Mayor Willie Brown, Jr., City and County of San Francisco, 16 December 1998.

¹⁹ Senate Bill 60 of 1997 also referred to a bicycle/pedestrian facility. The bill stated, “Notwithstanding any other provision of law, local and state permitting authorities shall not impose any requirement that a bicycle, pedestrian, or mass transit facility be constructed on the San Francisco-Oakland Bay Bridge as a condition for issuing any permit, granting any easement, or granting any other form of approval needed, for construction of a new bridge.” (Street and highways code 30604.5, section 6 of Senate Bill 60)

²⁰ Metropolitan Transportation Commission prepared by Nelson/Nygaard, Ove Arup and Partners, LTK Engineering Services and Simon Martin-Vegue Winkelstein Moris, *Bay Bridge Rail Feasibility Study* (Oakland, California: Metropolitan Transportation Commission, July 2000).

²¹ Approximately \$1.4 billion of the calculation is associated with structurally improving the West Span to carry rail.

²² The 2002 Bay Crossings study was conducted at the request of Senator Dianne Feinstein. The study examined building a new southern bridge crossing, widening of the San Mateo-Hayward bridge, a separate heavy rail bridge, additional bus and ferry service, and improvements to the roadway system. It estimated the new rail bridge or tunnel at \$6 billion to \$11 billion, and the study concluded that rail would be too cost prohibitive given the study's estimated low ridership for such a facility. [Metropolitan Transportation Commission, *San Francisco Bay Crossings Study: Recommendation Summary*, (Oakland, California: Metropolitan Transportation Commission, July 2002), 6.]

²³ Lisa Vorderbrueggen, "\$3 Billion to Build Rail into Bridge," *Contra Costa Times*, 9 December 1999.

²⁴ Modern Train Society, "SFOBB East Span: Why a non-optimized solution results from modifying a design for a new set of specifications," <http://www.trainweb.org/mts/sfobb/rail-study.html#rebutted>

²⁵ Lisa Vorderbrueggen, "\$3 Billion to Build Rail into Bridge," *Contra Costa Times*, 9 December 1999.

²⁶ Metropolitan Transportation Commission, *Bay Bridge Rail Feasibility Study*, ES-2.

²⁷ Sam Diaz, "Pressure Builds for Rail on Span," *San Jose Mercury News*, 15 October 1998.

²⁸ Former Supervisor Tom Hsieh, "Bay Bridge Rail Offers Real Possibilities" *San Francisco Chronicle*, 13 October 1998.

²⁹ Philip Matier and Andrew Ross, "Cities want Rail Line on Bay Bridge: November Ballot Measures Cook in S.F., East Bay," *San Francisco Chronicle*, 31 July 1998.

³⁰ In response to Mayor Dean, Sherwood Parker in a letter to the editor of the *San Francisco Chronicle* wrote, "Nostalgia is no basis for sensible decisions." (Sherwood Parker, letter to the editor, *San Francisco Chronicle*, 18 August 1998.)

³¹ Akos Szoboszlay, Modern Train Society. Letter to Governor Davis, 17 March 1999, <http://www.trainweb.com/mts>

³² Gray Brechin, letter to the Editor, "Send them the Bill", *San Francisco Chronicle*, 18 August 1998.

³³ Ronna Abramson, "Oakland Mayor is Off Track on Rail Line: Fails to File argument for Bay Bridge Measure," *Oakland Tribune*, 28 August 1998.

³⁴ Tyche Hendricks, "Rail Vote Reopens Issue of Bay Bridge Design," *San Francisco Examiner*, 5 November 1998.

³⁵ Mayor Willie L. Brown, Jr. City and County of San Francisco and Mayor Jerry Brown, City of Oakland. Letter to Governor Gray Davis, 11 February 1999.

³⁶ Mayor Shirley Dean, City of Berkeley. Memorandum to the Berkeley City Council regarding "Ballot Measure-Policy of Including Passenger Rail Service on Bay Bridge," 28 July 1998.

³⁷ David R. Brower, Earth Island Institute, press release, “Response by Mr. Brower to the Release Today of the U.S. Army Corps of Engineers’ Report, ‘Evaluation and Assessment of Proposed Alternatives to Retrofit and Replace the East Span of the San Francisco-Oakland Bay Bridge,” 27 October 2000.

³⁸ Jason Meggs, “We Want Rail on the New East Span!” Bike the Bridge! Coalition, *Bugle Newsletter* #5, [http://guest.xinet.com/bike/bugle/bugle 5-3/index.html](http://guest.xinet.com/bike/bugle/bugle%205-3/index.html)

³⁹ An interviewee noted the media coverage of the bicycle protest missed that a key purpose of the protest was for bicyclists to demonstrate their support for rail. Instead, the media focused on bicyclists’ arrests and the traffic congestion that allegedly occurred due to the protest. For example, see Steve Rubenstein, “Bike Protest Ties Up Bay Bridge, Cyclists Cause Huge Jam in Bid for Space on Span,” *San Francisco Chronicle*, 11 February 1998.

⁴⁰ San Francisco Bay Conservation and Development Commission (BCDC), excerpt of record of 18 June 1998 BCDC meeting, “Agenda Item no. 15 Public Hearing and Vote on Preliminary Design of the Replacement Structure for the Eastern Span of the San Francisco-Oakland Bridge,” in Will Travis, BCDC. Letter to Annemarie Conroy, Treasure Island Project, 11 March 1999.

CHAPTER 7 — BRIDGE STORY PART II: AFTER THE YERBA ISLAND LAND TRANSFER

¹ Jeff Morales, California Department of Transportation. Letter to the California State Legislature, 5 April 2001.

² California Department of Transportation. *Toll Bridge Seismic Retrofit Program: Annual Report for the Legislature and Governor* (Sacramento, California: California Department of Transportation, April 2001).

³ Sean Holstege, “Bridge’s Retrofit Expense Doubles,” *Oakland Tribune*, 6 April 2001; *Oakland Tribune*, editorial, “Bridge Has Been Studied More Than Enough,” 31 March 2001.

⁴ MTC prepared by Bechtel Infrastructure Corporation, *Toll Bridge Seismic Retrofit Program: Cost Review. Summary Briefing to the Metropolitan Transportation Commission*, (Oakland, California: Metropolitan Transportation Commission, 8 June 2001); and Steve Heminger, Metropolitan Transportation Commission. Memorandum to MTC Legislative Committee regarding “Cost Review of Caltrans Toll Bridge Seismic Retrofit Program,” 5 June 2001 (Agenda Item no. 5a of the June 8, 2001 MTC Legislation Committee meeting)

⁵ Andrew LaMar, “Bridge Retrofit Likely to Pinch State,” *Contra Costa Times*, 29 July 2001.

⁶ Lisa Vorderbrueggen, “Bay Bridge Plan has 60 Days,” *Contra Costa Times*, 17 April 2001. Also see Sean Holstege, “Interim \$2 Bay Bridge Toll Looks Permanent; Funds Would be Used for New Span,” *Oakland Tribune*, 17 April 2001.

⁷ John M. Glionna, “North-South Gap Widens on Bay Bridge,” *Los Angeles Times*, 5 July 2001.

⁸ Steve Heminger, Metropolitan Transportation Commission. Memorandum to Metropolitan Transportation Commission, Legislation Committee regarding “Toll Bridge Seismic Program-Funding Recommendations,” 8 June 2001 (Agenda Item no. 5b of the June 8, 2001 MTC Legislation Committee meeting).

⁹ *Ibid.*

¹⁰ As noted in Chapter 3, the philosophical debate on Bay Area bridge funding centered on whether toll bridges should use toll revenues to fund improvements even if they are a state-owned facility. Some Southern California participants have argued that their constituents should not have to subsidize the Bay Area’s toll bridges with state funds. Bay Area representatives generally responded that the toll bridges are part of the state highway system and provide substantial benefits to the entire state. As a result, they advocated that state funds should be a primary funding source in addition to toll revenue.

¹¹ Andrew LaMar, “Bridge Retrofit Likely to Pinch State,” *Contra Costa Times*, 29 July 2001.

¹² John M. Glionna, “North-South Gap Widens on Bay Bridge,” *Los Angeles Times*, 5 July 2001.

¹³ The legislature passed AB 1171 in September 2001 just a few days after World Trade Center bombings in New York on September 11, 2001.

¹⁴ Assembly Bill 1171 (Dutra) of 2001, Chapter 907, section 31070(c)

¹⁵ Ann Flemer, MTC/BATA. Memorandum to MTC/Bay Area Toll Authority regarding “Toll Bridge Seismic Retrofit Program,” 18 September 2001.

¹⁶ Assembly Bill 1171 of 2001 allowed for a thirty-year extension of the seismic retrofit one dollar toll surcharge to Bay Area toll bridges from 2008 to 2038. The toll extension also created a reserve fund for other projects consistent with Regional Measure 1 if funds later became available. Shortly thereafter, MTC requested an extension and programmed \$360 million in AB 1171 toll reserve funds for the Caltrain Downtown Extension/Transbay Terminal (at \$150 million), BART/East Contra Costa rail extension (at \$115 million), and a BART Tri-Valley rail extension (at \$95 million) (MTC Resolution 3434, Attachment C, 19 December 2001).

¹⁷ Greg Lucas, “Bay Bridge Construction Deal Protects Commuters from Cost Overruns. Work on Eastern Span to Break Ground by End of Year,” *San Francisco Chronicle*, 14 September 2001.

¹⁸ Brenda Kahn, “A Historic Event, A Perfect Day,” *Transactions* (Oakland: Metropolitan Transportation Commission), February 2002.

¹⁹ MTC/BATA also commissioned a cost review done by Bechtel Infrastructure Corporation, which verified Caltrans' forecasted costs. Bay Area Toll Authority, prepared by Bechtel Infrastructure Corporation, *Toll Bridge Seismic Retrofit Program, Cost Review Report* (Oakland, California: Bay Area Toll Authority/Metropolitan Transportation Commission, August 2004), 7.

²⁰ California Department of Transportation, *Toll Bridge Seismic Safety Retrofit Program Report for the Legislature and Governor*, (Sacramento, California: California Department of Transportation, August 2004), A-2; Randell H. Iwasaki, California Department of Transportation. Letter to Members of the California Legislature, 16 August 2004.

²¹ Michael Cabanatuan, "The New Bay Bridge Proposal: Simpler? Definitely. Cheaper? Maybe," *San Francisco Chronicle*, 11 December 2004.

²² Ibid.

²³ Mike Adamick, "State's Bridge Choice Ignites Ire," *Contra Costa Times*, 11 December 2004.

²⁴ CNN International.com, "Bay Bridge Project California's 'Biggest Fiasco'," March 16, 2005.

²⁵ Bay Area Toll Authority/prepared by Bechtel Infrastructure Corporation, *Toll Bridge Seismic Retrofit Program, Cost Review Report* (Oakland, California: Bay Area Toll Authority/Metropolitan Transportation Commission, August 2004); California Department of Transportation, *Toll Bridge Seismic Safety Retrofit Program Report for the Legislature and Governor* (Sacramento, California: California Department of Transportation, August 2004); California Department of Transportation, *Findings and Recommendation for Completion of the Main Span of the San Francisco-Oakland Bay Bridge East Span Seismic Safety Project* (Sacramento, California: California Department of Transportation, 8 December 2004); California State Auditor, Bureau of State Audits, *Department of Transportation: Various Factors Increased Its Cost Estimates for Toll Bridge Retrofits, and its Program Management Needs Improving* (Sacramento, California: Bureau of State Audits, report #2004-140, December 2004); Federal Highway Administration, *San Francisco-Oakland Bay Bridge Project: Peer Review* (Federal Highway Administration, December 2004); Elizabeth G. Hill, *Hard Decisions Before the Legislature: Toll Bridge Seismic Retrofit* (Sacramento: Legislative Analyst Office, 24 January 2005); Independent Review Team/chaired by Thomas R. Warne and in collaboration with Value Management Strategies, Inc., *Independent Review Team Final Report: East Span San Francisco Oakland Bay Bridge Seismic Safety Project* (Sacramento, California: State of California, Business, Transportation, and Housing Agency, 19 November 2004); Daniel Pollak, *Timeline of the San Francisco-Oakland Bay Bridge Seismic Retrofit: Milestones in Decision-Making, Financing, and Construction* (Sacramento, California: California Research Bureau, California State Library, December 2004); and, Results Group, *Historical Review of San Francisco-Oakland Bay Bridge East Span Seismic Retrofit Cost Increases: Final Report* (Sacramento, California: State of California, Business, Transportation, and Housing Agency, 28 January 2005).

²⁶ California Department of Transportation, *Toll Bridge Seismic Retrofit Program Report: First Quarter Report, Ending March 31, 2005* (Sacramento, California: California Department of Transportation, 18 May 2005), 16.

²⁷ Commissioner Steve Kinsey, Metropolitan Transportation Commission. Letter to Bay Area Legislative Delegation, 18 August 2004.

²⁸ California State Auditor, Bureau of State Audits, *Department of Transportation: Various Factors*.

²⁹ Caltrans, "Joint Legislative Audit Committee Testimony by Caltrans Director Will Kempton," 24 January 2005, <http://www.dot.ca.gov/baybridge/kemptonJLACtestimony.htm>; Business, Transportation, and Housing Agency, "Toll Bridge Seismic Retrofit Program and San Francisco-Oakland Bay Bridge East Span Joint Legislative Audit Committee and Senate Transportation and Housing Committee," Testimony by Secretary Sunne Wright McPeak, 24 and 26 January 2005, <http://www.dot.ca.gov/baybridge/audittestimony.htm>; and California State Auditor, Bureau of State Audits, *Department of Transportation: Various Factors* (See the State Auditor's report for tower versus viaduct cost figures, particularly Table 4; the report in general for the auditor's representation of cost attributions; and, comment letters in the report by Caltrans and Agency as well as the Auditor's rebuttal.)

³⁰ A prior legislative effort, AB 2366 by Assemblyman John Dutra, failed in the 2003-04 legislative session. It would have provided funding to allow Caltrans to enter into a contract with the single bidder for the SAS tower. It also would have transferred significant toll bridge management and oversight to MTC/BATA. Governor Schwarzenegger's administration argued that this bill only provided a short-term solution and that it would prefer a funding package whereby Bay Area fund sources covered nearly all of the cost increases. (Steve Heminger, Metropolitan Transportation Commission. Memorandum to MTC Legislative Committee regarding "Toll Bridge Seismic Retrofit Program-Legislative Update," 3 September 2004.) Senator Perata later proposed a statewide bond measure to cover toll bridge costs as well as fund the seismic retrofit of hospitals (Senate Bill 1024 of 2005). The Schwarzenegger Administration rejected this proposal because it did not want to use bond funds that would increase the state's debt to cover the Bay Bridge's cost. Prior to AB 144's enactment, the Schwarzenegger administration's funding proposal was embodied in AB 1714 (Plescia) during the 2005 legislative session.

³¹ Additional legislation, Senate Bill 66 authored by Senator Tom Torlakson, was enacted on September 29, 2005. This clean-up bill provided clarification on various sections in AB 144 related mainly to: 1) program accounting and reporting, 2) specification that the Toll Bridge Program Oversight Committee is not subject to open public meeting requirements as it is an oversight agency and not a state or local agency, and 3) designation of certain state sources to contribute to the state's funding portion (Senate Bill 66 of 2005).

³² Mark Martin, "Bay Bridge bill on Schwarzenegger's desk: Assembly votes 63-6 to give final approval to deal meant to get project moving again," *San Francisco Chronicle*, 14 July 2005.

³³ Lee Romney and John Glionna, "Foes in Bay Area Bridge Dispute Meet in Middle Compromise between regional leaders and the governor will allow the original design to go forward. Motorists will pay more in tolls," *Los Angeles Times*, 25 June 2005.

³⁴ Metropolitan Transportation Commission, "Legislative Update: Signature Tower will be Rebid; Work on Foundations to Resume," 27 July 2005, http://www.mtc.ca.gov/legislation/seismic_update.htm; Bay Area Toll Authority, *Toll Bridge Seismic Retrofit Program, Cost Review Report*, August 2004, 7.

³⁵ John M. Glionna, "North-South Gap Widens on Bay Bridge," *Los Angeles Times*, 5 July 2001.

³⁶ Michael Cabanatuan, "Bay Span Cost Could Kill Other Projects: Lawmakers ask for more State Funds," *San Francisco Chronicle*, 17 April 2001; and Steve Geissinger, "Clash Looms over Bridge Cost Increase: Southern California Lawmakers Fear Impact on their Freeways," *Oakland Tribune*, 6 July 2001.

³⁷ Michael Cabanatuan, "MTC Says No to \$3 Toll for Bay Span," *San Francisco Chronicle*, 9 June 2001.

³⁸ Bobby Caina Calvan, "16 years after quake, Bay Bridge project poised to begin," *Boston Globe*, 24 July, 2005.

³⁹ Chris Hawthorne, "A Watered-Down Vision: As Landmark Bridges Rise Elsewhere, Cost Overruns and Timidity may bring down a Golden Bay Area Opportunity," *Los Angeles Times*, 20 February 2005.

