



San Francisco-Oakland Bay Bridge East Span Seismic Safety Project Transportation Management Plan For WTI Phase I YBI Viaduct Demolition and Replacement



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Presentation Outline

- Project Description
- Construction Activities
- Transportation Changes
- Transportation Management Plan (TMP) Strategies
- Post-Evaluation Study



Project Description



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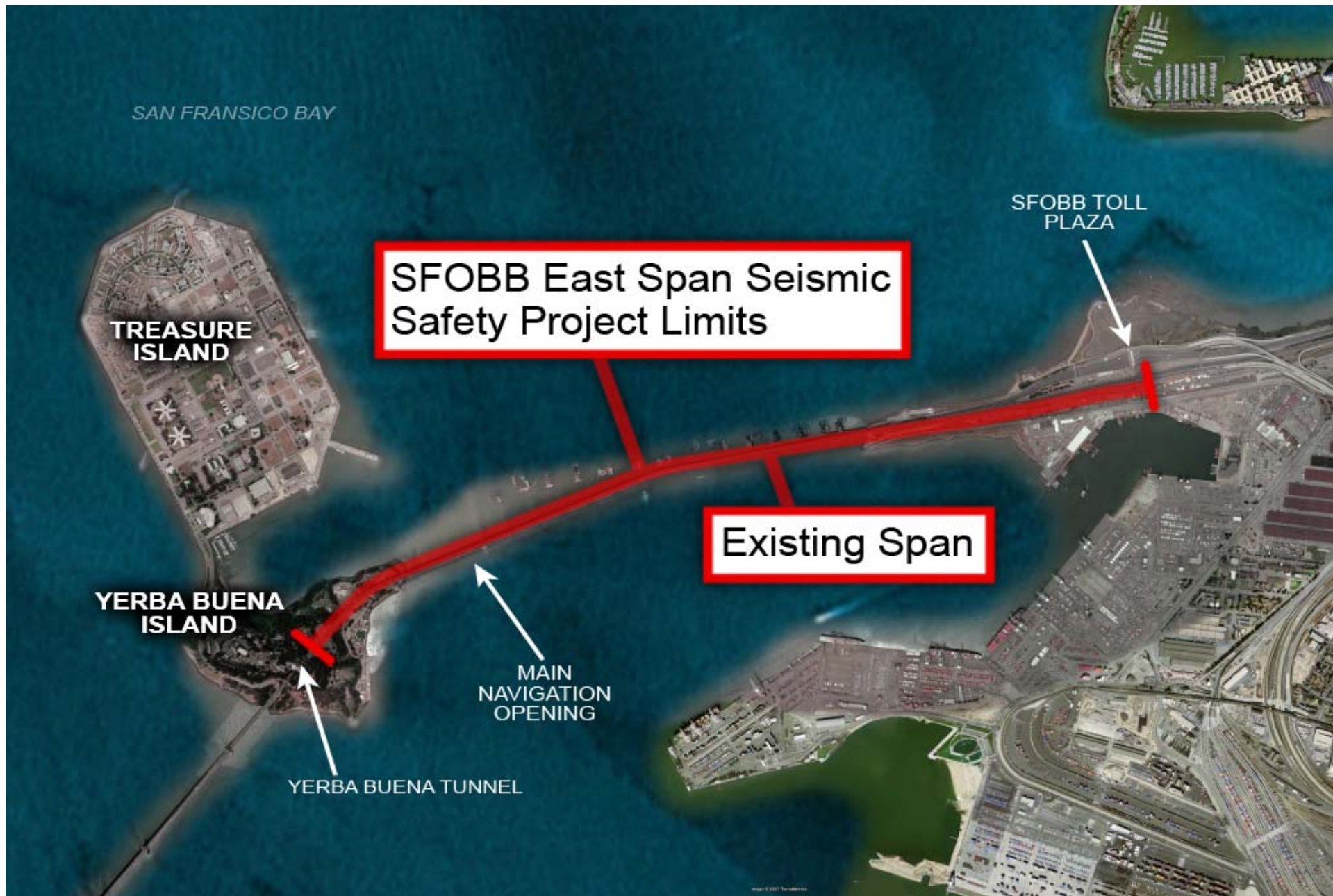
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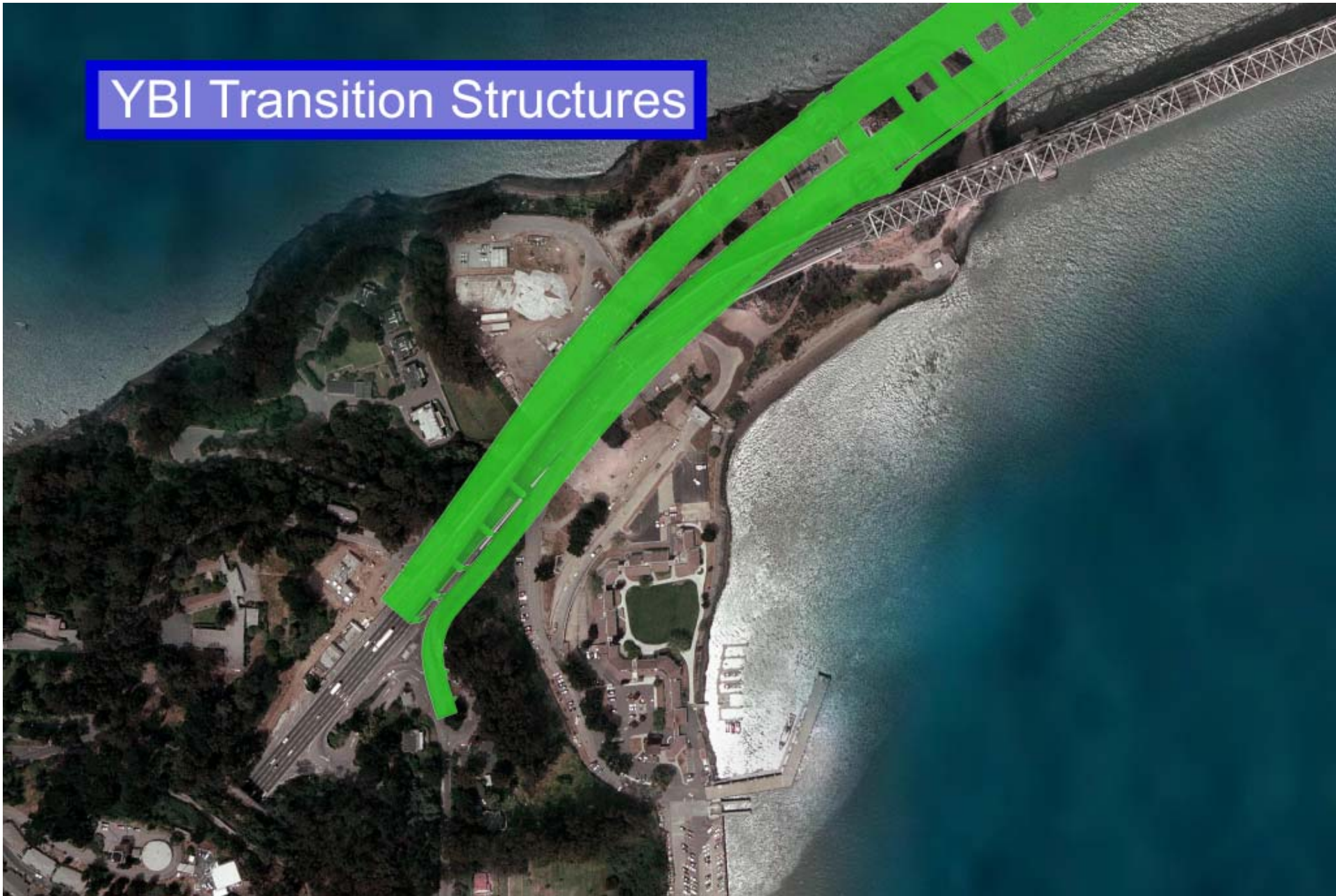
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YBI Transition Structures



