



Agenda Item No. 2

To: Government Affairs and Public Information Committee/Committee of the Whole Meeting of March 23, 2007

From: Kary H. Witt, Deputy General Manager, Bridge Division
Celia G. Kupersmith, General Manager

Subject: **APPROVE ACTIONS RELATIVE TO THE DESIGNATION OF THE GOLDEN GATE BRIDGE AS A SAFETY AWARENESS ZONE**

Recommendation

The Government Affairs and Public Information Committee recommends that the Board of Directors approve the following actions relative to the designation of the Golden Gate Bridge as a Safety Awareness Zone in accordance with the provisions of Senate Bill 988:

- a. Designate the Golden Gate Bridge as a Safety Awareness Zone; and,
- b. Approve a Safety Awareness Zone Plan.

Summary

Senate Bill (SB) 988 introduced by Senator Carole Migden (Attachment A) and signed into law on September 29, 2006, designates the Golden Gate Bridge as a Safety Awareness Zone upon the passage of a resolution by the Board of Directors authorizing such designation and upon approval by the Board of Directors of a Safety Awareness Zone Plan. Designation of the Golden Gate Bridge as Safety Awareness Zone will take effect immediately upon approval by the Board of Directors and will remain valid for a period of three years. The designation can be extended for another three years upon approval by the Board of Directors.

In accordance with the provisions of SB 988, staff has developed the attached Safety Awareness Zone Plan (Attachment B). The Plan provides an overview of the history of our efforts to promote safe travel across the Golden Gate Bridge and identifies several education, enforcement and engineering measures that should be pursued in conjunction with our new safety awareness zone designation.

Fiscal Impact

There is no fiscal impact associated with the approval of the Safety Awareness Zone plan or with designation of the Golden Gate Bridge as a Safety Awareness Zone. There are minor costs associated with implementation of various components of the Safety Awareness Zone Plan, however these costs, in aggregate, are not expected to exceed \$5,000.

Attachments

AMENDED IN ASSEMBLY AUGUST 14, 2006

AMENDED IN ASSEMBLY JUNE 21, 2006

AMENDED IN SENATE JANUARY 4, 2006

SENATE BILL

No. 988

Introduced by Senator Migden

February 22, 2005

An act to add Sections 97 and 97.1 to the Streets and Highways Code, relating to transportation.

LEGISLATIVE COUNSEL'S DIGEST

SB 988, as amended, Migden. Safety Awareness Zones: Golden Gate Bridge.

Existing law makes the Department of Transportation responsible for improving and maintaining the state highway system. Existing law does not provide for the designation of a specified segment of a highway as a Safety Awareness Zone.

This bill would designate the Golden Gate Bridge as a Safety Awareness Zone, upon the satisfaction of specified requirements that the bill would also establish for a designation of a highway segment as a Safety Awareness Zone. The bill would authorize a Safety Awareness Zone to be in effect for 3 years and would *authorize renewal of a Safety Awareness Zone for an additional 3 years. The bill would* require the approval of the Director of Transportation and the Commissioner of the Department of the California Highway Patrol for a 3-year renewal of the Safety Awareness Zone *that is a state highway*. The bill would require the Department of Transportation to develop and place signs to notify motorists of the presence of a Safety

Awareness Zone. The bill would enact related provisions applicable to the establishment of Safety Awareness Zones.

Vote: majority. Appropriation: no. Fiscal committee: yes.
State-mandated local program: no.

The people of the State of California do enact as follows:

- 1 SECTION 1. Section 97 is added to the Streets and Highways
2 Code, to read:
3 97. The following segments are eligible for designation as
4 Safety Awareness Zones pursuant to Section 97.1:
5 (a) The Golden Gate Bridge.
6 SEC. 2. Section 97.1 is added to the Streets and Highways
7 Code, to read:
8 97.1. (a) A state highway segment shall be designated as a
9 Safety Awareness Zone if the all the following conditions have
10 been met:
11 (1) The highway segment is eligible for designation under
12 Section 97.
13 (2) Each local governing body or bodies, with jurisdiction over
14 the area or areas in which the eligible segment is located, has
15 adopted a resolution indicating its support for the designation as
16 well as a Safety Awareness Zone Plan addressing education,
17 enforcement, and engineering measures intended to support the
18 designation.
19 (3) ~~The~~ *If the highway segment is a state highway, the Safety*
20 *Awareness Zone Plan has been approved by the Director of*
21 *Transportation and the Commissioner of the Department of the*
22 *California Highway Patrol.*
23 (b) A Safety Awareness Zone designation shall be deemed
24 effective immediately upon satisfaction of all requirements
25 pursuant to subdivision (a) and may remain in effect for a period
26 not to exceed three years from the effective date. The designation
27 may be renewed; for a period not to exceed three ~~years, upon~~
28 *years. Renewal of a designation for a highway segment that is a*
29 *state highway shall require the approval by the Director of*
30 *Transportation and the Commissioner of the Department of the*
31 *California Highway Patrol of an updated Safety Awareness Zone*
32 *Plan.*