⁴⁰ Professor Astaneh also issued a public seminar notice indicating that he had developed a master plan for the Bay Bridge that would cost approximately \$7 billion. It would include retrofitting the east span (by 2008) and adding a new bridge between San Francisco and Oakland (by 2014). (Dr. Abolhassan Astaneh-Asl, *Astaneh's Solution to the Problems of the East Spans of the Bay Bridge*, 31 January 2005, <http://www.astaneh.net/pdfs/astaneh2.pdf>; Dr. Abolhassan Astaneh-Asl. "Public Seminar Announcement: A Master Plan for the East and West Spans of the San Francisco-Oakland Bay Bridge," U.C. Berkeley, CA, 9 April 2005, <http://www.astaneh.net/pdfs/astaneh5.pdf>

⁴¹ Interview with state legislative official, September 2005.

⁴² Other investigations led by California State Auditor Elaine Howell and State Attorney General William Lockyer were opened and are still pending related to worker safety claims that they were exposed to poisonous manganese fumes among other charges. [Jill Tucker and Josh Richman, "Panel approves audit of worker safety: Bay Bridge Project has good record but some employees claim serious problems were left out," *Oakland Tribune*, 30 June 2005; Sean Holstege and Jill Tucker, "FBI probes Bridge Welds," *Oakland Tribune*, 6 April 2005; *Oakland Tribune*, editorial, "Closing of FBI Probe Not an Exoneration," 21 October 2005; Sean Holstege and Jill Tucker, "Lacking Evidence,

FBI Welds Investigation Shut, for Now,” *Oakland Tribune*, 20 October 2005; and Toll Bridge Program Oversight Committee (Caltrans, Bay Area Toll Authority, California Transportation Commission), *Toll Bridge Seismic Retrofit Program Report, Third Quarter Report, Ending September 30, 2005*, 14 November 2005, 21].

⁴³ Mike Adamick, “After Probe, All’s Weld on Bay Bridge,” *Contra Costa Times*, 21 October 2005.

⁴⁴ Federal Highway Administration, “Federal Highway Administration San Francisco-Oakland Bay Bridge Statement,” FHWA statement no. 11-05, 21 October 2005. Also see Federal Highway Administration, *San Francisco-Oakland Bay Bridge: Summary of Welding Studies, April 2005-July 2005*, Doc. #P-53024 (Washington, D.C: Federal Highway Administration, October 2005), <http://www.fhwa.dot.ca.gov/reports/irsfobb/oct05.htm>

⁴⁵ Sean Holstege, “Legislators Blast Away at Caltrans, Lawmakers Attack Caltrans at Hearing Over Bridge Debacle,” *Oakland Tribune*, 2 February 2002.

⁴⁶ Dr. Abolhassan Astaneh-Asl, University of California, Berkeley. Letter to Will Kempton, Caltrans, 18 February 2005, http://www.astaneh.net/pdfs/Astaneh_reply_to_Kempton_Feb_18_2005.pdf

⁴⁷ KRON-TV, produced by Ken Swartz, “Gridlocked: The Bay Bridge Fiasco,” 13 April 2005.

CHAPTER 8 — SUPPLEMENTING THE MEGAPROJECTS THEME: SYNTHESIS AND OBSERVATIONS

¹ Sean Holstege, “Bridge deal signed, again, Governor, others hope worst is over; \$4 tolls will start in 2007, drivers won’t cross new span until 2012,” *Oakland Tribune*, 19 July 2005.

² Some observers have questioned whether the level of rigor on the seismic standards, namely adherence to a lifeline standard as discussed in Chapter 3, was overly conservative and added to the difficulty and complexity in designing a bridge to meet this standard.

³ United States General Accounting Office, *Federal-Aid Highways: Cost and Oversight of Major Highway and Bridge Projects-Issues and Options*, Report #GAO-03-764T, 8 May 2003. Also see Bent Flyvbjerg, Nils Bruzelius and Werner Rothengatter, *Megaprojects and Risk: An Anatomy of Ambition* (Cambridge: Cambridge University Press, 2003).

⁴ Caltrans, “Joint Legislative Audit Committee Testimony by Caltrans Director Will Kempton,” January 24, 2005, <http://www.dot.ca.gov/baybridge/kemptonJLACtestimony.htm>.

⁵ Terrorist-related attack concerns predate September 11, 2001, but took on new significance after attacks on the World Trade Center.

⁶ Senate Bill 60 of 1997 placed restrictions on maximum dollar amounts and provisions for eligible expenditures. It also set equal cost sharing between the state and region. Assembly Bill 1171 of 2001 established the selected bridge design and alignment as well as increased the maximum cost. It also expanded program contingency provisions, and maintained SB 60's financing arrangement for sharing cost overruns. Assembly Bill 144 of 2005 focused on additional cost overruns and reaffirmed the region's selected bridge design with the SAS tower. In the end, the state gave more bridge oversight control to BATA/MTC by transferring management authority over all toll revenues to it (through AB 144 and SB 66).

⁷ Donald A. Schön, *The Reflective Practitioner: How Professionals Think in Action* (New York: Basic Books, 1983), 40.

⁸ Roger W. Cobb and Joseph F. Coughlin, "Are Elderly Drivers a Road Hazard?: Problem Definition and Political Impact," *Journal of Aging Studies* 12, no. 4 (Winter 1998): 411-427.

⁹ David E. Nye, *Electrifying America: Social Meanings of a New Technology, 1880-1940* (Cambridge, Massachusetts: The MIT Press, 1990), ix.

¹⁰ Eugene Bardach, *A Practical Guide For Policy Analysis: The Eightfold Path to More Effective Problem Solving* (New York: Chatham House Publishers, 2000), 5.

¹¹ Deborah Stone, *Policy Paradox: The Art of Political Decision Making* (New York: W.W. Norton Company, 1997), 372.

¹² At the federal level through ISTEA in 1991, regional agencies were given substantial new authority for deciding on the use of specific federal funding programs as well as developing constrained regional plans. At the state level through Senate Bill 45, county-based congestion management agencies were allowed to develop county transportation improvement programs to be funded in part by state highway dollars, with regional agencies integrating them into a regional expenditure program.

¹³ These programs include a call box program, which provides roadside emergency phones for motorists on highways, and TravInfo, which provides traveler information on state highways and other transportation facilities. MTC, as lead agency, also has implemented other infrastructure-related projects. Examples include Translink, which is a universal transit ticket offered on certain Bay Area transit systems, and the Bay Area's Pavement Management System, which assists local jurisdictions monitor the pavement condition of local streets and roads.

¹⁴ This expansion of responsibility is similar to the Port of New York Authority's expansion from port and shipping operations into other domains such as toll bridges, real estate development, and mass transportation. [Jameson W. Doig, *Empires on the Hudson: Entrepreneurial Vision and Political Power at the Port of New York Authority* (New York: Columbia University Press, 2001)]

¹⁵ David A. Rochefort and Roger W. Cobb "Problem Definition: An Emerging Perspective," in *The Politics of Problem Definition: Shaping the Policy Agenda*, ed. David A. Rochefort and Roger W. Cobb (Lawrence: University of Kansas Press, 1994), 21.

¹⁶ Stone, *Policy Paradox*, 294-295.

¹⁷ See Kingdon and Birkland on policy windows and focusing events. John W. Kingdon, *Agendas, Alternatives and Public Policy*, 2d ed. (New York: Addison-Wesley Educational Publishers, Inc., 2003), 94-98; and Thomas A. Birkland, *After Disaster: Agenda Setting, Public Policy and Focusing Events* (Washington D.C.: Georgetown University Press, 1997).

¹⁸ In the Bay Bridge case, “policy entrepreneurs” refer to individuals, advocacy groups and/or public agencies that are particularly knowledgeable and dedicated to specific issues. See John W. Kingdon, *Agendas, Alternatives and Public Policy*, 2d ed. (New York: Addison-Wesley Educational Publishers, Inc., 2003).

¹⁹ Dean E. Murphy, “In Earthquake Country, Racing Against Nature to Replace a Damaged Bridge,” *New York Times*, 17 April 2005.

²⁰ This issue of denial is similar to other conceptualizations about California residents and development. John McPhee has noted in comparing the Bay Area’s population growth from one million residents in 1906 to the 1993 figure of over six million residents: “...(T)he much publicized fact that the region is traceried with active faults—that the San Andreas is not just one trace but a whole family of faults in a stepped and splintering band a great many miles wide—has done nothing to discourage the expanding populace from creating new urban shorelines and new urban skylines and so crowding the faults themselves that the fault’s characteristic landforms are obscured beneath tens of thousands of buildings and homes.” [John McPhee, *Assembling California* (New York: Farrar, Straus, and Giroux, 1993), 243-245. Also see Mike Davis, *Ecology of Fear: Los Angeles and the Imagination of Disaster* (New York: Metropolitan Books/Henry Holt and Company, 1998); and Risa Palm and John Carroll, *Illusions of Safety: Culture and Earthquake Hazard Response in California and Japan*, (Boulder, Colorado: Westview Press/HarperCollins Publishers, 1998).]

²¹ Lee Romney and John Glionna, “Foes in Bay Area Bridge Dispute Meet in Middle Compromise between regional leaders and the governor will allow the original design to go forward. Motorists will pay more in tolls,” *Los Angeles Times*, 25 June 2005.

²² The delay cost was based on Caltrans’ estimate that project costs have increased by \$400,000 per day since July 2004 when the state did not award the suspension tower contract to the sole bidder. The clock will stop ticking once the contract is awarded, which is scheduled for Spring 2006. (California Department of Transportation, press release, “New Caltrans Report: No Agreement On Bay Bridge is Costing Taxpayers Millions,” 26 May 2000; California Department of Transportation, *Toll Bridge Seismic Retrofit Program Report: First Quarter Report, Ending March 31, 2005* (Sacramento, California: California Department of Transportation), 18 May 2005.

²³ *Oakland Tribune*, editorial, “Let’s get on with building the Bay Bridge,” June 30, 2005.

²⁴ Flyvbjerg, Bruzelius, and Rothengatter, *Megaprojects and Risk*, 2003.

²⁵ When used, private sector financing typically supports projects with major capacity enhancements, such as a new bridge or toll road facility. The Bay Bridge offers no such increases and thus does not fit this infrastructure funding model. Further, private sector

funding has been slow to be accessed for California transportation infrastructure projects although examples exist with the state's toll road program.

²⁶ Bay Area Toll Authority/Metropolitan Transportation Commission, *San Francisco Bay Area Toll Bridge Report, FY 2004-25* (Oakland, California: BATA/MTC, February 2005), 36-37; Assembly Bill 1171 of 2001.

²⁷ Bay Area Toll Authority/Metropolitan Transportation Commission, *San Francisco Bay Area Toll Bridge Report, FY 2004-25*, February 2005, 36-37.

²⁸ *Ibid.*, 14.

²⁹ Rochefort and Cobb, "Problem Definition: An Emerging Perspective," *Problem Definition*, 16.

³⁰ Mike Adamick, "Bill's signing ends rancor over bridge," *Contra Costa Times*, 19 July 2005.

³¹ Gerald Yakowenko, "Megaproject Procurement: Breaking From Tradition," *Public Roads* (Washington, D.C., Federal Highway Administration, July/August 2004), vol. 68, no. 1.

³² Todd Goldman, *Local Option Taxes and the New Subregionalism in Transportation Planning*. Ph.D. Dissertation, University of California, Berkeley, Fall 2003; Cosmo Howard and Robyn Seth-Purdie, "Governance Issues for Public Sector Boards," *Australian Journal of Public Administration* 64, no. 3 (September 2005): 56-68; Geoffrey C. Kiel and Gavin J. Nicholson, "Evaluating Boards and Directors," *Corporate Governance* 13, no. 5 (September 2005): 613-631; Edward E. Lawler III, David L. Feingold, George S. Benson, and Jay A. Conger, "Corporate Boards: Keys to Effectiveness," *Organizational Dynamics* 30, no. 4 (2002): 310-324; and Jeffrey A. Sonnenfield, "What Makes Great Boards Great," *Harvard Business Review* 80, no. 9 (September 2002): 106-113.

³³ Bent Flyvbjerg in association with COWI for the British Department for Transport. *Procedures for Dealing with Optimism Bias in Transport Planning: Guidance Document*, June 2004, Report no. 58924, Issue no. 1. Also see Jim Sinnette, "Accounting for Megaproject Dollars" *Public Roads* 68, no. 1 (Washington, D.C.: Federal Highway Administration, July/August 2004), <http://www.tfhr.gov/pubrds/04jul/index.htm>; Federal Highway Administration, *FHWA White Paper—Cost Estimating Activities in the Transportation Community* (Washington D.C.: Federal Highway Administration, July 2005); and Federal Highway Administration, *Major Project Program Cost Estimating Guidance* (Washington D.C.: Federal Highway Administration, 8 June 2004), <http://www.fhwa.dot.gov/programadmin/mega/cefina.htm>

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APPENDIX OF EXHIBITS

Exhibit 3-1
Collapse of Bay Bridge's East Span
Loma Prieta Earthquake, 1989



Source: California Department of Transportation, Metropolitan Transportation Commission

Exhibit 3-2
Earthquake Faultlines
in San Francisco Bay Area



Source: United States Geological Survey,
http://quake.wr.usgs.gov/research/seismology/wg02/media/WS_Fig_2.pdf

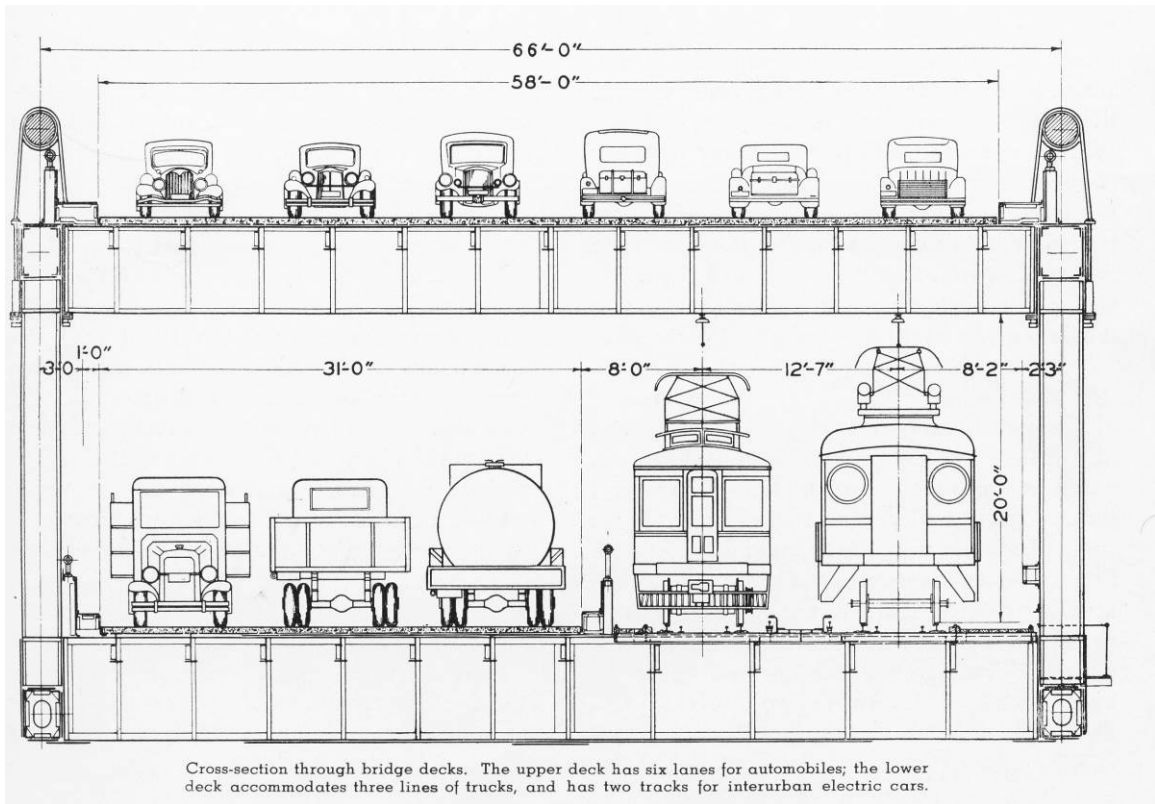
Exhibit 3-3
Existing San Francisco-Oakland Bay Bridge
(Aerial View and Project Location)



The existing Bay Bridge's western suspension bridge is in the foreground and the eastern cantilever/truss bridge is in the background. A tunnel on Yerba Buena connects the bridges.

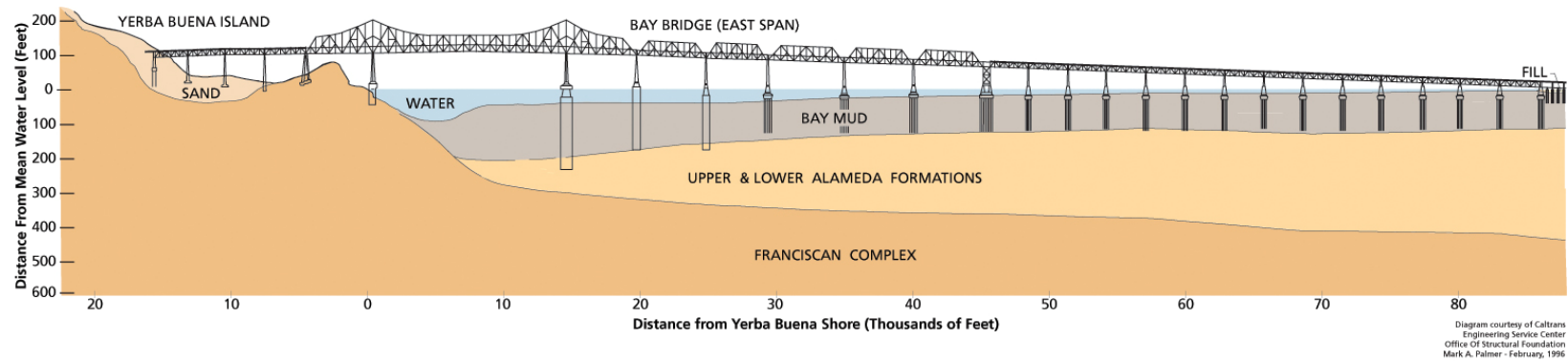
Source: Barrie Rokeach ©2005, Metropolitan Transportation Commission.