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South-South Detours

SSD Required During
Demo of Existing
Structure and
Construction of YBITS



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West Tie-In Phase 1



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West Tie-In Phase 1

WTI-1

WTI-2

Retrofit of YBI Viaduct
Required for Structural
Safety of SSD WTI-2

Retrofit is Essential Step
for Overall Seismic
Safety of East Span



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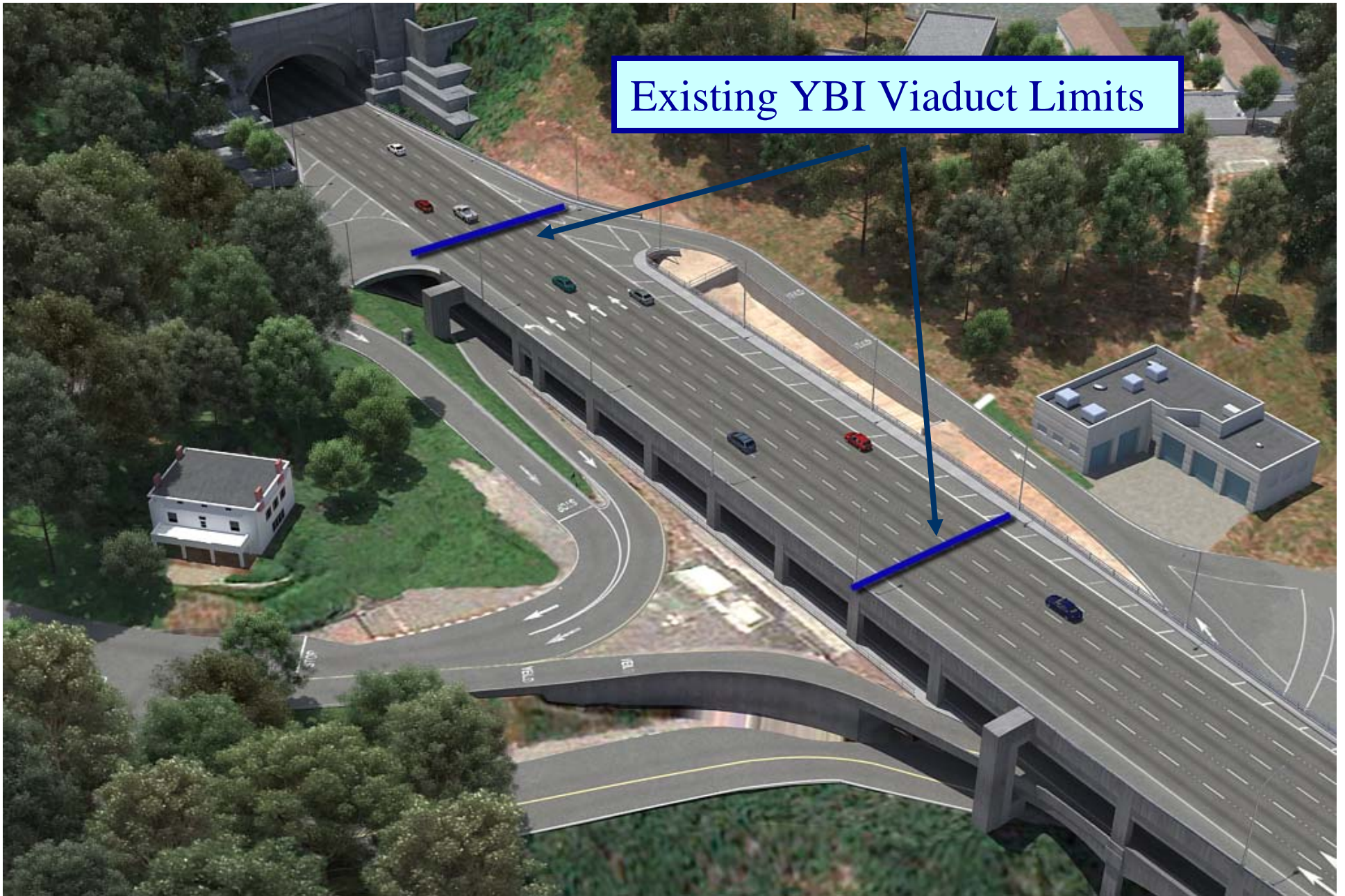
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Existing YBI Viaduct Limits



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YBI Viaduct Retrofit

- Retrofit by Replacement of Structure
- Design, Constructability, and Seismic Safety Advantages
- Construction Period
 - January to September 2007
- **FULL BRIDGE CLOSURE REQUIRED**
 - **LABOR DAY WEEKEND 2007**



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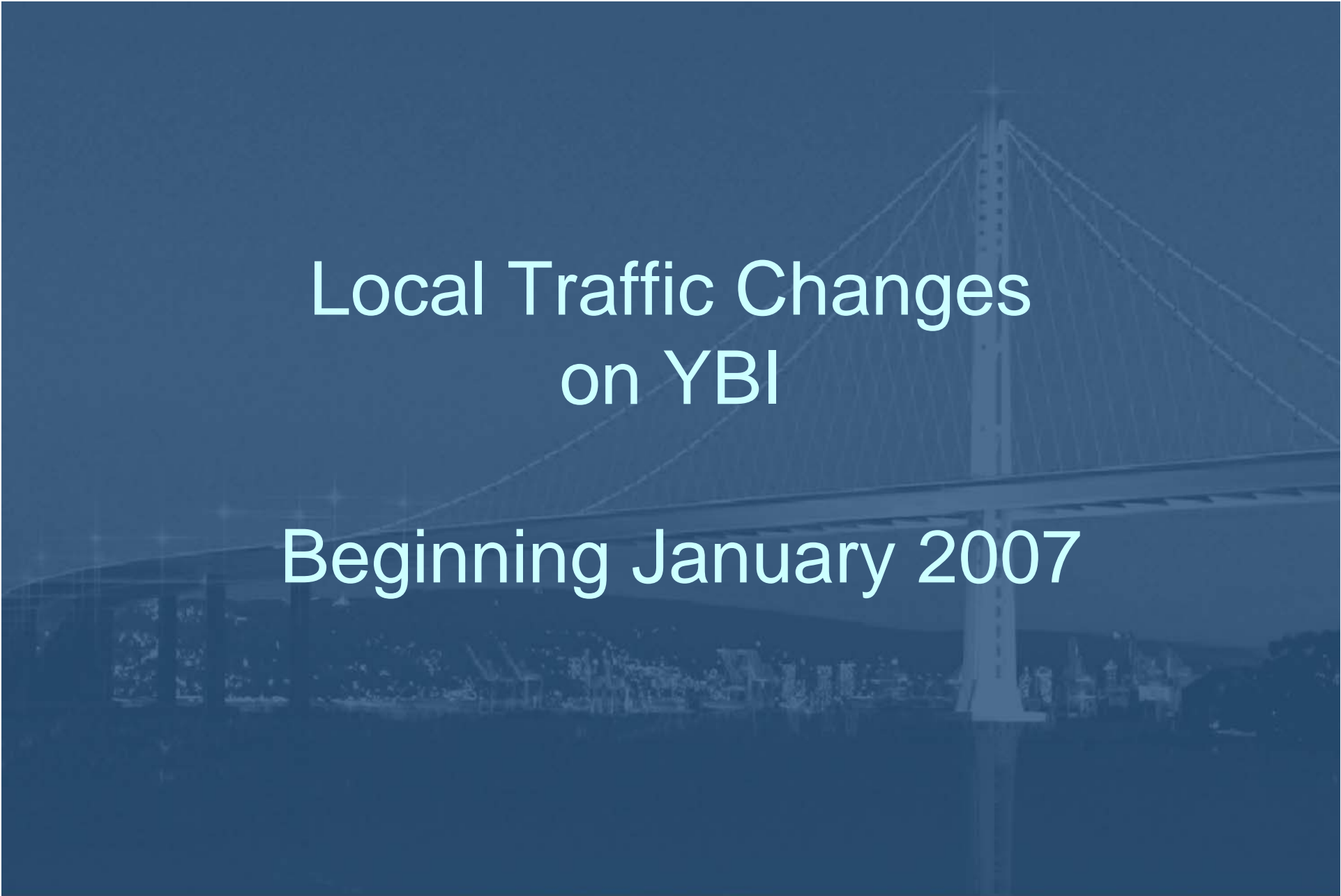
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Local Traffic Changes on YBI