1 (c) The department shall develop a sign to notify motorists of
2 the presence of a Safety Awareness Zone, and shall place and
3 maintain the signs for as long as the designation is in effect
4 pursuant to this section.

5 (d) Presence of a Safety Awareness Zone does not increase the
6 civil liability of the state or local authority having jurisdiction
7 over the highway segment under Division 3.6 (commencing with
8 Section 810) of Title 1 of the Government Code or any other
9 provision of law relating to civil liability.

10 (e) Projects on a highway segment specified as a Safety
11 Awareness Zone shall not be elevated in priority for state funding
12 purposes.

13 (f) *For purposes of this section, "highway" has the meaning*
14 *set forth in Section 360 of the Vehicle Code.*

Golden Gate Bridge

Safety Awareness Zone Plan

Introduction

Effective January 1, 2007, Senate Bill 988 designated the Golden Gate Bridge (Bridge) as a Safety Awareness Zone (SAZ). The legislation requires that the Board of Directors (Board) adopt a SAZ Plan to address the education, enforcement and engineering measures that will be undertaken in support of this designation.

In addition to its status as a world renowned icon, the Bridge is a vital transportation link in California's highway system and is key to the economic vitality of the San Francisco Bay Area. With more than 10 million tourists visiting each year and 40 million vehicles crossing the span annually, the Golden Gate Bridge, Highway and Transportation District (District), is continually focused on advancing and enhancing safety measures to best protect the traveling public.

To further enhance traffic safety conditions, the Bridge has been designated as a SAZ, and this SAZ Plan has been developed to guide the implementation of various elements of the SAZ program. The SAZ Plan summarizes the history of traffic safety improvements that have been undertaken on the Bridge through the years; describes the engineering measures and current initiatives to promote traffic safety in light of the Bridge's physical characteristics and limitations; and outlines the traffic enforcement program in place that has been developed in partnership with the California Highway Patrol (CHP) to aggressively enforce the 45 mph speed limit and other important traffic safety laws on the Bridge. Finally, this Plan spells out a public education program to further reinforce traffic safety awareness on the Bridge. These combined measures reflect the District's continuing and concerted efforts to maintain and improve traffic safety on the Bridge.

1. Background and History of Traffic Safety Improvements

The smooth, efficient and safe flow of traffic across the Bridge has been continually enhanced through a number of operational and safety measures that have been implemented over the last several decades, including

- **On October 29, 1963**, reversible lanes were inaugurated on the Bridge, greatly aiding the flow of traffic during the heavy peak periods.
- **On October 19, 1968**, the Bridge launched one-way toll collection with auto tolls free for northbound travelers and a \$.50 toll collected from southbound travelers. This significantly improved the efficiency of traffic flow by limiting the "storage" of queued vehicles to the southbound direction, on the Bridge itself rather than northbound on city streets and Bridge approaches.