Exhibit 3-4
Original Lane Configuration
on Existing Bay Bridge



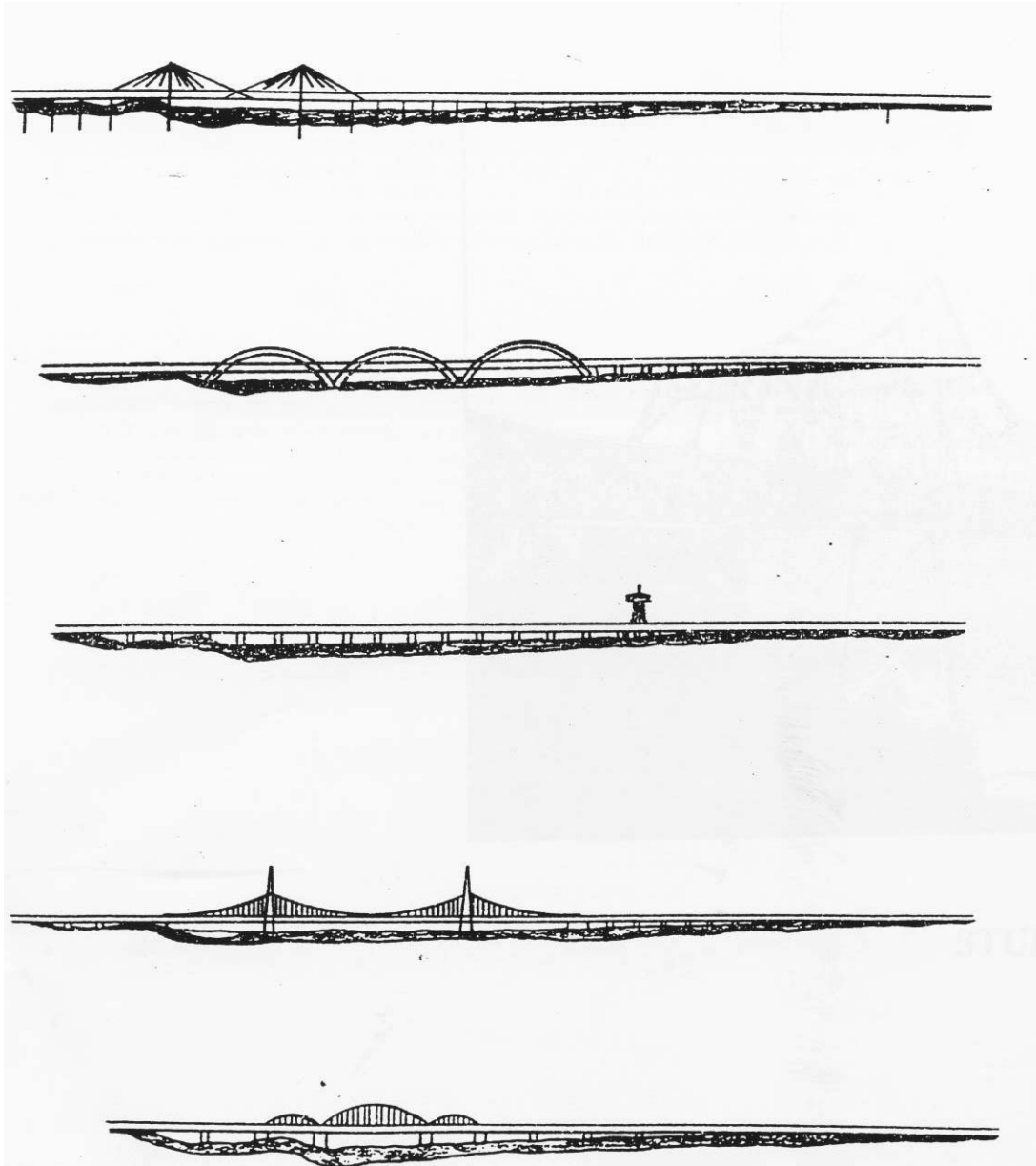
Source: American Bridge Company, *The San Francisco-Oakland Bay Bridge* (Pittsburgh, PA: American Bridge Company/United States Steel Corporation), 1936, 11.

Exhibit 3-6 Profile and Geology of the San Francisco Bay



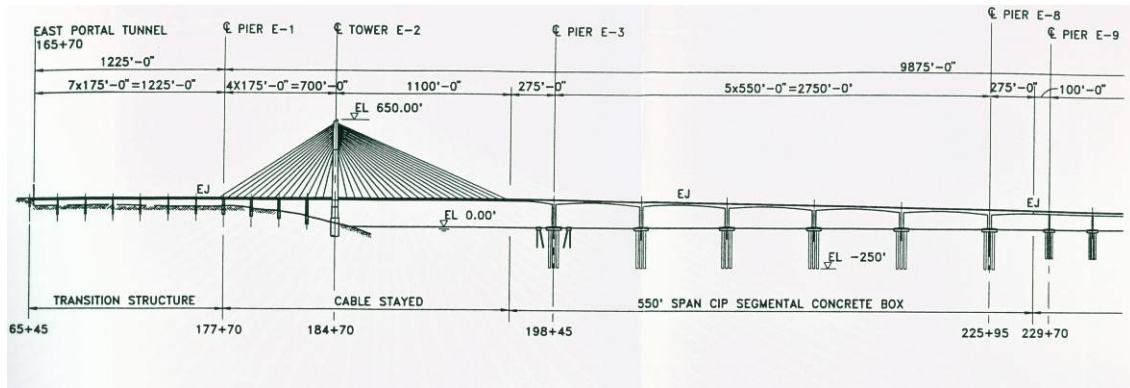
Source: California Department of Transportation, Engineering Services Center, Office of Structural Foundation, Mark A. Palmer, February 1996; and Metropolitan Transportation Commission

Exhibit 3-7
Elevations of
Preliminary East Span Alternatives by Caltrans, September 1996



Source: California Department of Transportation, Office of Structure Design, SFOBB Special Analysis Unit, and Structure Estimating, Cost Estimate Investigation for a Replacement Structure for the East Spans of the San Francisco-Oakland Bay Bridge (Sacramento, California: California Department of Transportation, September 1996).

Exhibit 3-8
 Elevation of Cable-Stay Bridge,
 Proposed by Ventry Engineering
 December 1996



Source: State of California, Business, Transportation and Housing Agency, Department of Transportation/prepared by Ventry Engineering, The National Constructor's Group, Tokola Corporation and OPAC Consulting Engineers, *San Francisco-Oakland Bay Bridge, East Bay Crossing Replacement Value Analysis Findings* (Sacramento, California: California Department of Transportation, December 1996).

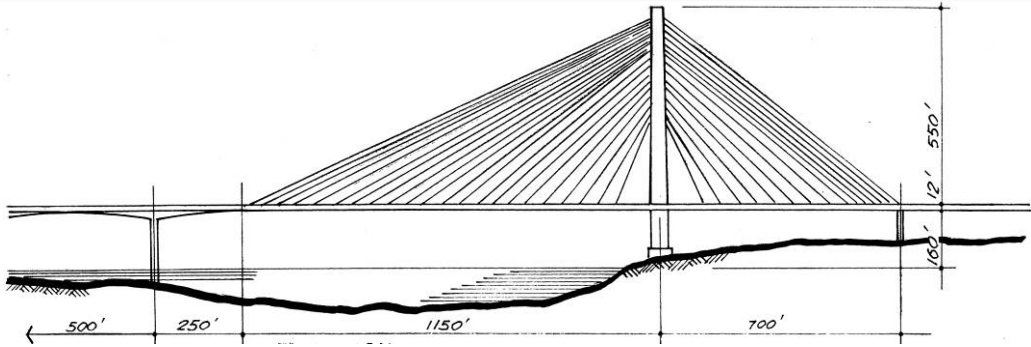
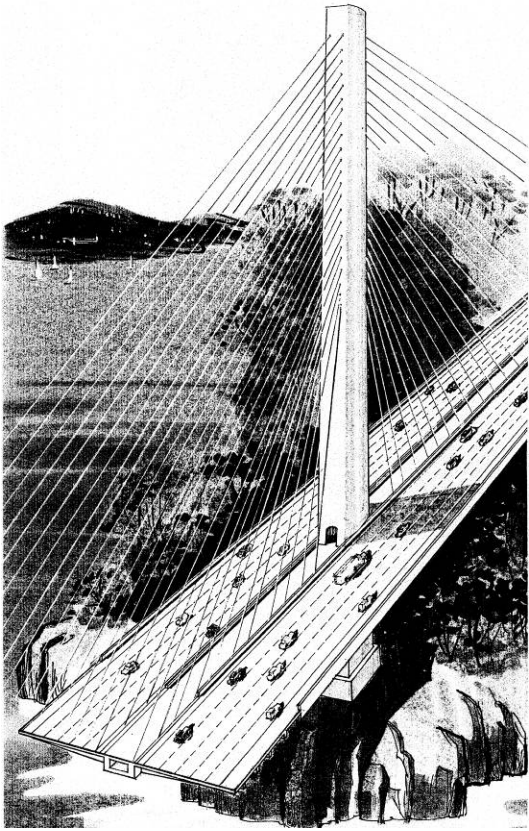
Exhibit 3-9
Early 1997 East Span Alternatives by Caltrans



The simulation above shows Caltrans' proposed viaduct. The image below shows a proposed two tower cable-stayed bridge.

Source: California Department of Transportation

Exhibit 3-10
Single Tower Cable Stay Bridge Proposal
by Professor T.Y. Lin
to the *San Francisco Chronicle*
and MTC May 1997 Proposal Workshop



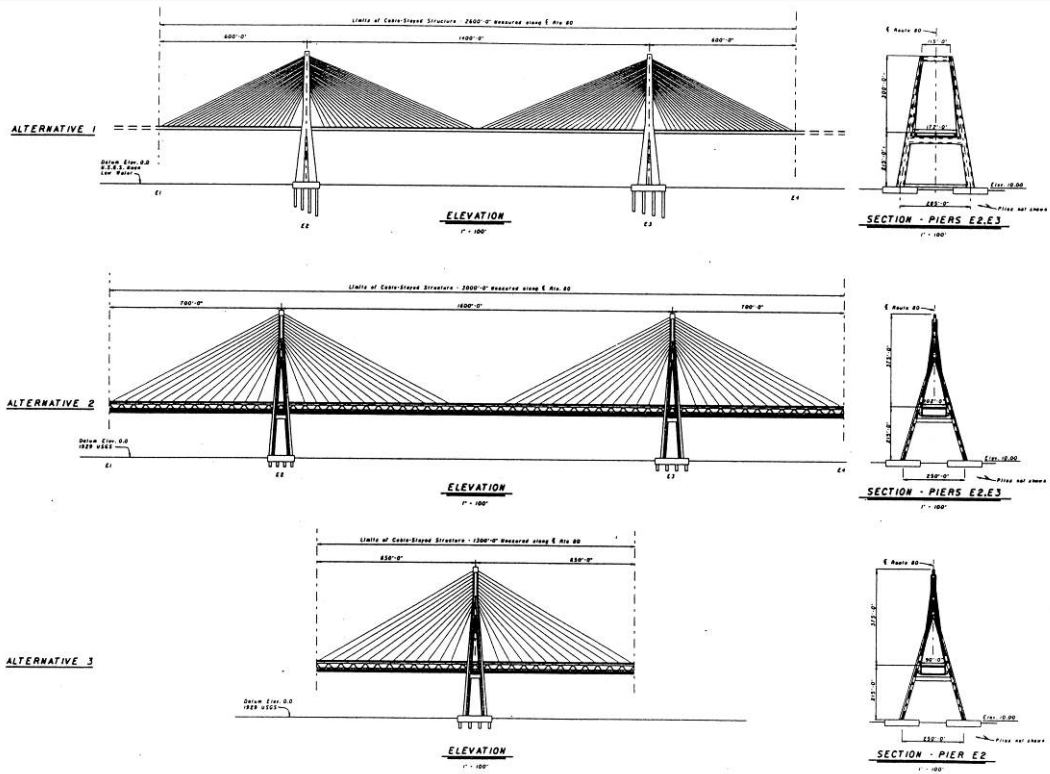
Sources: T.Y. Lin, *Proposal for Single-Tower Cable-Stayed Bridge East Bay Replacement*, proposal submitted to Metropolitan Transportation Commission, 5 May 1997; and Allan Temko, "In Search of a Better Bay Bridge Design," *San Francisco Chronicle*, 10 March 1997.

Exhibit 3-11
Workshop Proposal Submittals to the
Metropolitan Transportation Commission
and the Engineering and Design Advisory Panel Workshop
May 1997

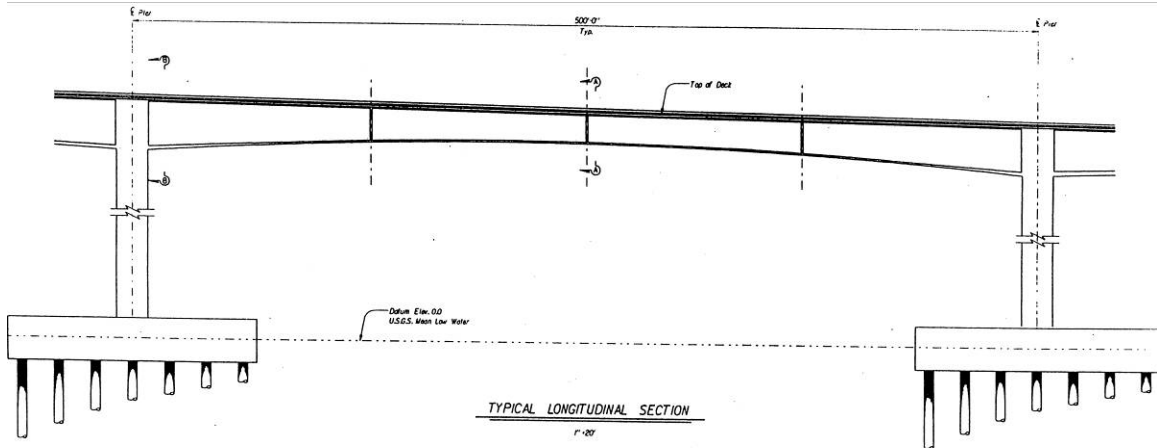
Sources: Individual proposals submitted to MTC by proposers as identified with designs shown; also see Exhibit 3-10.