Beginning January 2007



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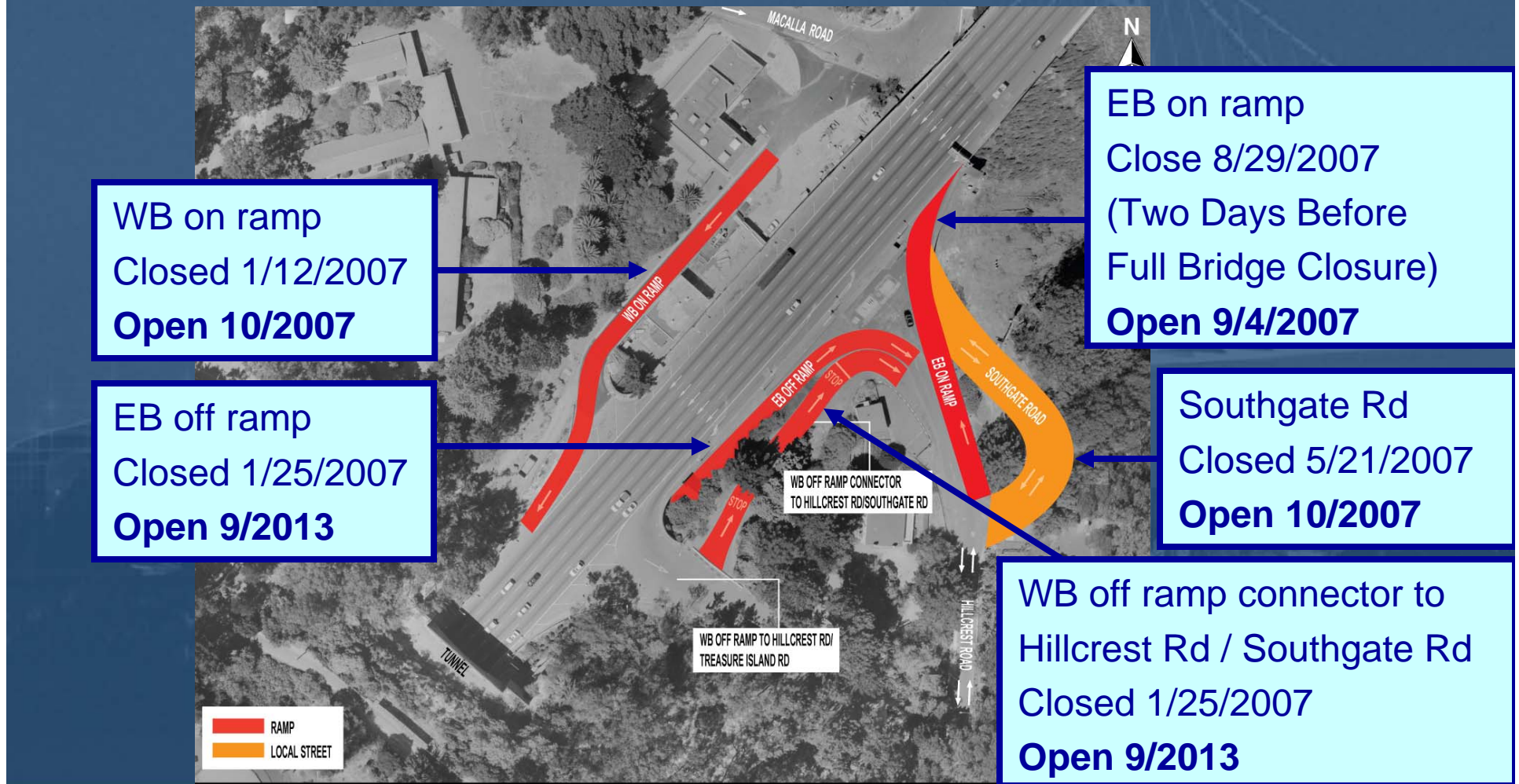
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YBI Ramp and Local Road Closures



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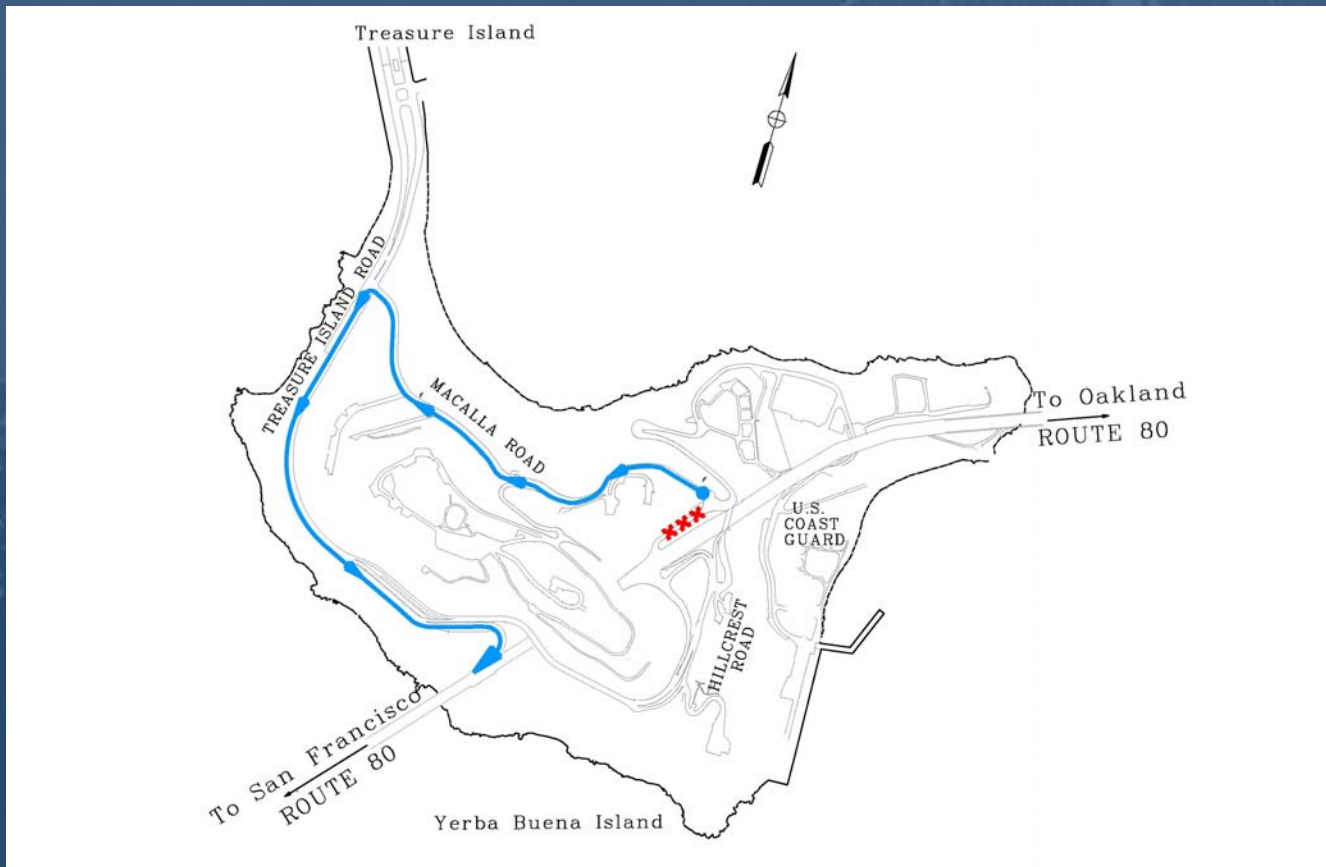
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Local Traffic Detour Westbound On Ramp