- **In 1974**, the reversible lane traffic management system was modified to include buffer lanes (unoccupied lanes creating a median space between opposing lanes of traffic) on the Bridge during light traffic periods during the night.
- **In April 1976**, the District initiated toll free passage on the Bridge for vehicles with three or more occupants during peak commute traffic hours, further enhancing the efficient flow of traffic during the heaviest peak commute periods.
- **On October 1, 1983**, following detailed evaluation by traffic safety experts, the speed limit on the Bridge was reduced to 45 MPH, and increased law enforcement patrols were added to enforce the newly lowered speed limit. Among the factors considered in establishing the lowered speed limit were the relatively narrow roadway lanes and tight curves at either end of the Bridge, coupled with high traffic volumes, and frequently foggy and windy conditions.
- **On August 15, 1985**, the installation of a new roadway deck was completed. As part of this improvement, the Bridge roadway was widened from 60 to 62 feet. This allowed the creation of two 11 foot wide curb lanes, one in each direction, to better and more safely accommodate buses and trucks.
- **On September 13, 1996**, a "Safety Enhancement—Double Fine Zone" was established on the Bridge, doubling the fine for moving violations. The Bridge was one of twelve "Safety Enhancement—Double Fine Zone" pilot projects implemented statewide under SB 1367. District officials believe that the well-publicized Double Fine Zone, combined with stepped-up enforcement efforts by the CHP, was an important factor behind a sustained reduction in measured speed and accidents on the Bridge observed over the subsequent 7-year period. Legislation enacted subsequent to SB 1367 added a "sunset provision" to the Double Fine Zone pilot program, and the Double Fine Zone on the Bridge expired on December 31, 2003. Efforts in 2004, 2005 and 2006 to obtain legislation authorizing re-establishment of the double fine zone were unsuccessful.
- **On May 1, 1997**, as part of the public outreach efforts to raise awareness about the Bridge's 45 MPH speed limit, 15 NASCAR Winston Cup race cars crossed the Bridge with "taxi-top" signs reading "*I Can Drive 45 on the Golden Gate Bridge.*"
- **On August 11, 1997**, the CHP began using LIDAR technology for speed enforcement on the Bridge. The result of the use of this technology as part of a sustained speed enforcement effort by the CHP has been a reduction in speed on the Bridge, which is a primary factor contributing to a dramatic and sustained reduction in accidents. The District Board of Directors approved the purchase of the LIDAR equipment for use by the CHP in March 1997
- **On July 13, 2000**, the FasTrak electronic toll collection system was launched on the Bridge, further enhancing the efficient flow of traffic on the Bridge, particularly during periods of heaviest demand. FasTrak increased the throughput of vehicles at the toll plaza which eliminated the back-up of vehicles during the morning commute.

- **In November 2003**, the construction of a new Public Safety Railing was completed between the roadway and the sidewalks to better separate traffic lanes from pedestrian and bicycle traffic.

All of these measures have effectively minimized traffic congestion and aided the flow of traffic across the Bridge.

Engineering Measures and Initiatives to Promote Traffic Safety

Technical Description of Bridge Roadway

The Bridge roadway is 1.7 miles long, including approaches. The span's six-lane roadway includes curb lanes in each direction that are 11-feet-wide. The remaining four lanes are just 10-foot wide. Traffic travels across the span in opposing directions separated by 19 inch-tall, 4 inch diameter plastic tubes, spaced at 25 foot intervals. The tubes are manually placed in sockets in the Bridge roadway to delineate the San Francisco outbound (northbound) lanes and the San Francisco inbound (southbound) lanes.

Traffic Control Operations

The number of lanes in each direction on the Bridge can be changed to accommodate peak traffic demand in either direction. This is done by manually moving the tubes to delineate more lanes in the peak direction. Lanes are typically reconfigured several times each day to match the changing direction of peak traffic flow. Additionally, the number of toll lanes open at any time and the number of toll lanes dedicated only to FasTrak transactions can be adjusted to accommodate changes in demand.

Roadway Lighting

The Bridge roadway is lit at night by a system of roadway lighting. This system features high pressure sodium lamps fitted with a special yellow tinted filter to provide a softer non-glare illumination that is particularly well suited for the foggy conditions common at the Bridge.

Moveable Median Barrier

The installation of a one-foot-wide moveable median barrier (MMB) is the next major safety enhancement contemplated for the span to virtually eliminate crossover collisions. The MMB system includes the barrier -- 12-inch wide and 32-inch high steel clad units filled with high density concrete tightly pinned together to form a semi-rigid median barrier -- and the transfer machine.

The District conducted an extensive study of a wider (two-foot-wide) MMB technology in the 1980s and found it to be infeasible. With the emergence of a narrower one-foot wide barrier in 1996, the District immediately launched a comprehensive analysis that led to the conclusion that, with some operational trade-offs, a barrier will virtually eliminate crossover accidents. The next step is detailed engineering and environmental design.