Caltrans Workshop Proposals

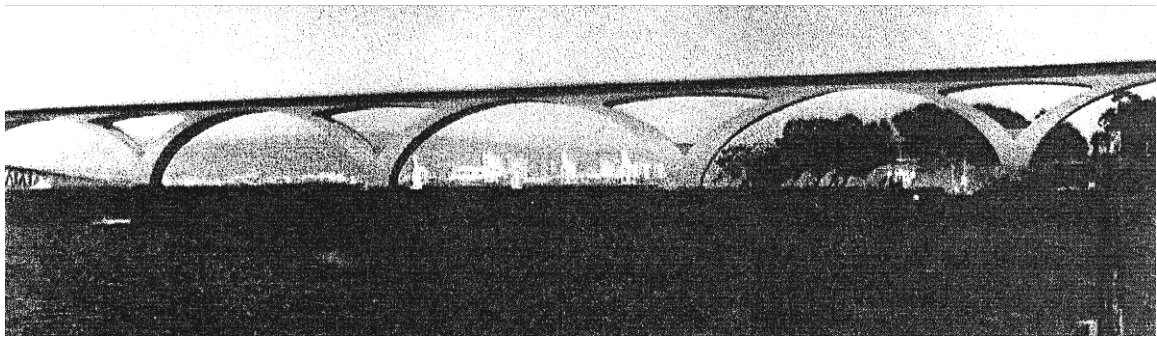
Caltrans Cable-Stay Variations



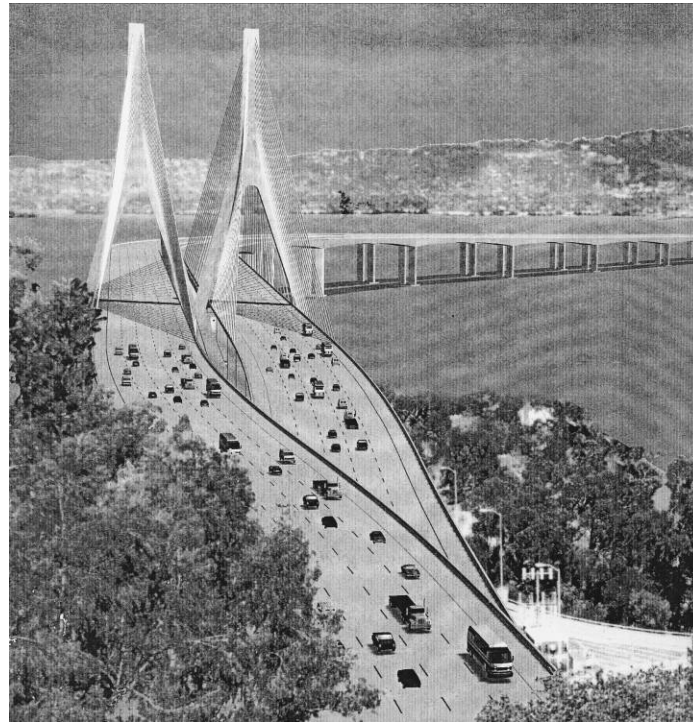
Caltrans Viaduct Proposal (This viaduct proposal has 500 foot concrete spans. Another alternative had 700 foot spans with steel trusses)



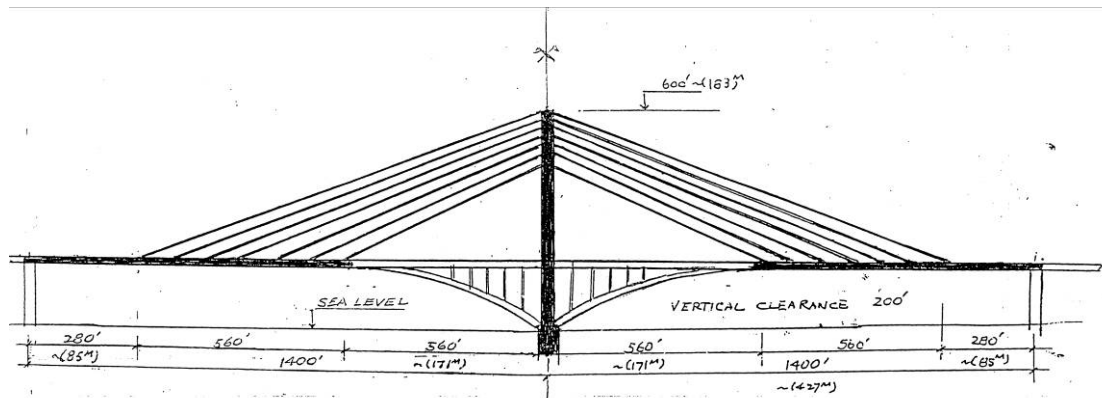
Caltrans Arch Viaduct Proposal (conceptual only and developed at MTC's request)



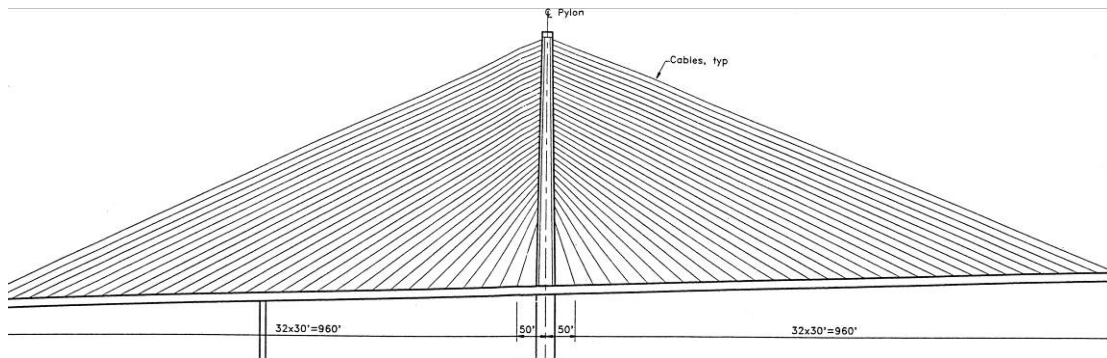
Two Tower Cable Stay Bridge Proposal by URS Greiner with
Imbsen Associates, Inc. and LoBuono, Armstrong and Associates



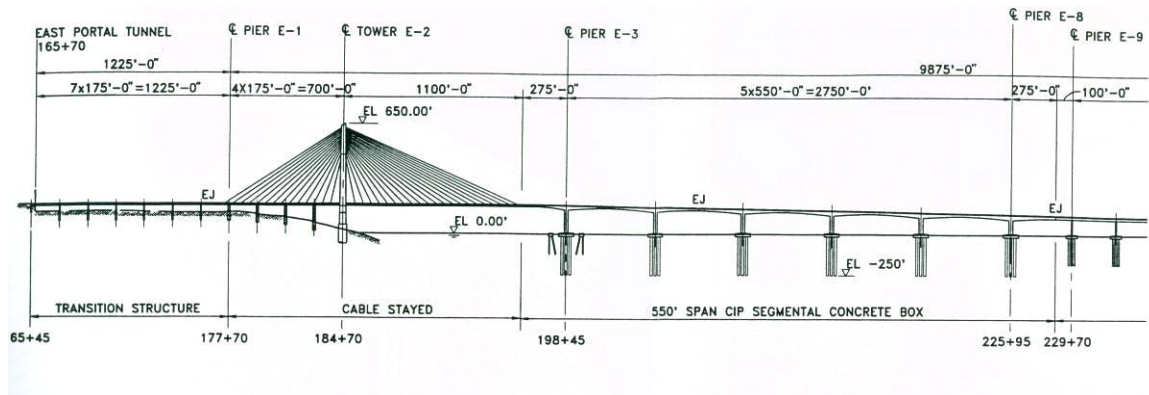
Cable-Stay Proposal by Zhong-Lin-Hsue (single A-Shaped Tower)



Cable-Stay Bridge Proposal by T.Y. Lin International



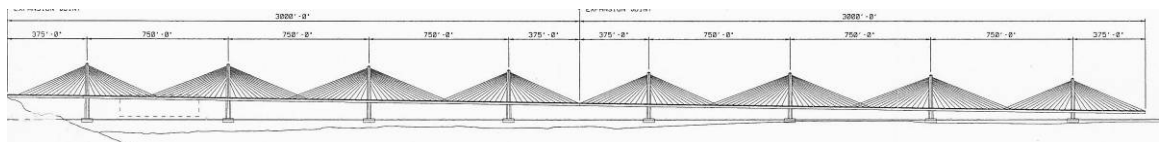
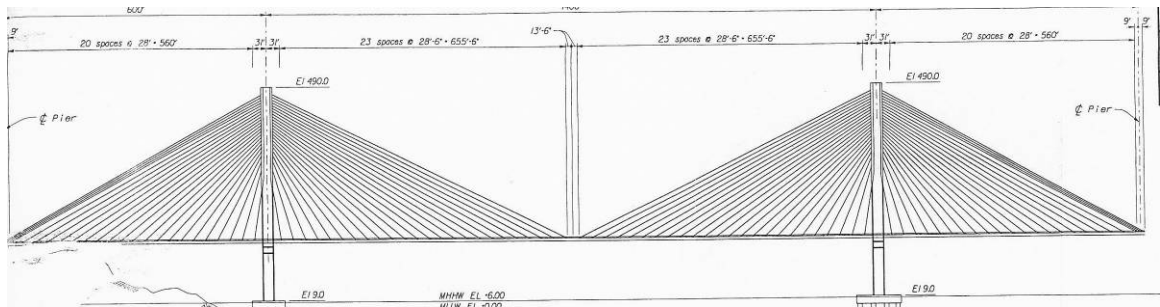
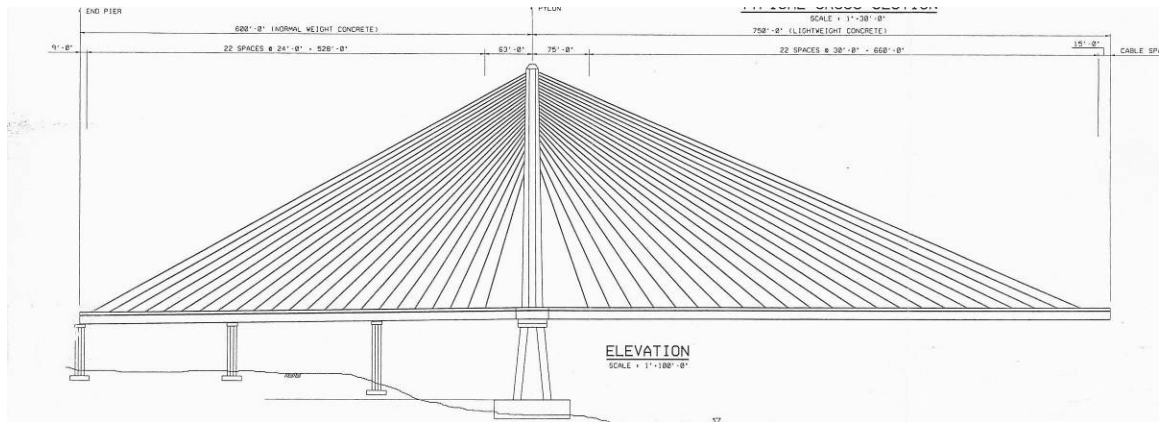
Asymmetrical Twin Tower Cable Stay Bridge Proposal
 submitted by OPAC Consulting Engineers
 (based on Ventry Engineering *Value Analysis Findings*
 for the State of California, 1996)



(Please see Exhibit 3-10 for Professor T.Y. Lin's cable-stay proposal)

Multiple Proposals by Parsons Brinckerhoff (PB)/HNTB Corporation Joint Venture
in association with SC Solutions, Inc. and Digital Structures, Inc.

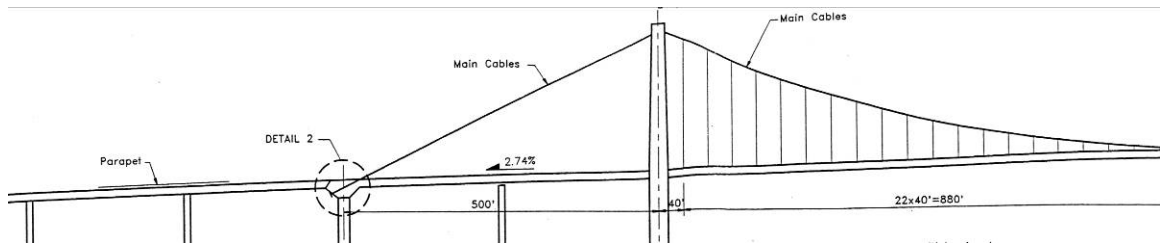
The PB/HNTB proposals shown below include: 1) single tower, two span cable stay, 2) double diamond tower three-span cable stay, 3) cable-stayed viaduct. Additional alternatives, not shown below, included: a single diamond tower, two span cable stay; and 5) single cell cast-in-place segmental box girder.



Self-Anchored Suspension Span proposal by Gerwick/Sverdrup/DMJM joint venture

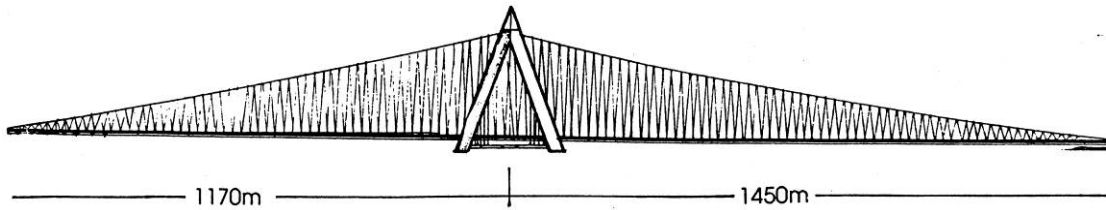


Asymmetrical Self-Anchored Suspension Bridge proposal by T.Y. Lin International

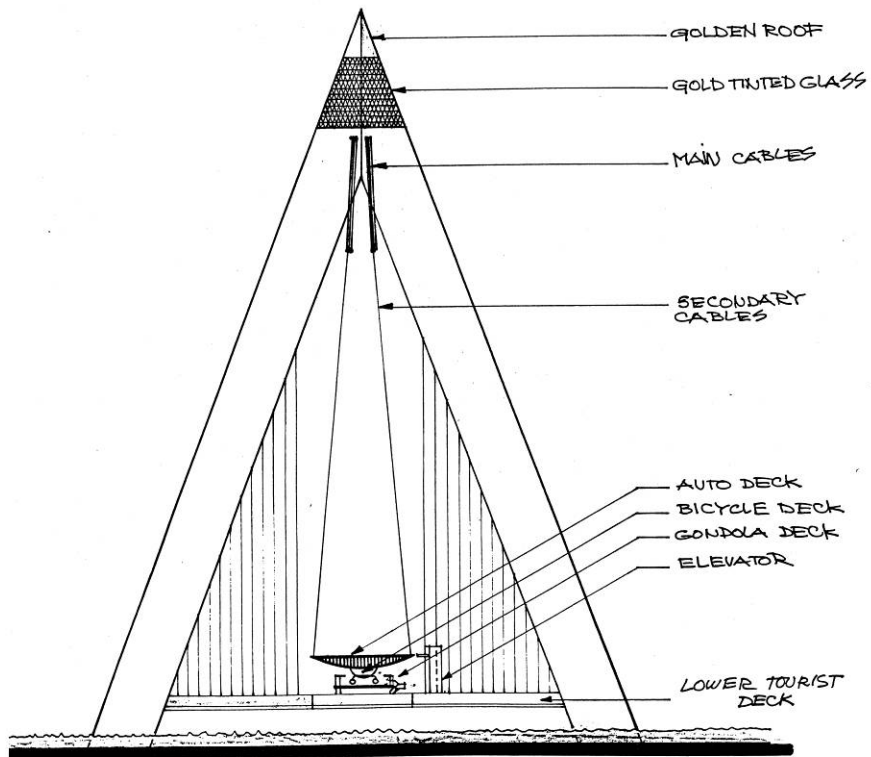


Tetrapod Suspension Proposal by Coman Feher Associates

Elevation



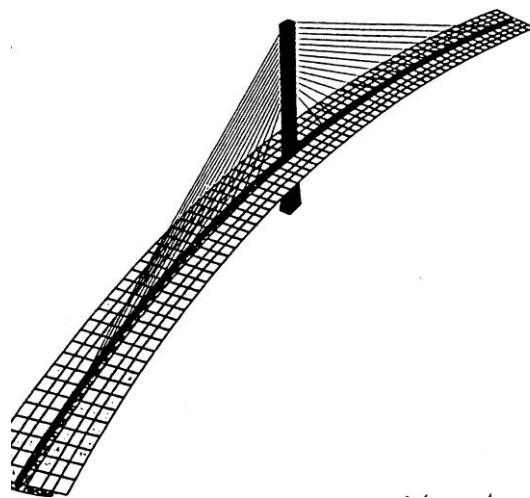
Tower Cross-section



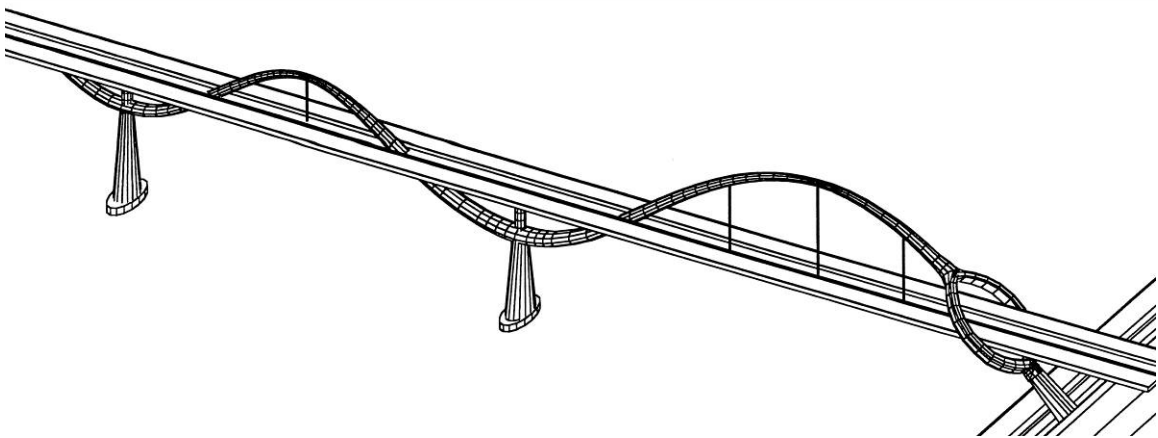
“Astaneh-Black” Steel Single Tower Curved Bridge
by Professors Abolhassan Astaneh-Asl and R. Gary Black
University of California, Berkeley
(copyright 1997)



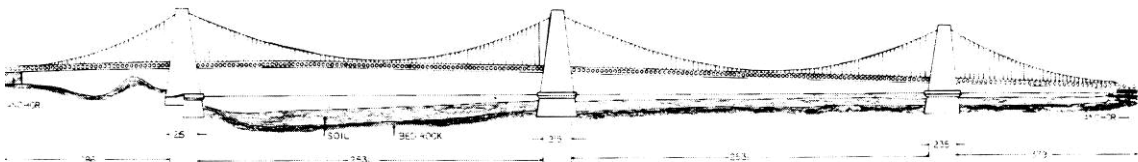
Steel Vertical Tower Curved Bridge Design
by Professor Abolhassan Astaneh-Asl,
University of California, Berkeley (copyright 1997)



Proposal by David Morris, DCM Studios LTD
called “Threading the Needle”
to provide “a portal through which the roadbed passes”



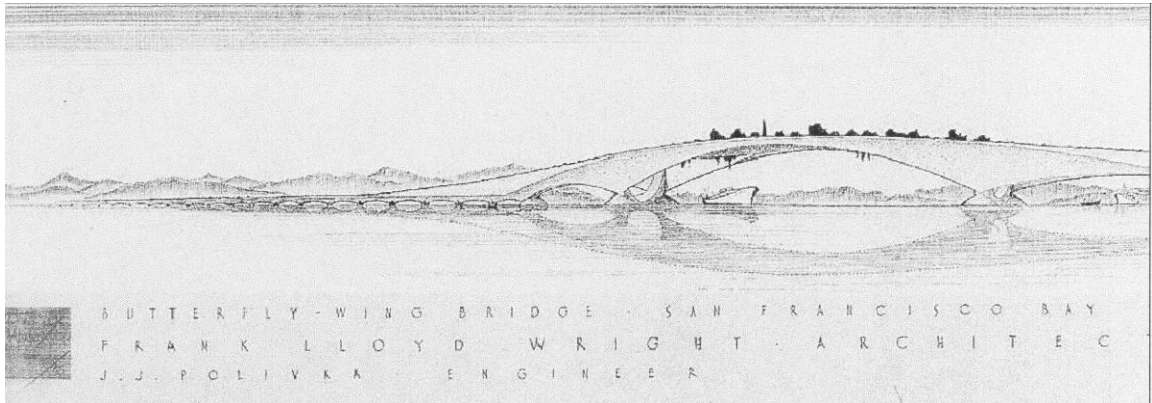
“Unity Towers” Suspension Bridge Proposal by Michael Longo
(Each tower was proposed to serve as an office building.)