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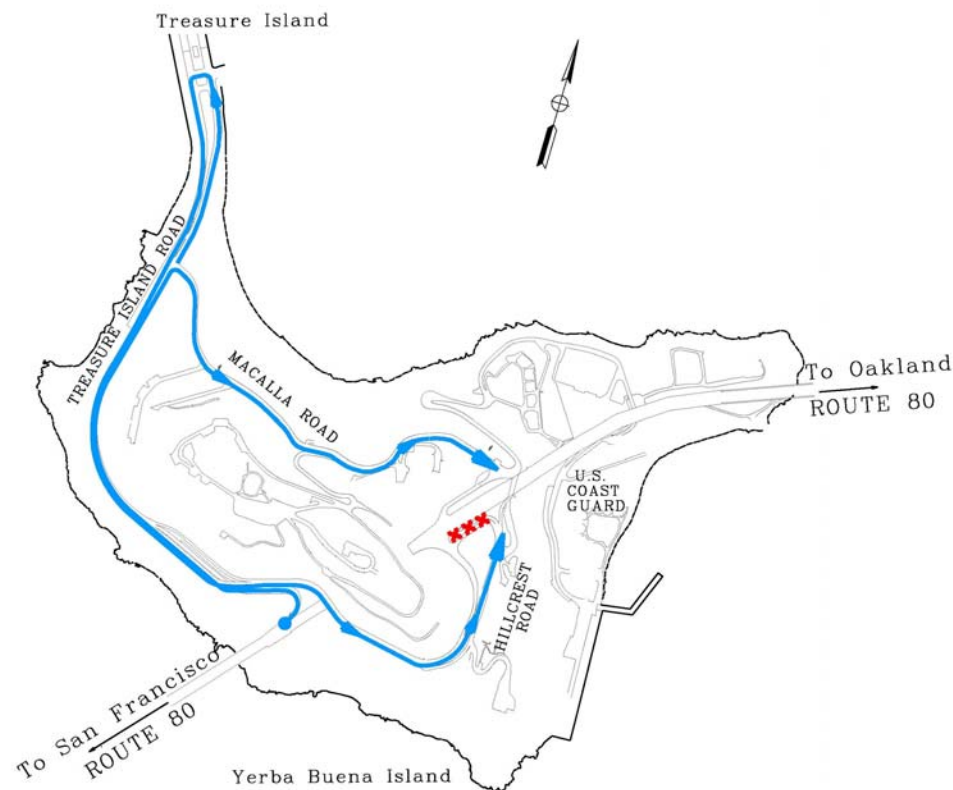
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Local Traffic Detour Eastbound Off Ramp



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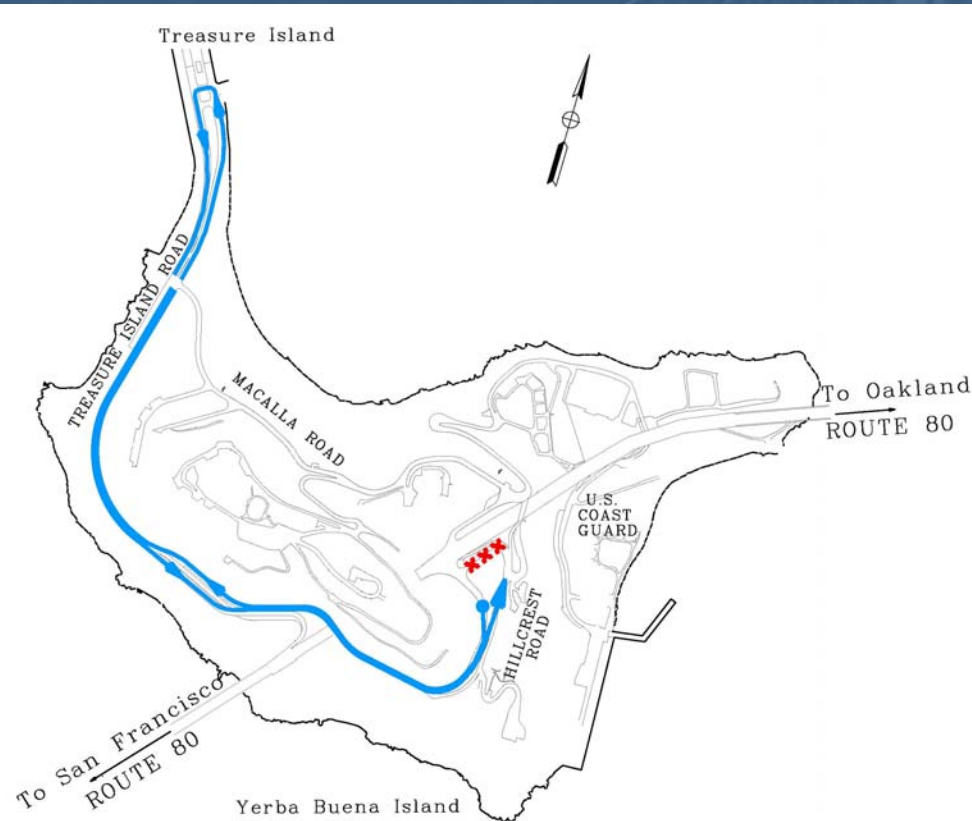
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Local Traffic Detour Westbound Off Ramp Connector to Hillcrest Road