To advance the next phase of engineering and environmental analysis, \$5 million is required. The District is seeking \$4 million in external funding so that this vital safety enhancement project is able to move forward. It is estimated that final design and construction will cost another \$20 million.

2. Enforcement of Speed Limits and Traffic Regulations

Section 27177 of the California Streets and Highways Code establishes that the CHP has the exclusive authority and duty to enforce the provisions of the California Vehicle Code as they relate to the operation of vehicles on the Bridge. The District has a long history of working closely with the CHP to ensure a high standard of traffic safety on the span. Traffic experts have long agreed that one of the keys to traffic safety on the Bridge is aggressive enforcement of the speed limit. The correlation between reduced speed and motorist safety given the special traffic circumstances such as narrow lane widths and frequent inclement weather on the Bridge cannot be overstated.

Success of Recent Speed Enforcement Efforts

A review of speed survey data before and after the implementation of the Double Fine Zone demonstrate the dramatic reduction in prevailing speed and in the number of gross speed violators. In surveys conducted in August 1995 and April 1996, before implementation of the Double Fine Zone, prevailing vehicular speeds were in the 58 to 62 mph range. In surveys conducted in October 1996, January 1997 and April 2002, with the Double Fine Zone in effect, the prevailing speeds had reduced significantly to the 52 to 55 mph range. Likewise, before imposition of the Double Fine Zone, more than 96% of traffic was traveling over the posted 45 mph speed limit and more than half were traveling over 55 mph. Immediately after imposition of the Double Fine Zone, only 58-70% were traveling over 45 mph, and only 5-10% were traveling over 55 mph. These dramatic results have held fairly constant over the years. In April 2002, only 9-12% of vehicles exceeded 55 mph.

Perhaps the most compelling argument for the efficacy of efforts to control speed on the Bridge comes through a comparison of accident rates. For the five year period 1992 to 1996 the accident rate on the Bridge was .69 accidents per million vehicle miles. In the five year period, 1997 to 2001 with the well publicized Double Fine Zone in place and aggressive enforcement by the CHP, the accident rate has decreased dramatically to .36 accidents per million vehicle miles. This represents an almost 50% reduction in injury and property damage accidents which is almost entirely attributable to the imposition of the Double Fine Zone and aggressive speed enforcement.

Despite the expiration of the Double Fine Zone authorization, the CHP remains committed to the aggressive enforcement of traffic safety laws on the Bridge with special emphasis on the enforcement of the 45 mph speed limit. In the three years since expiration of the Double Fine Zone authorization, accident rates have remained lower than before the Double Fine Zone was first put into effect.

In 2006, the District purchased 2 new LIDAR speed detection and measurement devices for use by the CHP on the Bridge. LIDAR uses pulsed laser light to measure a vehicles speed and is the most technologically advanced speed detection system available for traffic enforcement. LIDAR

is particularly well suited to bridge applications where RADAR is not effective. The particular LIDAR units used by the CHP on the Bridge incorporate the latest features to ensure accurate results and efficient operation.

3. Public Education to Promote Traffic Safety Awareness

As with all District programs, a public education component is a critical element to its ultimate success. Various outreach tools will be used to draw additional attention to the Bridge's status as a SAZ including:

- *Signage*
Appropriate signage alerting motorists to the SAZ will be located at suitable locations.
- *Press Outreach*
A combination of a SAZ launch press conference, press briefings, press releases, and fact sheets will be utilized to support the SAZ launch and implementation.
- *Transit Customer Newsletter Articles (The Gazette)*
Periodically, articles will be included in the District's transit customer newsletter.
- *Website Presence*
All press materials will be posted in the news section of the District's website. Additional information about the SAZ will be added to the Bridge section of the website.
- *Special Events*
Targeted events, such as the "I can drive 45" event in the late 1990s, could be created to draw further public attention to the SAZ.
- *Bus Side Advertising*
Through the existing bus side advertising program, SAZ-targeted public service announcements can be created.
- *Specialized SAZ Bumper Stickers*
Specialized SAZ bumper sticker will be created and distributed-widely.
- *Additional Outreach Enhancements*
Additional outreach items requiring funding to implement such as PSAs, will be sought through sponsorship tie-ins. For example, we will seek a media sponsor to underwrite the PSA development.
- *Periodic updates to Board of Directors and the Public will also be made.*