Art Deco-Inspired Archway Bridge Proposal
by Garrett Green, Fogwood



Exhibit 3-12
1953 Butterfly-Wing Bridge Design
by Architect Frank Lloyd Wright
for a Second Bridge Crossing



The design included a public park, rail and a transit station.

Source: Charonnat, Leal. “Replacing the Eastern Span of the Bay Bridge. It’s a Matter of Wright vs. Wrong”, 1999. Illustration copyright with the Frank Lloyd Wright Foundation.

Exhibit 3-13
Planning and Design Recommendations
For the East Span of the San Francisco-Oakland Bay Bridge
(Adopted by the Metropolitan Transportation Commission on July 30, 1997)

Finance Recommendation

Recommendation 1: The Commission should support a two year extension of tolls and establish the priority for use of the estimated \$230 million as follows: first, for the additional costs for a cable-supported structure; second, for a portion of the cost of the Transbay Terminal; and third, a bicycle and pedestrian facility on the east span of the bridge should continue to be evaluated through the 30% design stage.

Design Process

Recommendation 2: Caltrans should select two design teams to develop the two cable-supported alternatives to approximately the 30% design stage so that reliable information as to seismic performance, cost, visual design, and other issues can be obtained before a final recommendation is made.

Recommendation 3: The EDAP and Bay Bridge Design Task Force should remain in place through the 30% design stage of the project to make a final recommendation on bridge design type and thereafter to provide continuous review of final design and engineering details.

Planning Recommendations

Recommendation 4: The existing eastern span of the Bay Bridge should not be retrofitted, but replaced with a new structure.

Recommendation 5: The new eastern span and existing western span retrofit should be designed to provide post-earthquake "lifeline" service.

Recommendation 6: The new eastern span should have 10 traffic lanes, five in each direction, with two standard 10' shoulders in each direction as part of its base cost.

Recommendation 7: The new eastern span does not require a dedicated bus/carpool lane. Caltrans' design should minimize weaving conflicts between high occupancy and other vehicles at the transition from the dedicated HOV approach lanes to the bridge itself.

Recommendation 8: The new eastern span should be designed in accordance with Caltrans' proposed design loading which will accommodate the possibility of future rail service.

Recommendation 9: The Yerba Buena Island ramps are an inherent part of the bridge and Caltrans has the responsibility to replace the ramps in order to assure safe traffic flow on the bridge.

Bridge Design Recommendations

Recommendation 10: The new eastern span should be built on the northern adjacent alignment.

Recommendation 11: The new eastern span should have a cable-supported main span with a single vertical tower with single or multiple legs in the transverse direction and single or multiple planes of supporting cables.

Recommendation 12: The new eastern span bridge should not be double decked. It should have two parallel separated decks on the causeway section and either parallel separated decks or a single deck on the cable-supported span.

Recommendation 13: The structural elements of the new eastern span should be visually consistent throughout.

Recommendation 14: The causeway section should have long, equal span lengths, although closer span lengths might be necessary just adjacent to the Oakland shore.

Recommendation 15: For the causeway section, particular attention should be paid to the design of the supporting pier as it enters the water, including the possibility of submerging the pile cap below water.

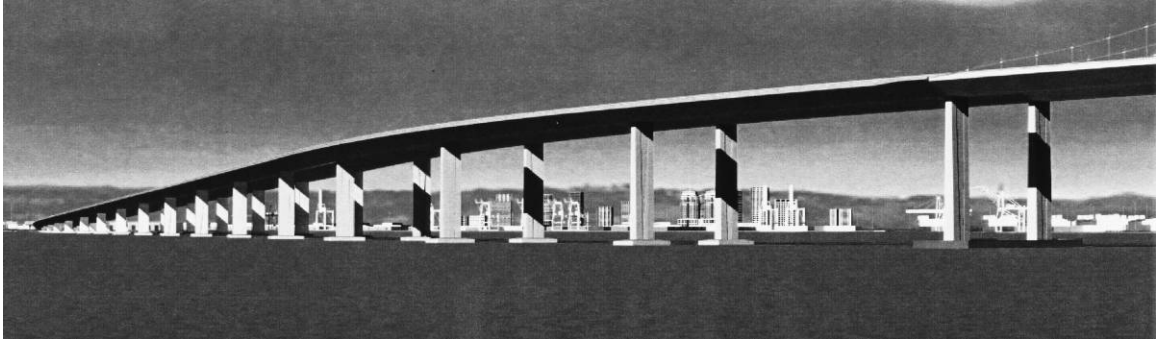
Recommendation 16: The cable or suspension tower on the eastern span should be no taller than the suspension towers on the existing western span.

Recommendation 17: The "diamond" shape for the tower base should not be employed in any cable or suspension tower on the eastern span.

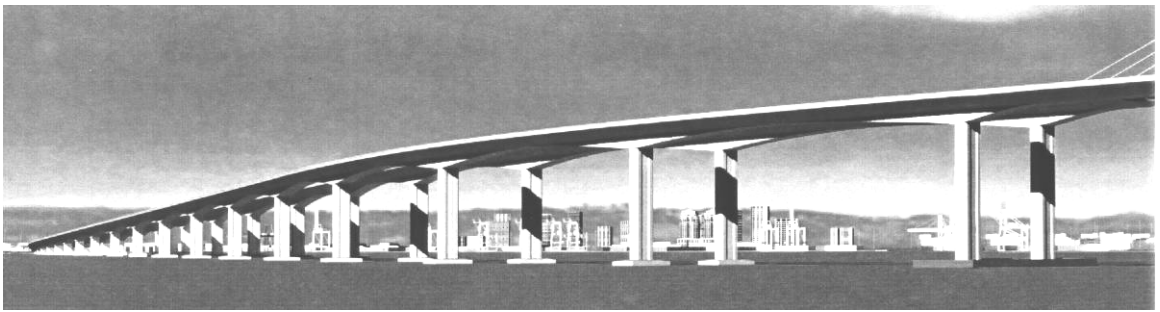
Source: Metropolitan Transportation Commission,
http://www.mtc.ca.gov/projects/bay_bridge/bbreccfull.htm

Exhibit 3-14
30% Design Alternatives

Skyway Alternatives

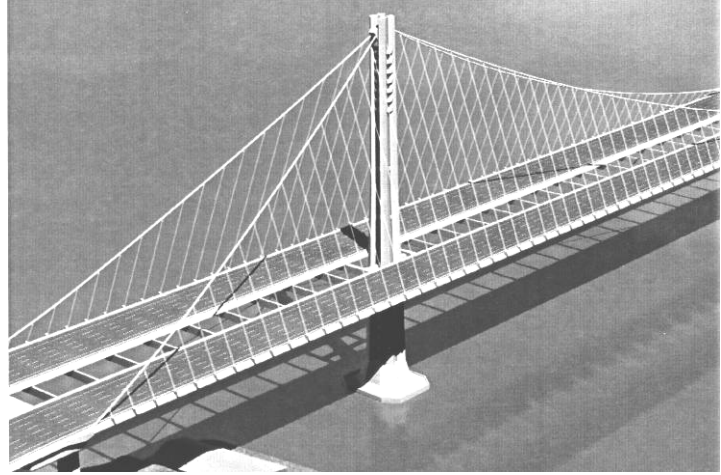
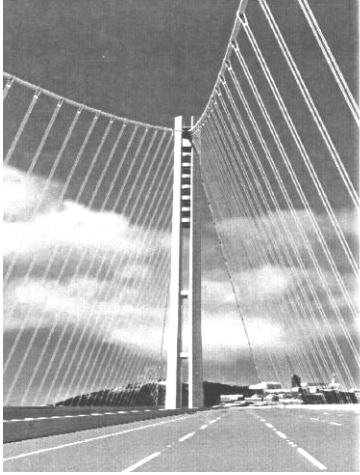


Uniform Skyway

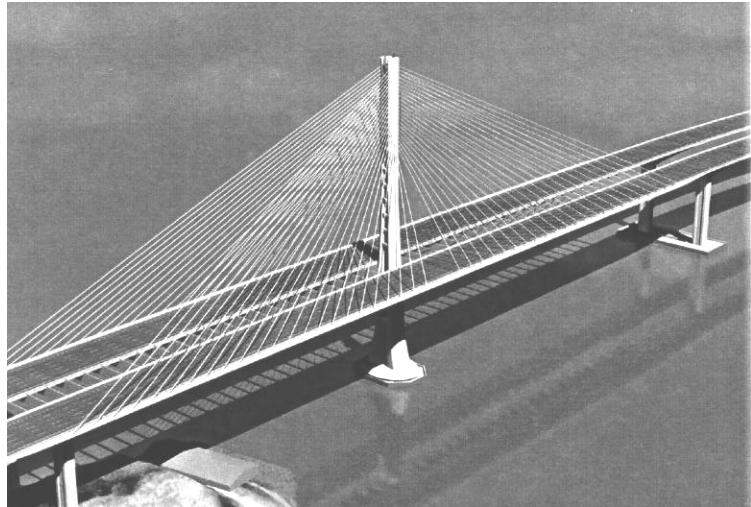
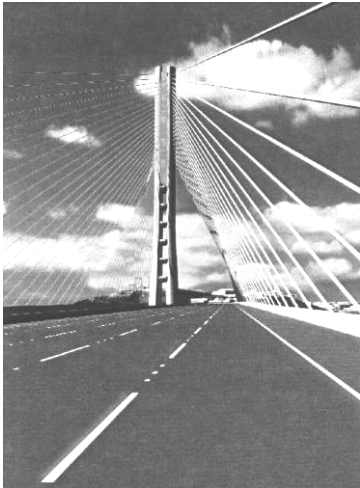


Haunched (“Slightly Arched”) Skyway

Single Tower Alternatives
(Portal View from Roadway and Aerial View)

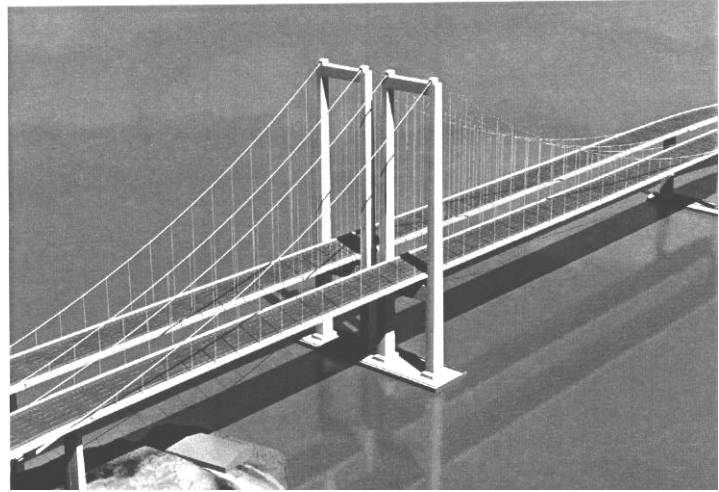


Single Tower Suspension Bridge

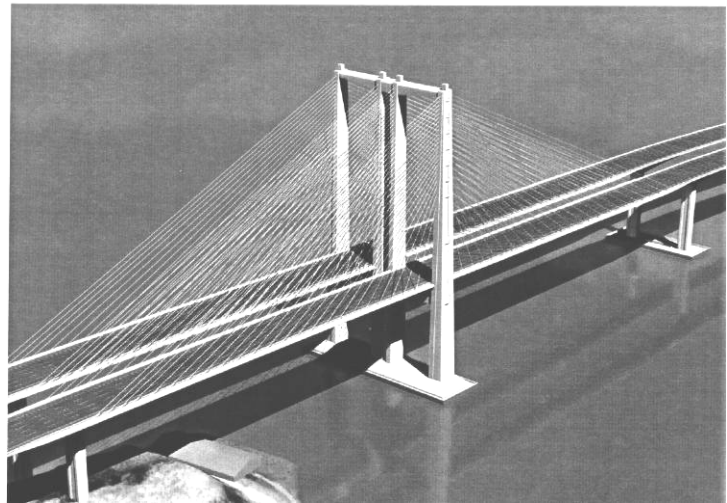
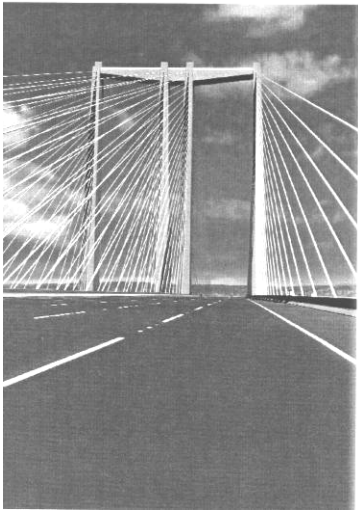


Single Tower Cable Stay Bridge

Dual Tower Alternatives
(Portal View from Roadway and Aerial View)



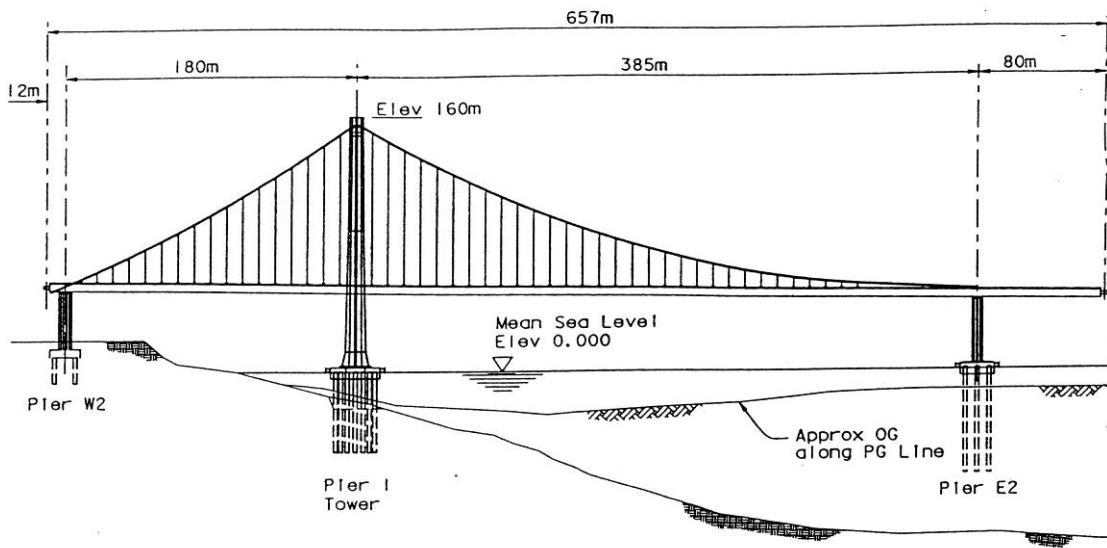
Dual Tower Suspension Bridge



Dual Tower Cable Stay Bridge

Source: California Department of Transportation, United States Department of Transportation, Metropolitan Transportation Commission, *The San Francisco-Oakland Bay Bridge East Span, Seismic Safety Project 30% Design Report, Executive Summary*, 29 May 1999.