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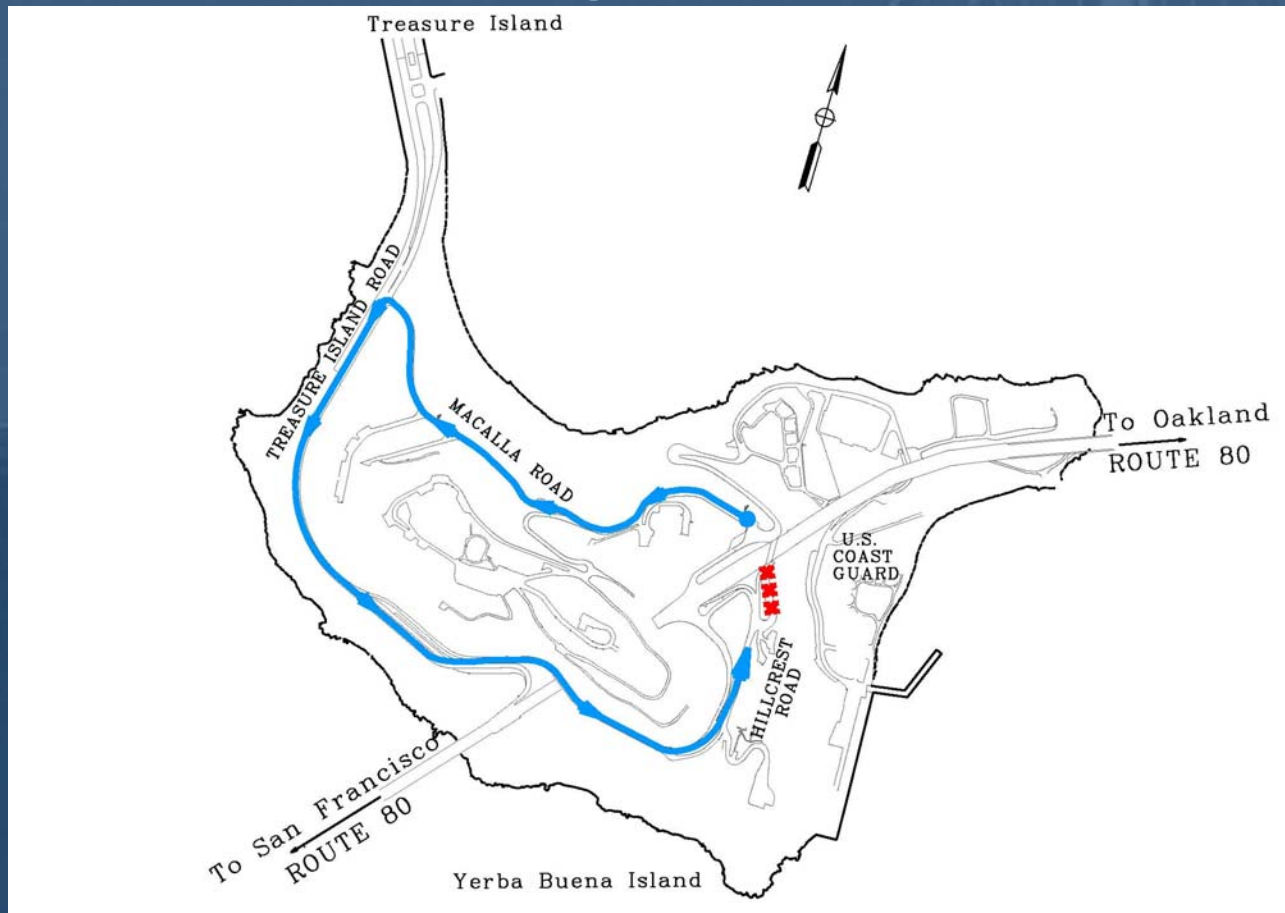
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Local Traffic Detour Southgate Road



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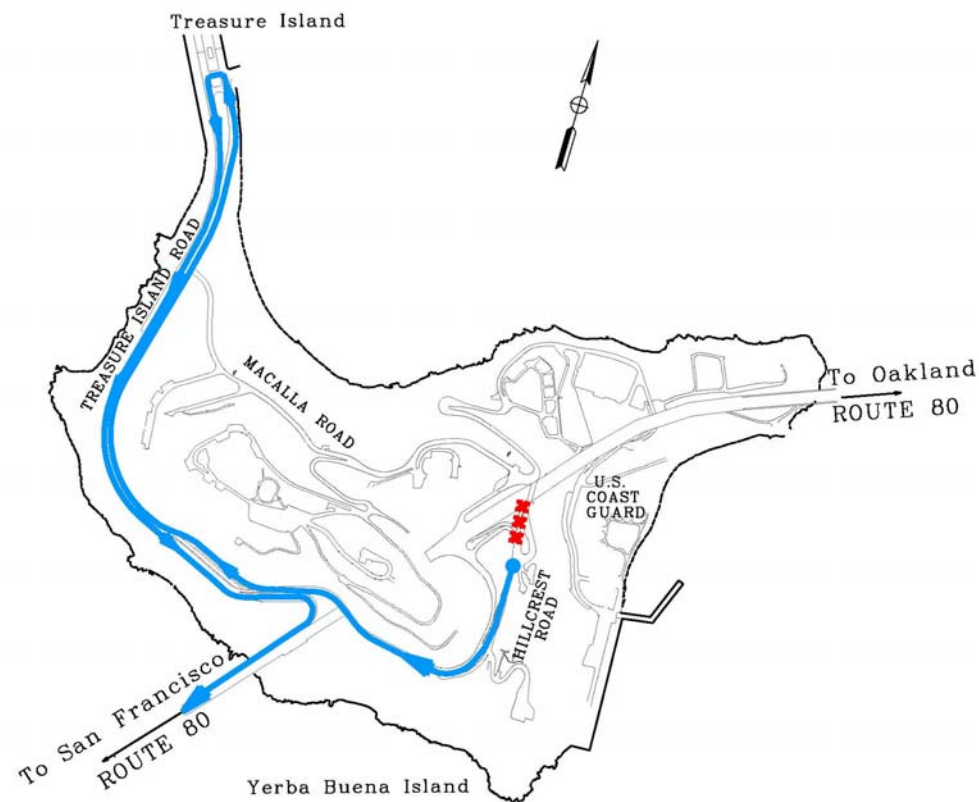
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Local Traffic Detour Eastbound On Ramp



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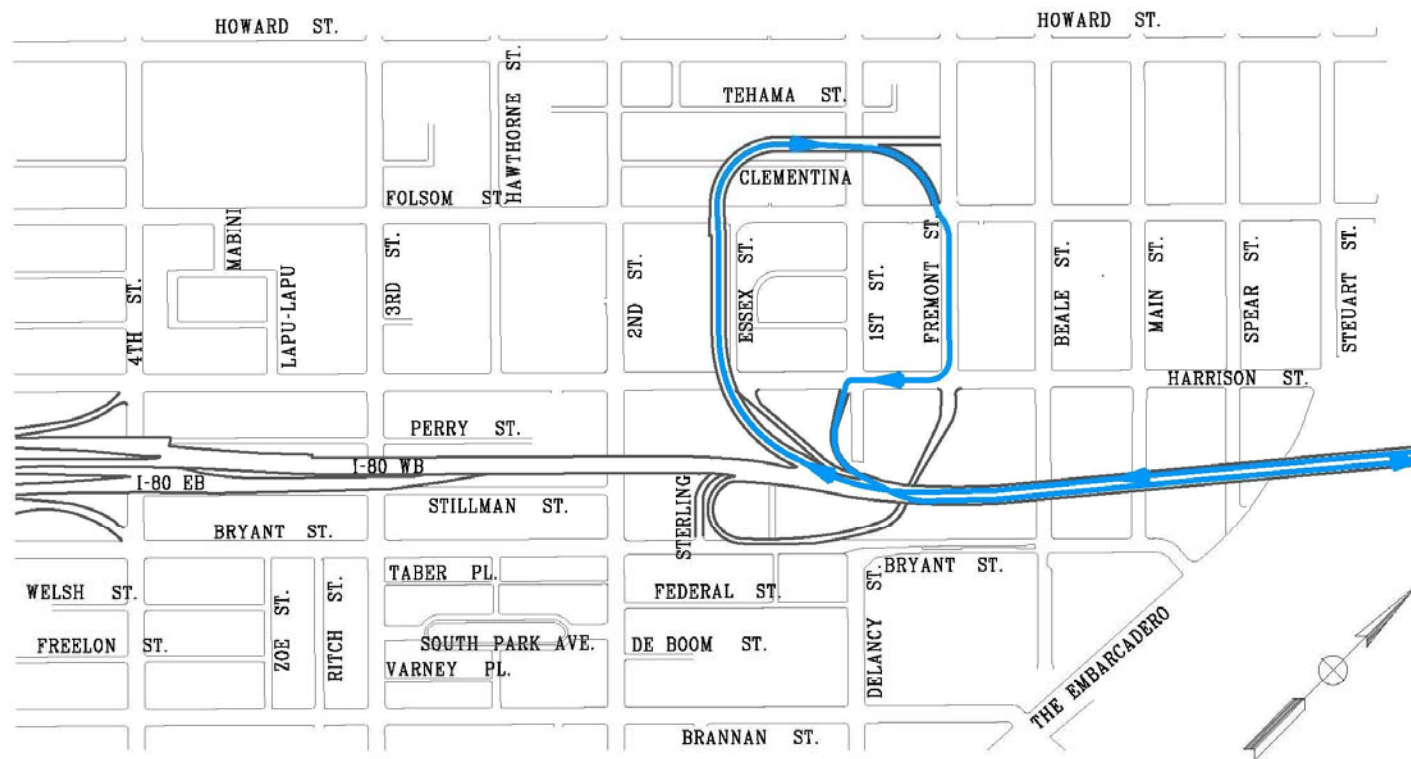
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Local Traffic Detour Eastbound On Ramp (Continued)