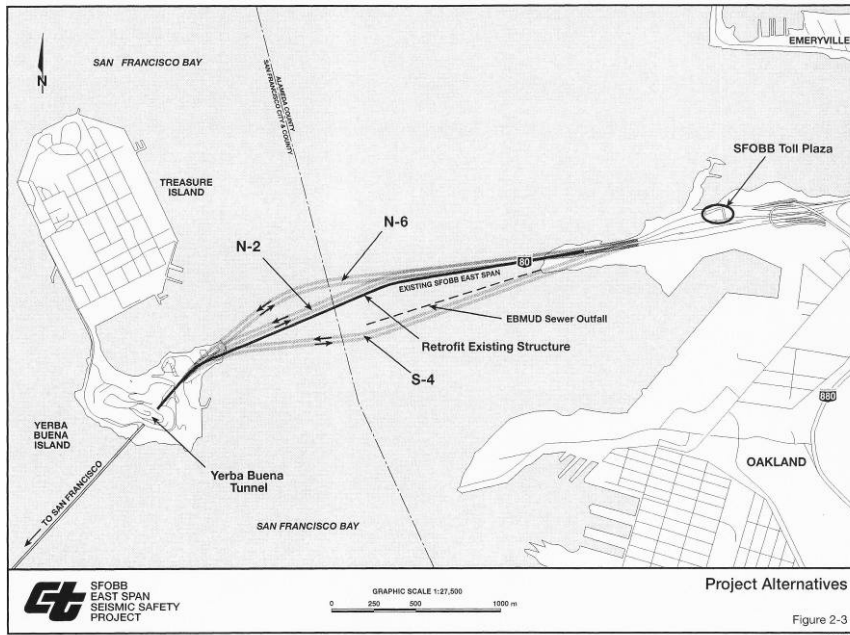
Exhibit 3-15
MTC Recommended Self-Anchored Suspension Span



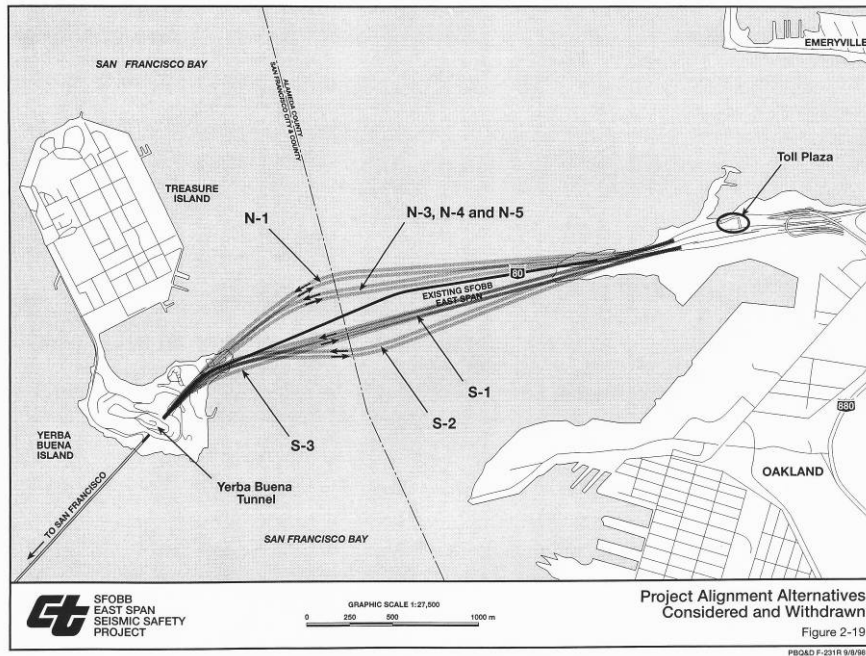
Sources:

SAS photo simulation above from Caltrans/Metropolitan Transportation Commission; and Elevation below from Manzanarez, Rafael, Brian Maroney and Man-Chung Tang, *San Francisco-Oakland Bay Bridge*. T.Y. Lin International and Moffat & Nichol, 1999.

Exhibit 4-1 Bridge Alignment Alternatives



Alignment Alternatives Considered in the Environmental Impact Statement

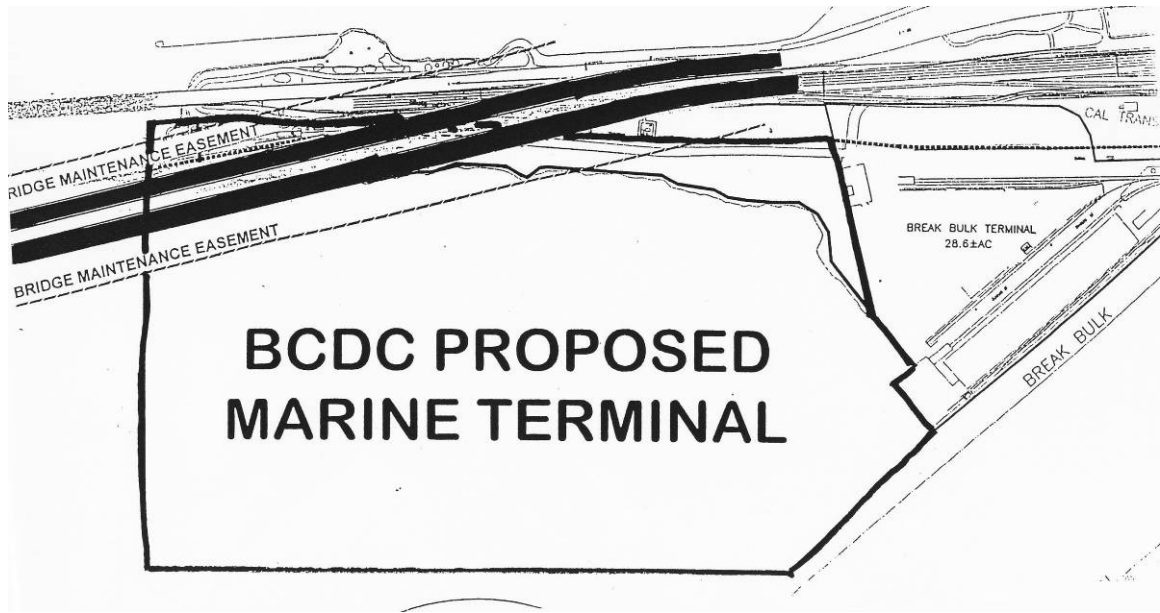


Alignment Alternatives Considered and Withdrawn

Sources:

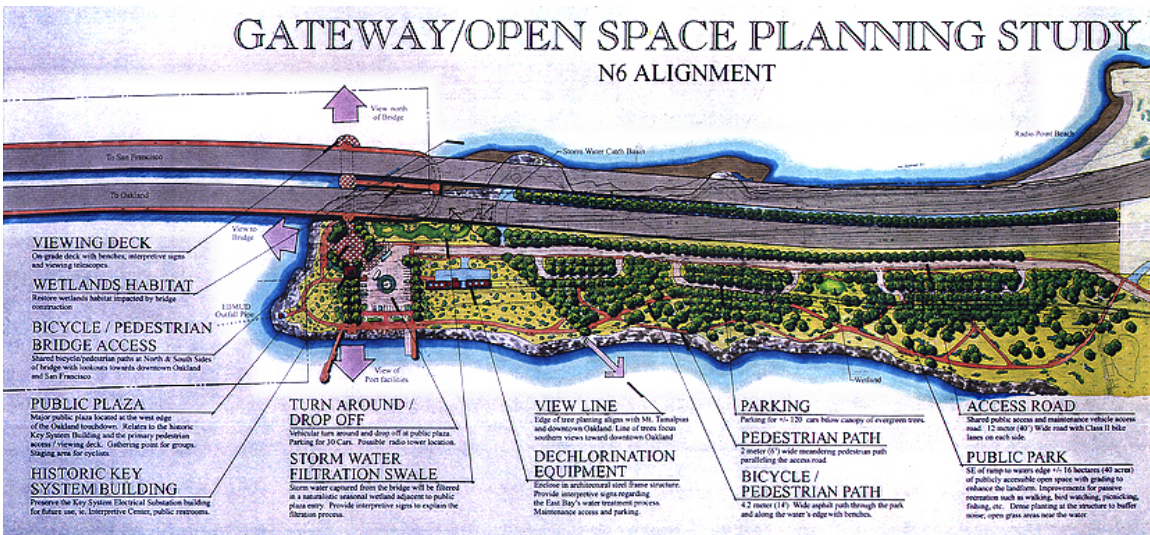
top image: FHWA and Caltrans East Span FEIS, Figure 2-3, A-4.
 bottom image: FHWA and Caltrans East Span DEIS, Figure 2-19, A-50.

Exhibit 4-2
Port of Oakland's Planned Expansion Area
Located South of Existing Bridge



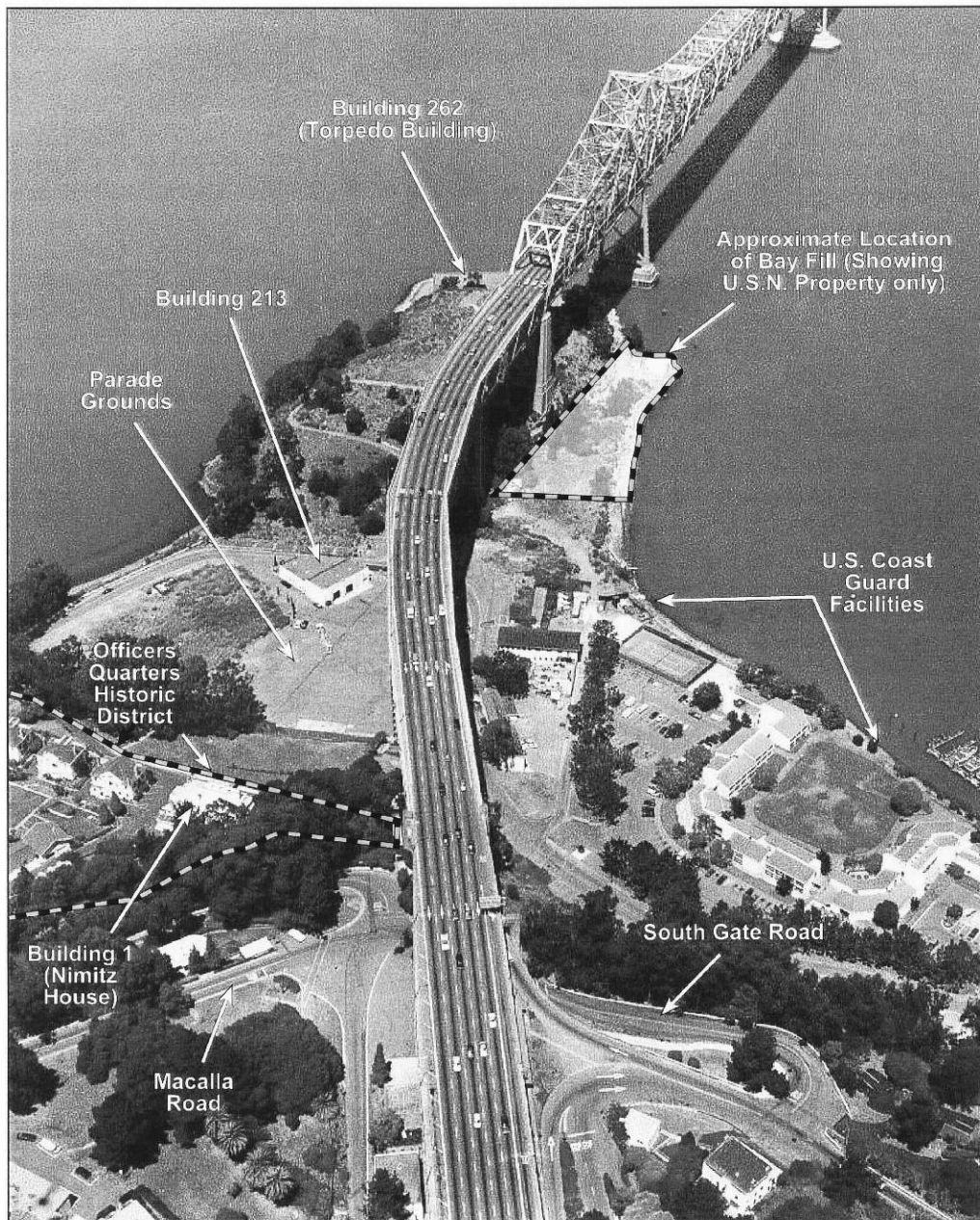
Source: Mr. Richard Wiederhorn, Port of Oakland. Letter to Commissioner Jon Rubin, Metropolitan Transportation Commission, 10 August 1999.

Exhibit 4-3
Proposed Plans for Gateway Park



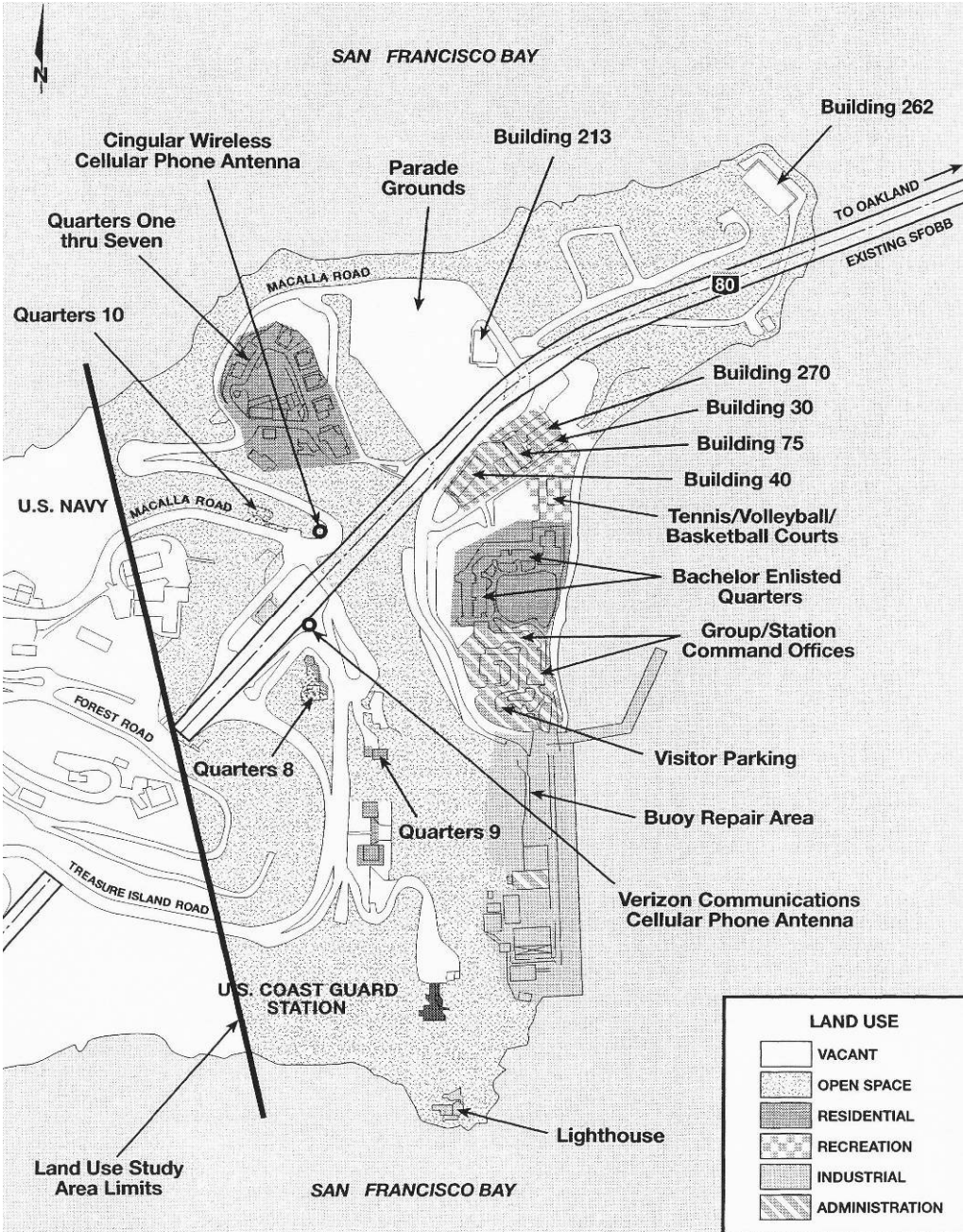
Source: Metropolitan Transportation Commission, East Bay Regional Park District.

Exhibit 4-4
Yerba Buena Island's Existing Land Uses
(Aerial View and Map)



Source: California Department of Transportation, *Land Use Issues Associated with the SFOBB East Span Seismic Safety Project and the Naval Station Treasure Island Draft Reuse Plan* (Oakland: California Department of Transportation, January 2000), 1-2.

Existing Yerba Buena Land Uses



Source: FHWA and Caltrans East Span, Figure 3-2, A-59.