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Local Transit Changes

- MUNI 108 Bus
 - Continued service on West Span
 - New route
 - Use on/off ramps on west side of YBI
 - YBI via shuttle service (between Treasure Island Main Gate, Macalla Road, and USCG Station Gate)



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Construction Activities

Demolition and Replacement (Labor Day Weekend 2007)



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81-HOUR FULL BRIDGE CLOSURE

FRI 8/31/07 8 PM
to
TUE 9/4/07 5 AM



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Full Bridge Closure

Traffic Handling

Close Bridge
at 8 PM

Open Bridge
at 5 AM

Friday

Saturday

Sunday

Monday

Tuesday

8/31

9/1

9/2

9/3

9/4

Viaduct
Demolition

Lower Deck
Clean-up

New
Superstructure
Installation

Construction Staging



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08/31/07 8 PM – Bay Bridge Closure



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Existing Viaduct Dismantling Step 0



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Existing Viaduct Dismantling Step 1



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Existing Viaduct Dismantling Step 2



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Existing Viaduct Dismantling Step 3



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Existing Viaduct Dismantling Step 4



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Existing Viaduct Dismantling Step 5



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Existing Viaduct Dismantling Step 6



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Existing Viaduct Dismantling Step 7



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Existing Viaduct Dismantling Step 8



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Existing Viaduct Dismantling Step 9



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Existing Viaduct Dismantling Step 10



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Remaining Moving Apparatus Installation



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New Viaduct Installation



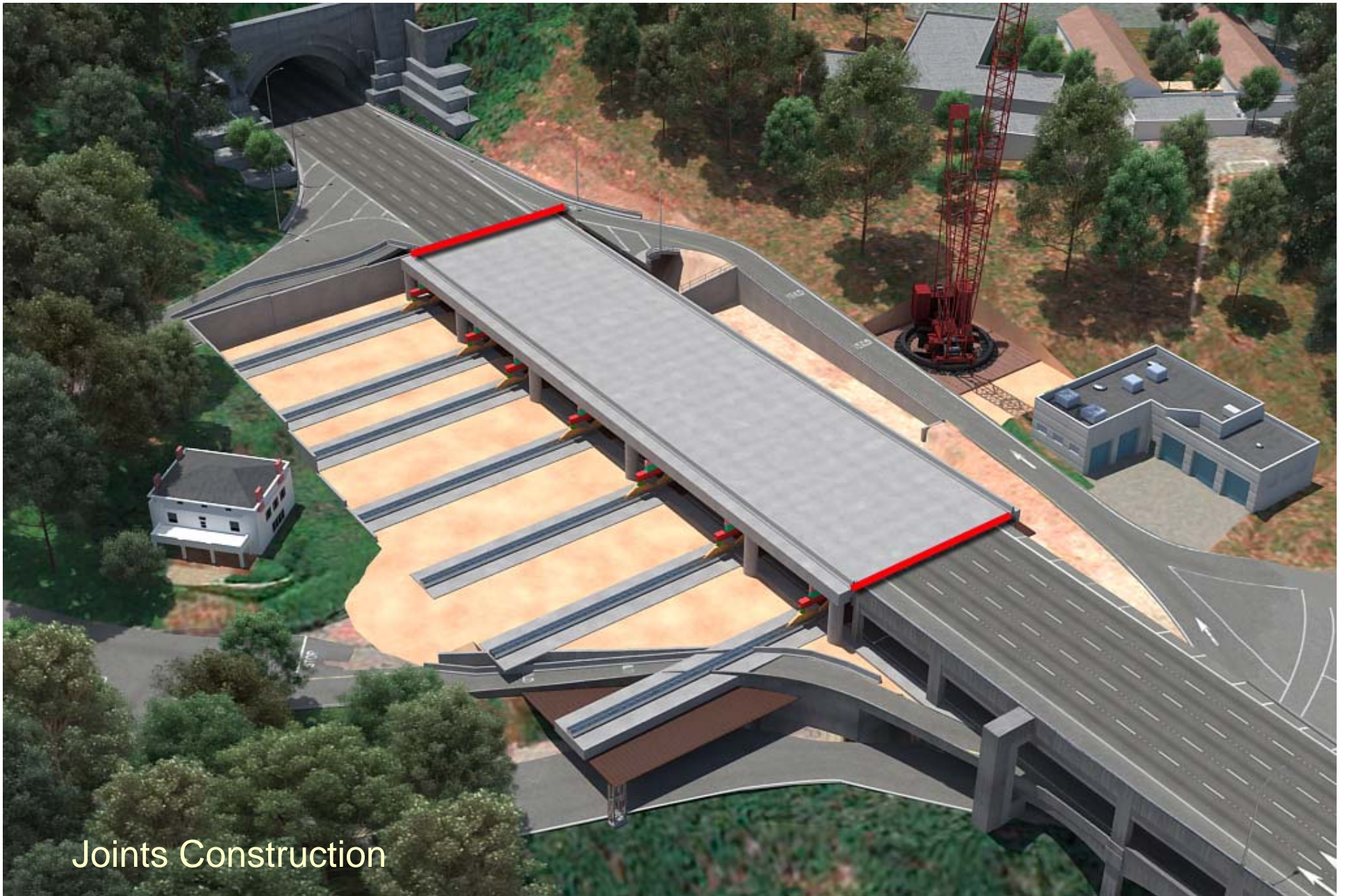
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Joints Construction



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Moving Apparatus Removal



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09/04/07 5 AM – Bay Bridge Re-Opening



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09/04/07 5 AM – Bay Bridge Re-Opening



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Regional and Local Traffic Changes

FULL BRIDGE CLOSURE Labor Day Weekend 2007



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Regional Traffic Detours



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Regional Traffic Conditions



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Regional Traffic Conditions

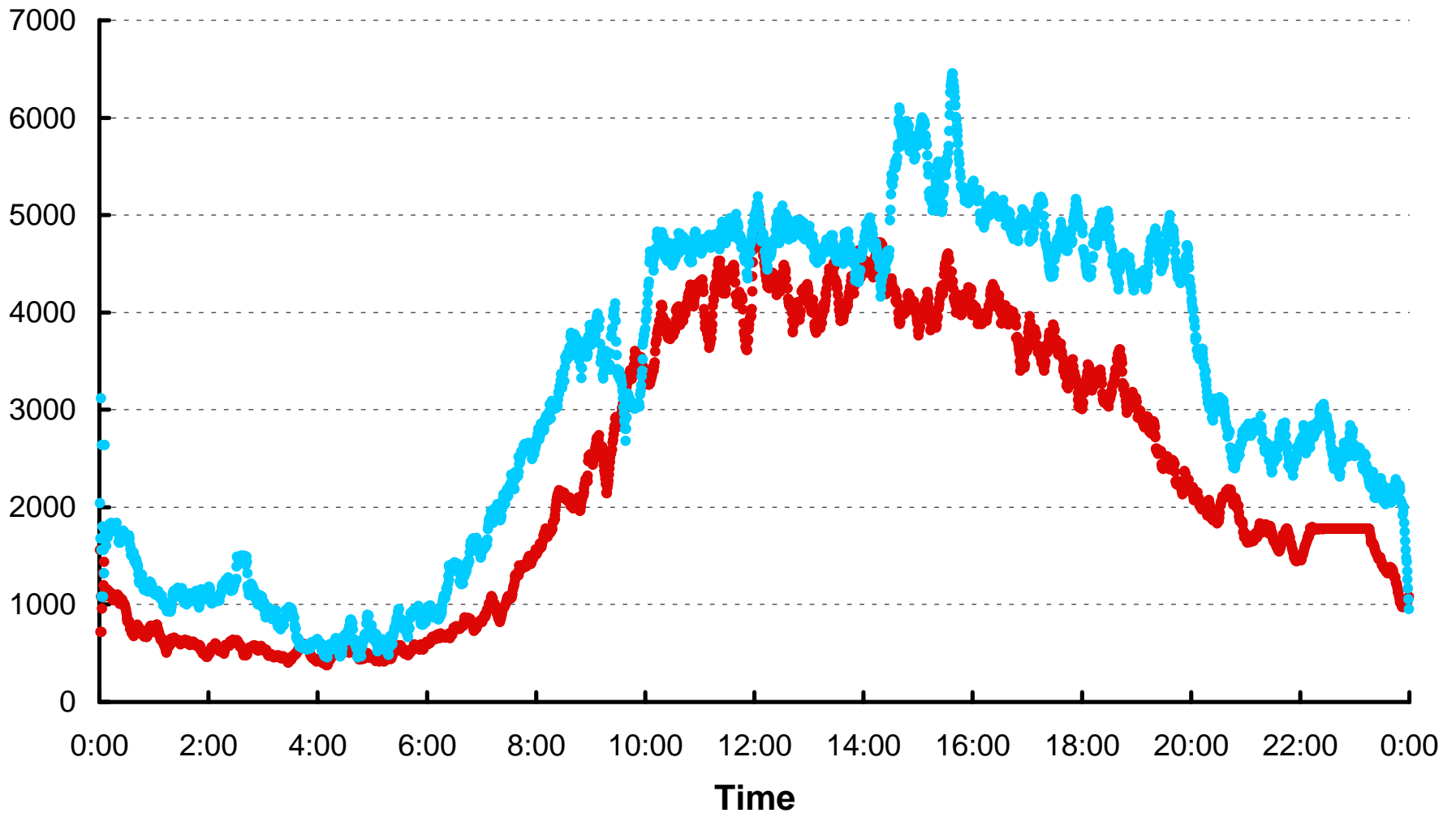
- Traffic diversion patterns observed in the eastbound direction during the Labor Day Weekend 2006 Bay Bridge eastbound closure, are expected to occur during the Labor Day Weekend 2007