Exhibit 4-5
Historic Buildings on Yerba Buena Island



The Nimitz House



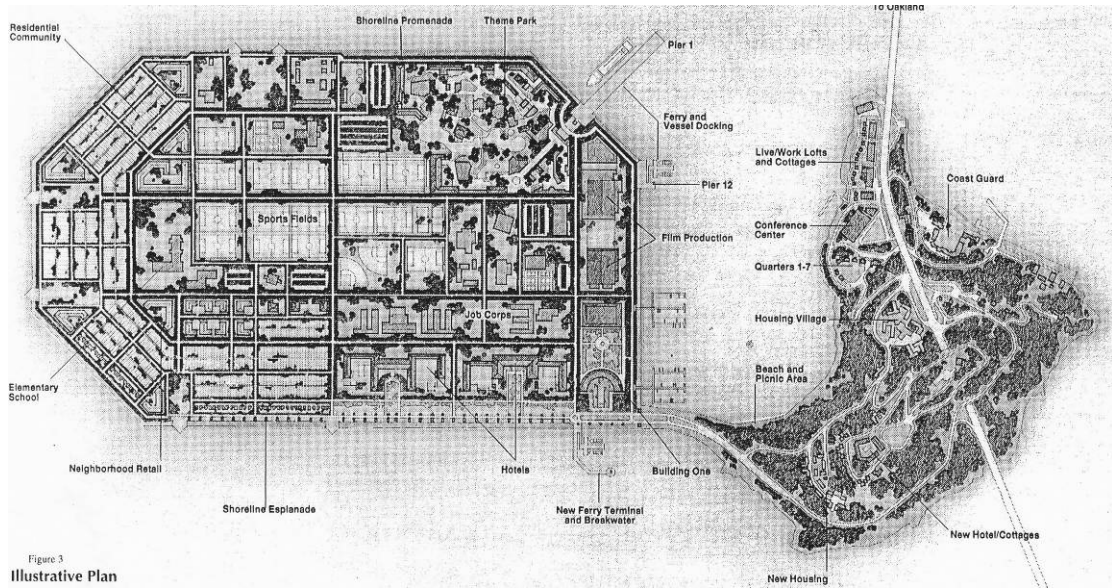
Seniors Officers' District Buildings

Sources:

Nimitz House: California Department of Transportation, Metropolitan Transportation Commission

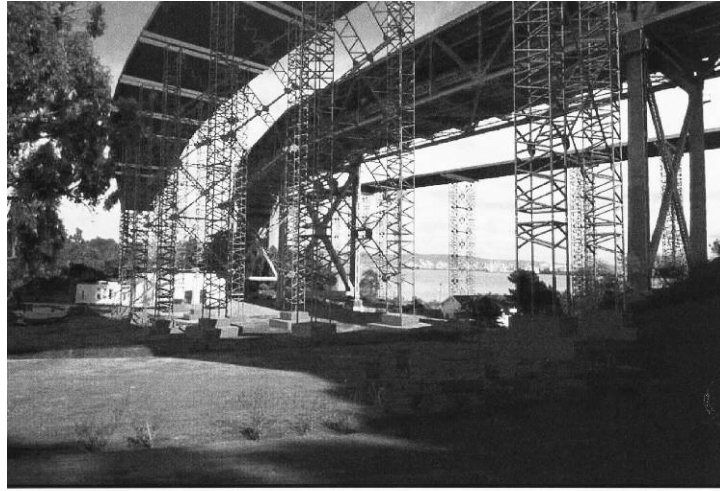
Senior Officers Building: Photo by Peter Summerville, Courtesy of the Treasure Island Development Authority

Exhibit 4-6
San Francisco's 1996 Reuse Plan
for Treasure and Yerba Buena Islands



Source: City and County of San Francisco Planning Department, Office of Military Base Conversion, and the San Francisco Redevelopment Agency/prepared by Roma Design Group, Naval Station Treasure Island Reuse Plan: Draft Plan (San Francisco: City and County of San Francisco, July 1996), xxvii.

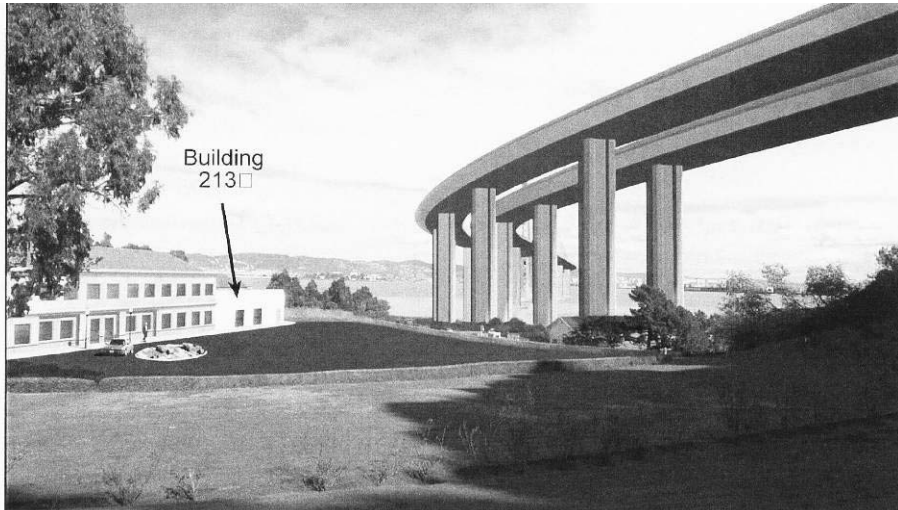
Exhibit 4-7
Temporary Detours on Yerba Buena Island



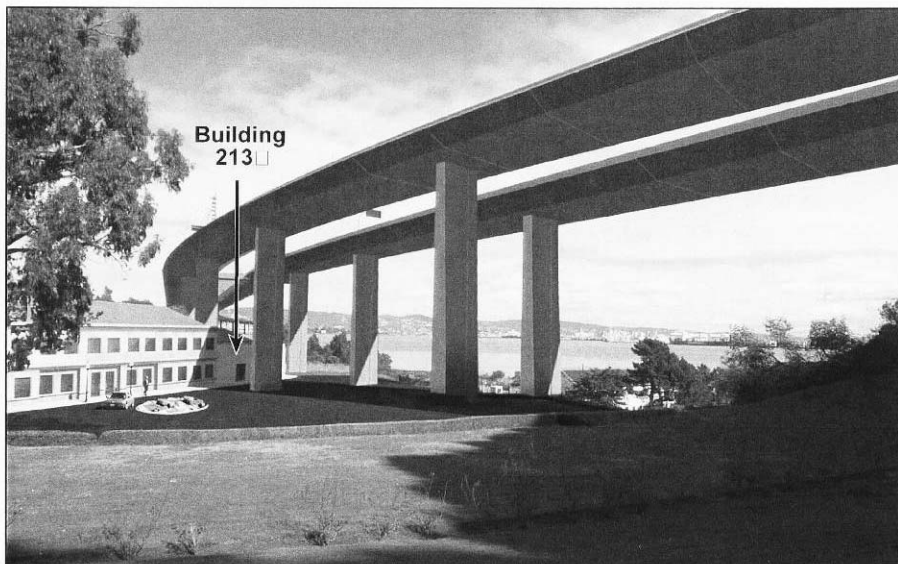
These illustrations show temporary detour structures under consideration during the East Span's environmental impact statement processes. The simulation above illustrates detour structures for a northern bridge alignment (N-6), and the simulation below shows detour structures for a southern bridge alignment (S-4). After completion of supplemental environmental study in 2003, the Federal Highway Administration and Caltrans determined that the temporary structure would be a double-deck structure located south of the existing bridge (not shown).

Sources: California Department of Transportation. *Land Use Issues Associated with the SFOBB East Span Seismic Safety Project and the Naval Station Treasure Island Draft Reuse Plan* (Oakland: California Department of Transportation, January 2000), 5-5; and Federal Highway Administration, United States Department of Transportation and the State of California, Department of Transportation, *Environmental Re-Evaluation #2 East Span Seismic Safety Project in San Francisco and Alameda Counties* (Sacramento, California: Federal Highway Administration, 2003)

Exhibit 4-8
Simulated Views of Proposed Bridge Alignments
from the Nimitz House



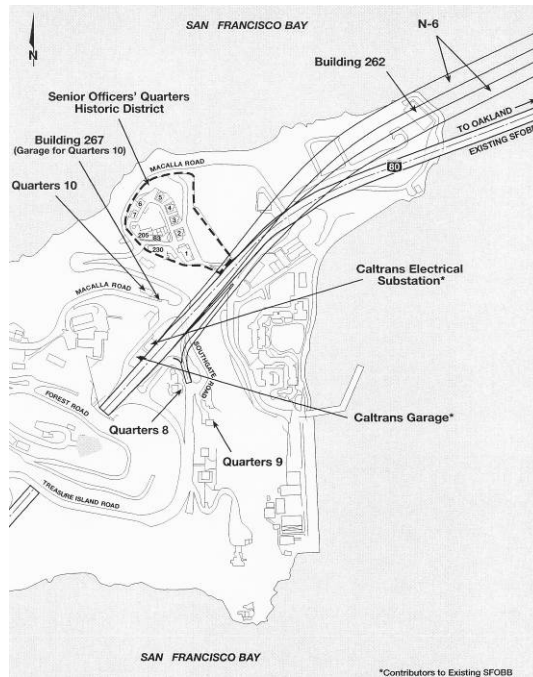
View from the Nimitz House with the Conceptual S-4 Alignment



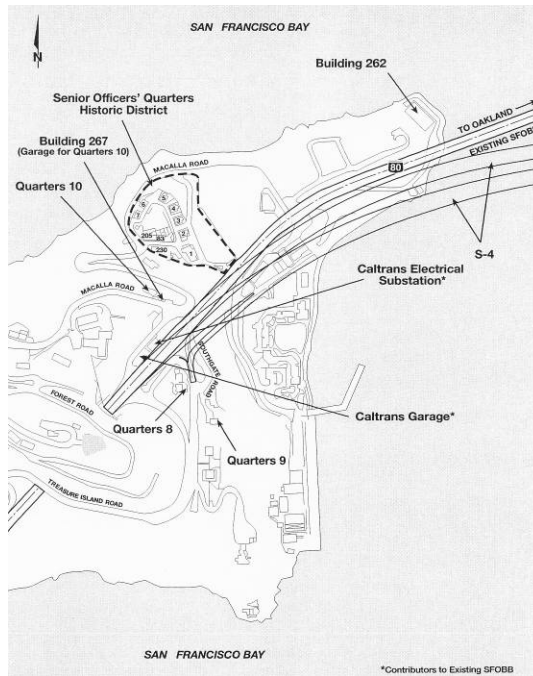
View from the Nimitz House with the Conceptual N-6 Alignment

Source: California Department of Transportation, Land Use Issues Associated with the SFOBB East Span Seismic Safety Project and the Naval Station Treasure Island Draft Reuse Plan (Oakland: California Department of Transportation, January 2000), 4-11.

Exhibit 4-9
Northern and Southern Bridge Alignments
on Yerba Buena Island



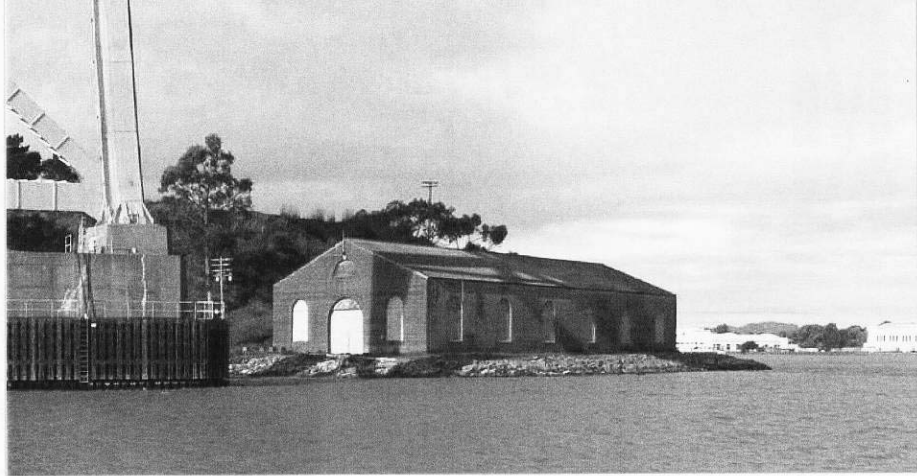
Northern Alignment (N-6)



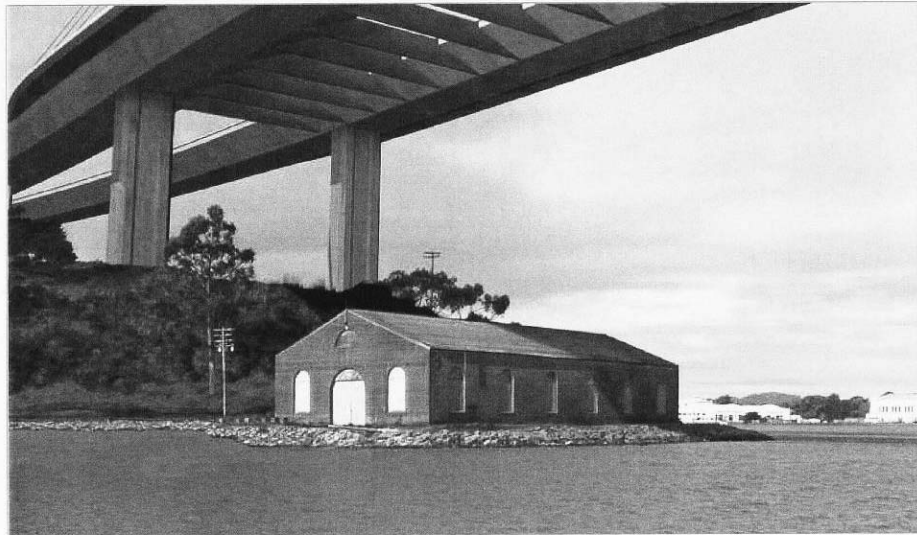
Southern Alignment (S-4)

Source: FHWA and Caltrans FEIS, figures 6-5 and 6-6, A-131 and A-132.

Exhibit 4-10
Torpedo Building at Northern Tip of Yerba Buena Island
(Naval Building 262)



View of Building 262 with the Existing Structure



Simulated view of Building 262 with the N-6 Replacement Alternative

Source: California Department of Transportation, Land Use Issues Associated with the SFOBB East Span Seismic Safety Project and the Naval Station Treasure Island Draft Reuse Plan (Oakland: California Department of Transportation, January 2000), 4-9.

Exhibit 4-11
Signing of Senate Bill 60 to
Fund the State's Seismic Retrofit Program and
New Bay Bridge's East Span



State officials at Treasure Island for signing the toll bridge seismic retrofit legislation, Senate Bill 60, August 1997

From left: Assemblymember Carole Migden of San Francisco, Mayor Willie Brown of San Francisco, Governor Pete Wilson, Senator Bill Lockyer of Hayward, and Senator Quentin Kopp of San Francisco.

Source: Photograph by Associated Press/World Wide Photos in Metropolitan Transportation Commission, *Transactions*, September 1997.

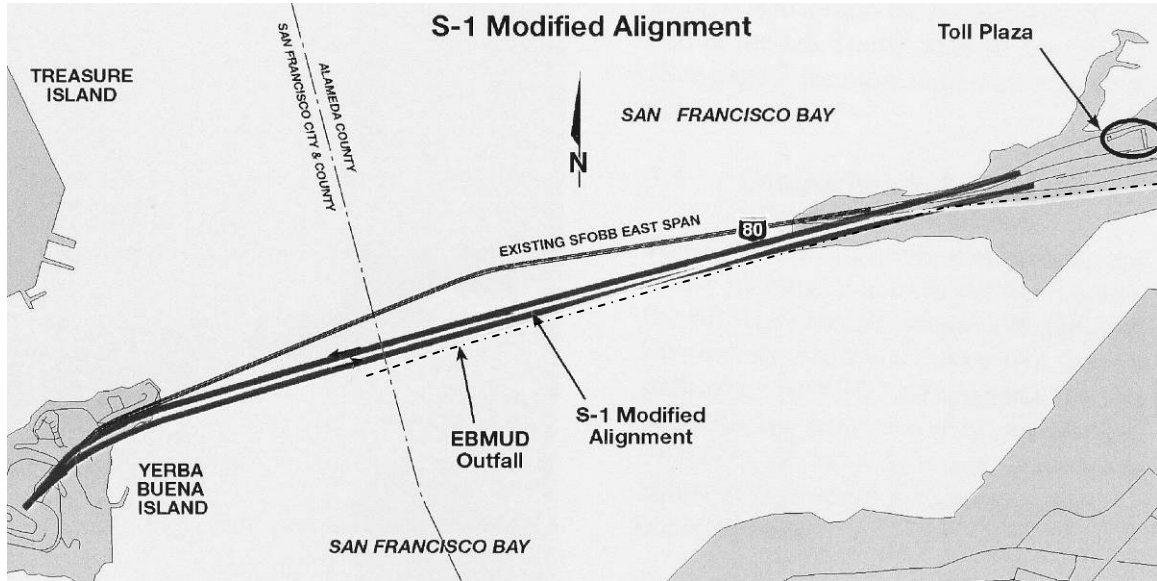
Exhibit 4-12
MTC's Bay Bridge Task Force with the
Approved Asymmetrical Self-Anchored Suspension Bridge
June 1998



From left: Commissioner Jon Rubin (San Francisco's mayoral appointee), Supervisor Tom Hsieh (representing the city/county of San Francisco), Commissioner Angelo Siracusa (representing Bay Conservation and Development Commission), Councilperson/Mayor Sharon Brown of El Cerrito (representing Contra Costa cities), Supervisor Mary King (Task Force chairperson and representing Alameda County cities), and Supervisor Mark DeSaulnier (representing Contra Costa County). Not pictured: Oakland Mayor Elihu Harris (representing Alameda County cities).

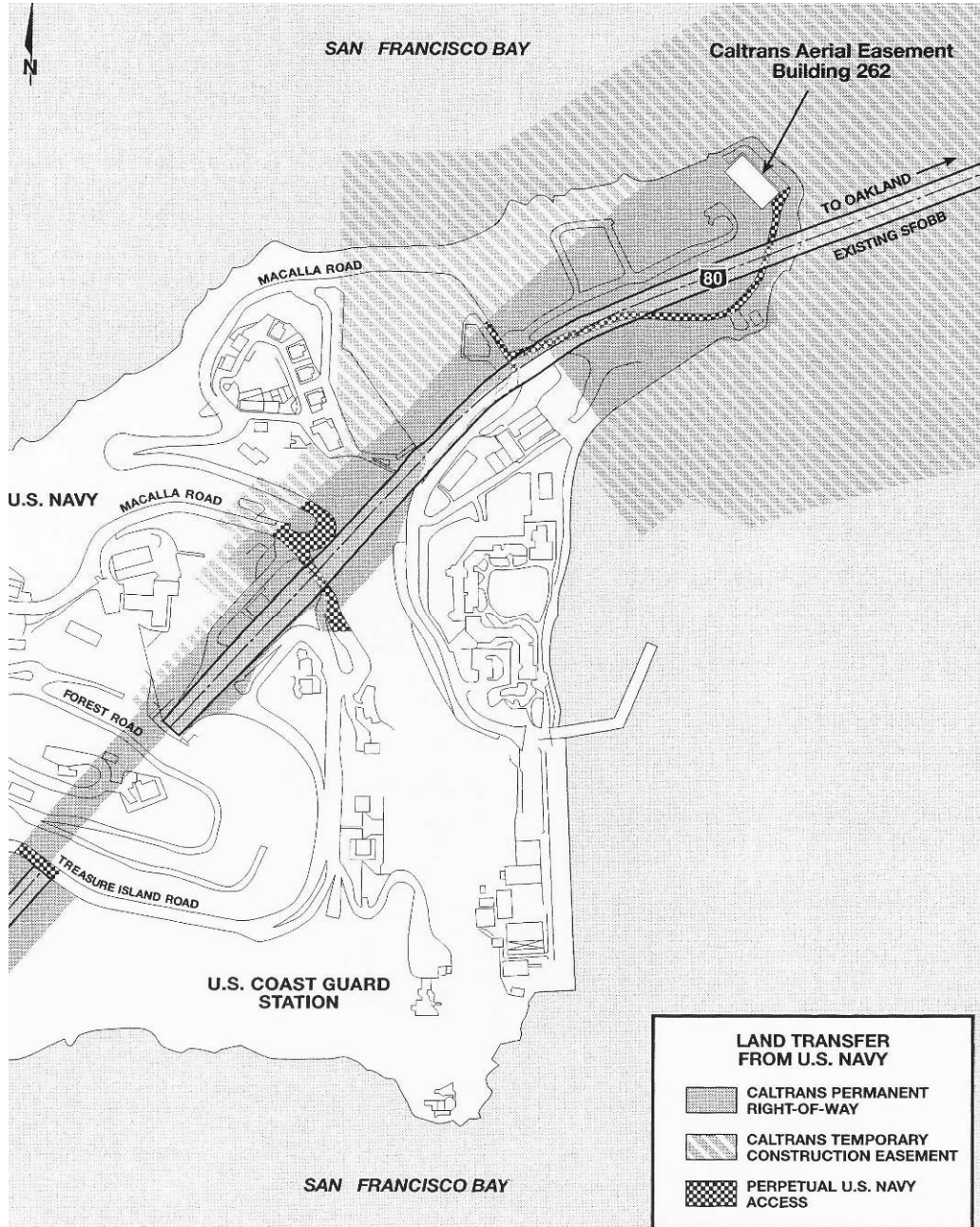
Source: Metropolitan Transportation Commission.

Exhibit 4-13
San Francisco's Southern Alignment Alternative
and the East Bay Municipal Utility District's Sewer Outfall



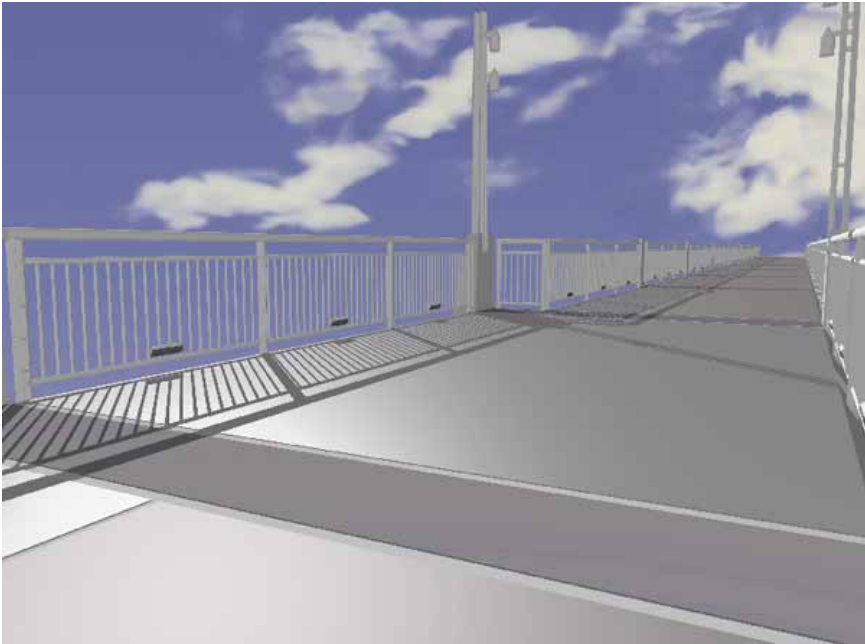
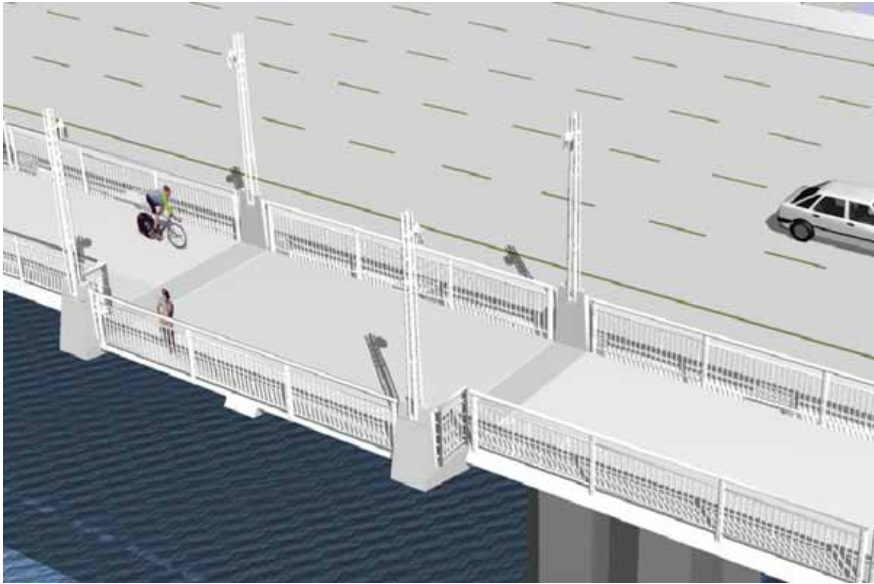
Source: California Department of Transportation, *San Francisco-Oakland Bay Bridge East Span Seismic Safety Project, CCSF S-1 Modified Alignment and the Impacts to the EBMUD Sewer Outfall* (Oakland: California Department of Transportation, November 1999), 13. (EBMUD outfall line was enhanced to improve legibility.)

Exhibit 4-14
Land Transferred on Yerba Buena Island
from the U.S. Navy to the Federal Highway Administration and Caltrans



Source: FHWA and Caltrans East Span FEIS, figure 3-2, A-59.

Exhibit 5-1
Renderings of Approved Pathway



Source: Metropolitan Transportation Commission

Exhibit 6-1
Some Pathway Advocates
Protesting in Support of Bay Bridge Rail
(San Francisco-Oakland Bay Bridge, 1998)



Source: Thor Swift Photography, copyright 1998; <http://www.bikethebridge.org/>

Exhibit 7-1
State-Owned Toll Bridge Seismic Retrofit Program Cost Estimates
(dollars in millions)

	Prop. 192 of 1996 Estimate	SB 60 (Kopp) of 1997	Spring 2001 Caltrans Estimate	AB 1171 (Dutra) of 2001	August 2004 Estimate	AB 144 (Hancock) of 2005 Estimate
Northern California Bridges						
Bay Bridge (1)	250.0	1,838.0	3,300.0	3,300.0	5,867.0	6,237.8
West Span and approaches		553.0	700.0	700.0	737.0	736.9
East Span		1,285.0	2,600.0	2,600.0	5,130.0	5,500.9
Richmond-San Rafael	127.0	329.0	665.0	665.0	914.0	914.0
Benicia-Martinez (2)	63.0	101.0	190.0	190.0	180.0	180.2
San Mateo-Hayward	63.0	127.0	190.0	190.0	165.0	165.1
Carquinez, eastbound span (2)	36.0	83.0	125.0	125.0	115.0	115.1
<i>subtotal</i>	539.0	2,478.0	4,470.0	4,470.0	7,241.0	7,612.2
Southern California Bridges						
Coronado Bridge, San Diego	42.0	95.0	105.0	105.0	105.0	104.8
Vincent Thomas, Long Beach	21.0	45.0	62.0	62.0	59.0	59.2
<i>subtotal</i>	63.0	140.0	167.0	167.0	164.0	164.0
Program Contingency				448.0	900.0	900.0
Total	650.0	2,618.0	4,637.0	5,085.0	8,305.0	8,676.2

Notes:

(1) SB 60 set the baseline bridge for the cost at \$1.2 billion, which included \$80 million for a tower structure. MTC was authorized an additional \$230 million towards bridge amenities including, the tower design, pathway, or the Transbay Terminal.

(2) Regional Measure 1 of 1989 provided funding for construction of the Carquinez Bridge's new westbound span and the Benicia-Martinez Bridge's new northbound span and toll plaza.

Sources:

Proposition 192: Greg Lucas, "Cost of the Bay Bridge Retrofit Quadruples," *San Francisco Chronicle*, 31 January 1996.

Senate Bill 60: Senate Bill 60, Statutes of 1997

Assembly Bill 1171: Assembly Bill 1171, Statutes of 2001

Spring 2001 Caltrans Estimate: Allen M. Lawrence, California Transportation Commission to California State Legislators, 22 May 2001; California Department of Transportation, April 2001.

August 2004 Estimate: California Department of Transportation, August 2004 and California State Auditor, 2004.

Assembly Bill 144: California Department of Transportation, 18 May 2005; BATA, August 2004.

Exhibit 7-2
Key State Legislation Affecting the
Toll Bridge Seismic Retrofit Program (1995 to present)

Legislation	Major Provisions*
Senate Bill 146 (Maddy) of 1995, which authorized Proposition 192 of 1996	Provided \$2 billion in general obligation bond funds for the state’s seismic retrofit program of bridges, highways, and overpasses, including \$650 million for state-owned toll bridges.
Senate Bill 60 (Kopp) of 1997	Funded approximately \$2 billion in cost increases for the toll bridge seismic retrofit program. The state and region evenly funded these added costs. Added \$1 seismic retrofit toll surcharge on Bay Area bridges for eight years beginning in 1998 and permitted MTC to extend the toll an additional two years to expend \$230 million in toll revenues for so-called “amenities” — a signature tower design, an east span pathway or the Transbay Terminal.
Senate Bill 226 (Kopp) of 1997	Created the Bay Area Toll Authority (BATA), whose board is the MTC commission. BATA was given oversight and administration authority over the \$1 base toll and the Regional Measure 1 program.
AB 2038 (Migden) of 1998	Authorized a proposed pathway for the Bay Bridge’s west span as an eligible toll bridge “amenity.”
AB 1171 (Dutra) of 2001	Funded approximately \$2.4 billion in cost increases for the toll bridge seismic retrofit program. Cost increases were shared roughly between the state and region. Extended \$1 Bay Area seismic retrofit toll surcharge an additional thirty years.
AB 144 (Hancock) and Senate Bill 66 (Torlakson) of 2005	Funded \$3.6 billion in cost increases for the toll bridge seismic retrofit program. Cost increases were divided as follows: 82.5% from the Bay Area and 17.5% from the state. Increased Bay Area tolls by another \$1 to take effect no earlier than January 2007. Transferred full oversight and administrative authority over all revenue received from Bay Area state-owned toll bridges to BATA/MTC. Created the Toll Bridge Program Oversight Committee consisting of MTC/BATA, Caltrans and CTC directors to oversee project management and contracting. The committee must receive BATA approval of contract specifications and bid documents. (SB 66 of 2005 was later enacted to provide clarification on various sections of AB 144.)

* Please see Exhibit 7-1 for the specific toll bridge cost estimates that were used to guide the enacted legislation.

Exhibit 7-3
Toll Increases on Bay Area State-owned Toll Bridges
for Single-Occupant Vehicles (SOV)*

<u>Year</u>	<u>Toll Level</u>	<u>Amount of Toll Increase</u>	<u>Total Toll Level</u>	<u>Legislation Authorizing Toll Increase</u>
1989**	.75	.25	\$1.00	Senate Bill 45 (Lockyer) of 1988 and Regional Measure 1 of 1988 to fund a specific list of transportation projects and programs, such as bridge projects and rail extensions
1998	\$1.00	\$1.00	\$2.00	Senate Bill 60 (Kopp) of 1998 to fund the toll bridge seismic retrofit program
2004	\$2.00	\$1.00	\$3.00	Senate Bill 916 (Perata) of 2003 and Regional Measure 2 of 2004 to fund specific transportation projects and programs
To be determined (but no earlier than January 1, 2007)	\$3.00	\$1.00	\$4.00	Assembly Bill 144 (Hancock)/Senate Bill 66 (Torlakson) of 2005 to fund cost increases in the toll bridge seismic retrofit program

Notes:

* Trucks are charged the toll level listed above for SOVs plus an additional toll based on the number of vehicle axles. Carpools may cross toll free during commute hours. (The carpool vehicle occupancy level ranges from two occupants per vehicle to three occupants depending upon the particular bridge.)

**Prior to 1989, toll levels varied by bridge until Regional Measure 1 established a uniform \$1 base toll on all state-owned Bay Area bridges. With respect to the Bay Bridge, the toll ranged from \$1.30 in 1936 to \$.50 in 1940. As a result of AB 664 of 1975, the Bay Bridge toll increased to \$.75. The legislation allowed revenues from the toll increase to be used for corridor-based transit projects.

Sources: Metropolitan Transportation Commission, state legislation; and Michael Cabanatuan, "Some expect \$3 bay Bridge Toll in Near Future; Meanwhile, 'Temporary' \$2 Fee Seems Here to Stay," *San Francisco Chronicle*, 23 April 2001.

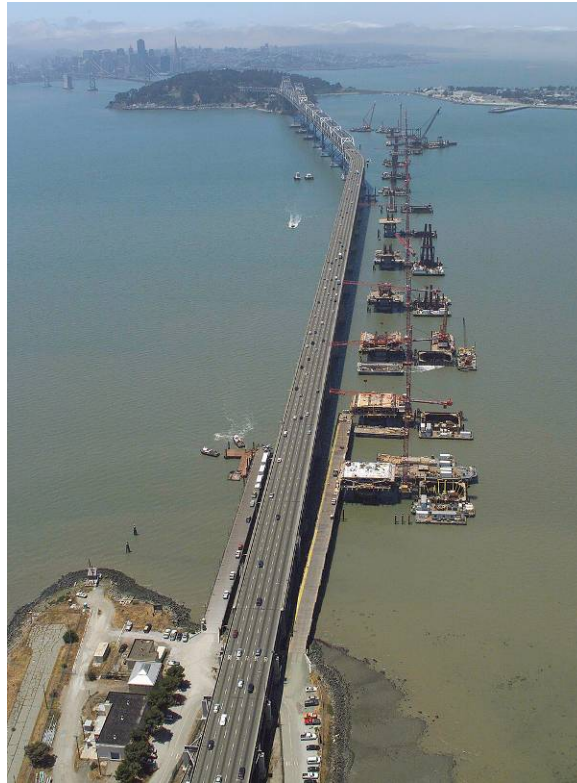
Exhibit 7-4
New East Span Groundbreaking
January 2002



Then-Governor Gray Davis is at the podium. A model of the new bridge is in the foreground and the existing East Span is in the background.

Source: Photograph by Karen Preuss in Metropolitan Transportation Commission, “A Historic Event, A Perfect Day,” *Transactions*, February 2002.

Exhibit 7-5
New East Span Construction, 2004



The photograph above shows the new bridge's construction adjacent to the existing span. Downtown San Francisco is in the background. The photograph below shows construction of the suspension tower's foundations on Yerba Buena Island.

Source: Bill Hall, California Department of Transportation

Exhibit 7-6
Signing of Assembly Bill 144 of 2005



Governor Schwarzenegger's signing of Assembly Bill 144 in July 2005. The event took place in front of the existing East Span. The new span can be seen under construction behind it. (From left to right: Senator Tom Torlakson, Assemblyman Guy Houston, Governor Arnold Schwarzenegger and Senator Don Perata)

Source: Office of Governor Arnold Schwarzenegger, John Decker.