Flow Rates: NB 101 @ Golden Gate Bridge

Labor Day Weekend

Saturday 2005 vs 2006



Flow Rates: NB 101 @ Golden Gate Bridge

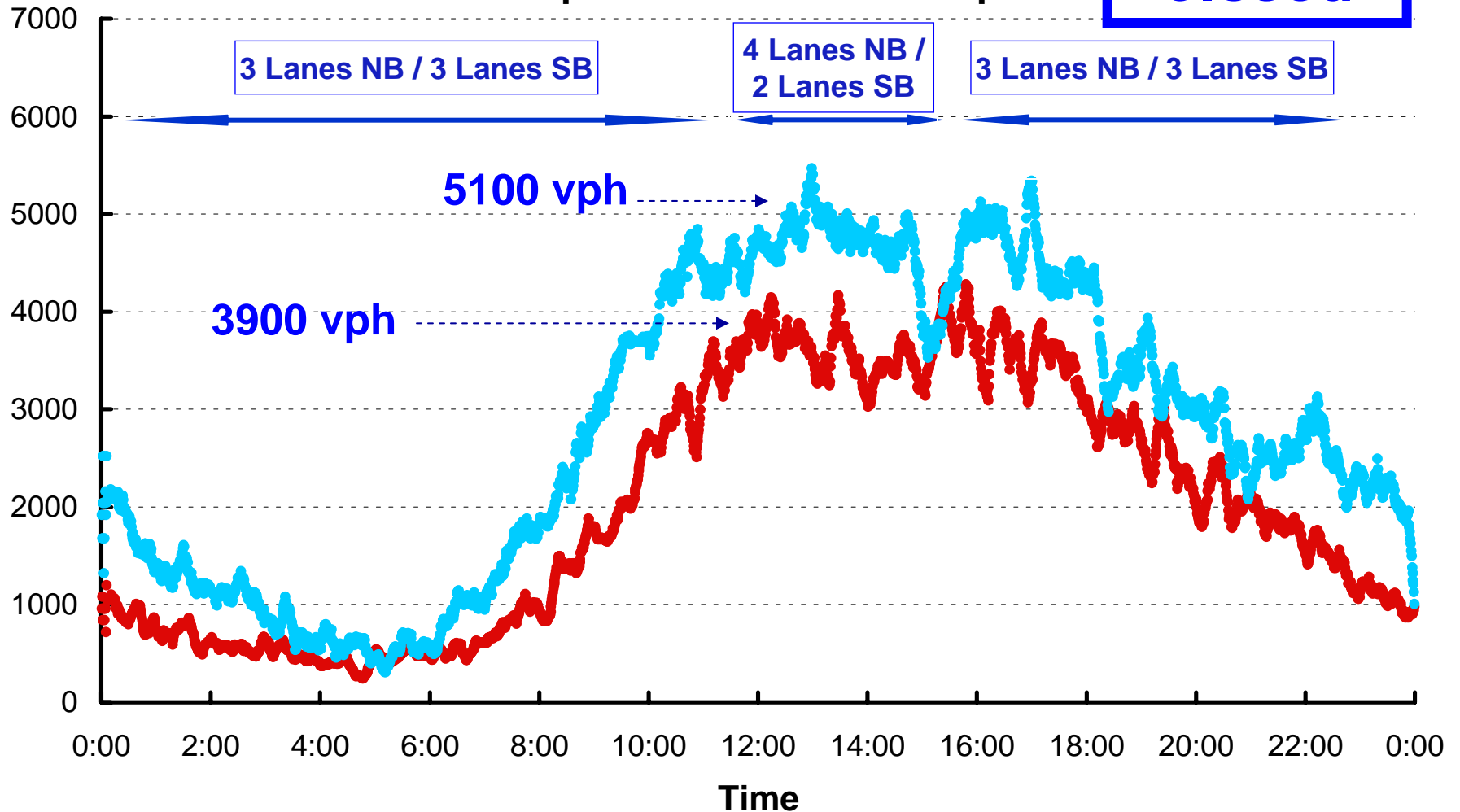
Labor Day Weekend

Sunday 2005 vs 2006

**EB Bay
Bridge
Closed**

● Sun-4-Sep-05

● Sun-3-Sep-06



Flow Rates: NB 101 @ Golden Gate Bridge

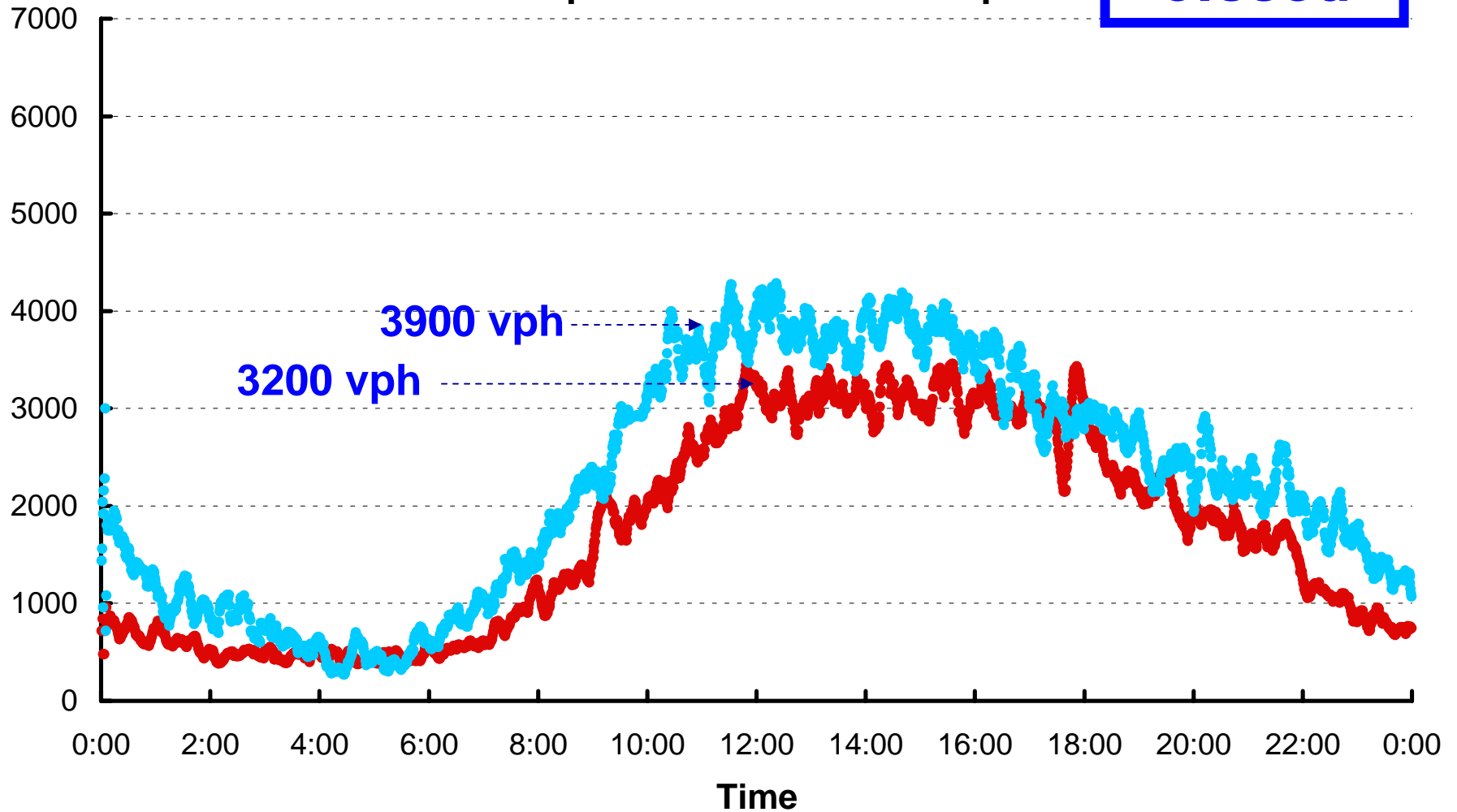
Labor Day Weekend

Monday 2005 vs 2006

**EB Bay
Bridge
Closed**

● Mon-5-Sep-05

● Mon-4-Sep-06



Flow Rates: EB 92 @ San Mateo-Hayward Bridge

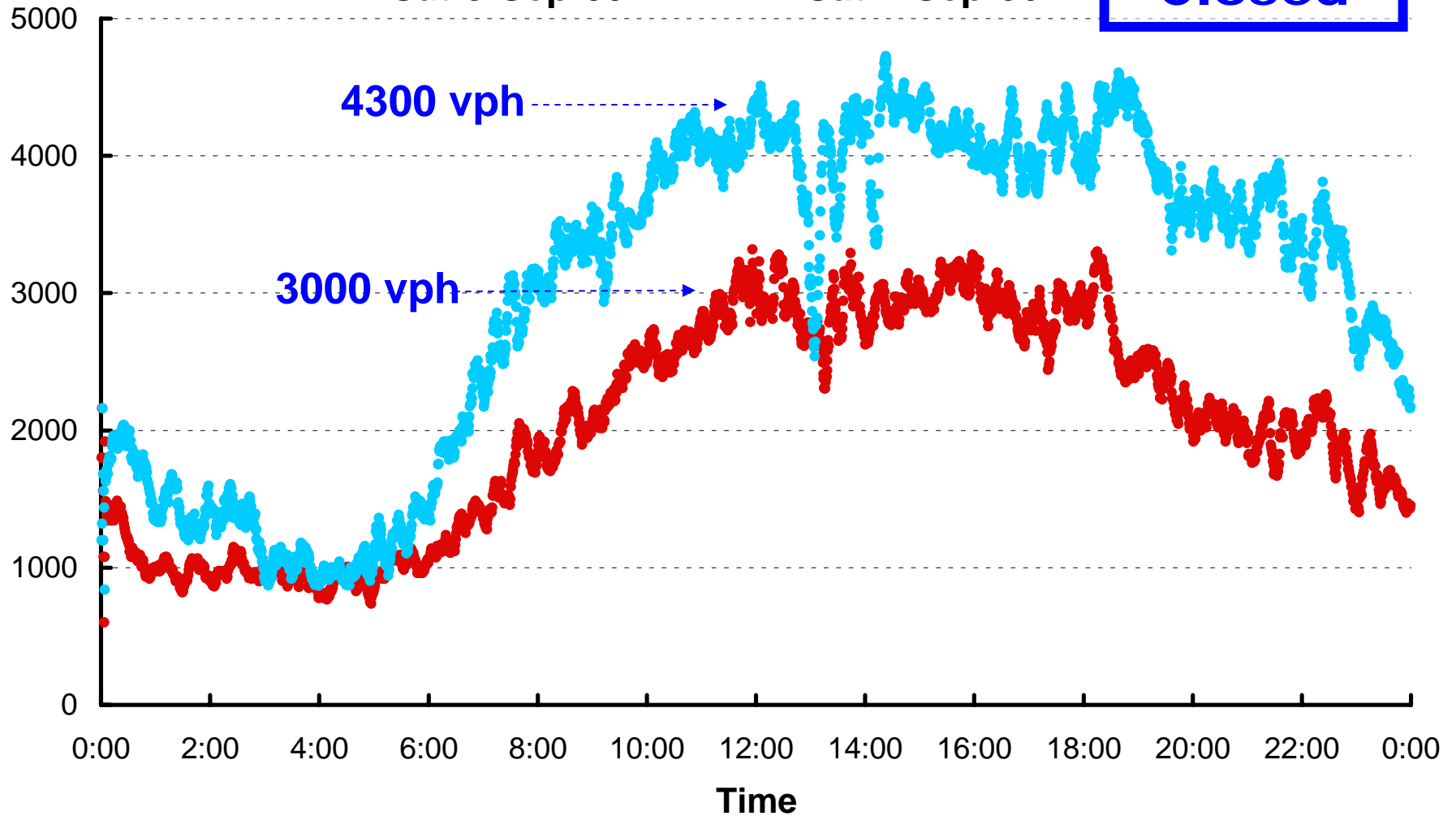
Labor Day Weekend

Saturday 2005 vs 2006

**EB Bay
Bridge
Closed**

● Sat-3-Sep-05

● Sat-2-Sep-06

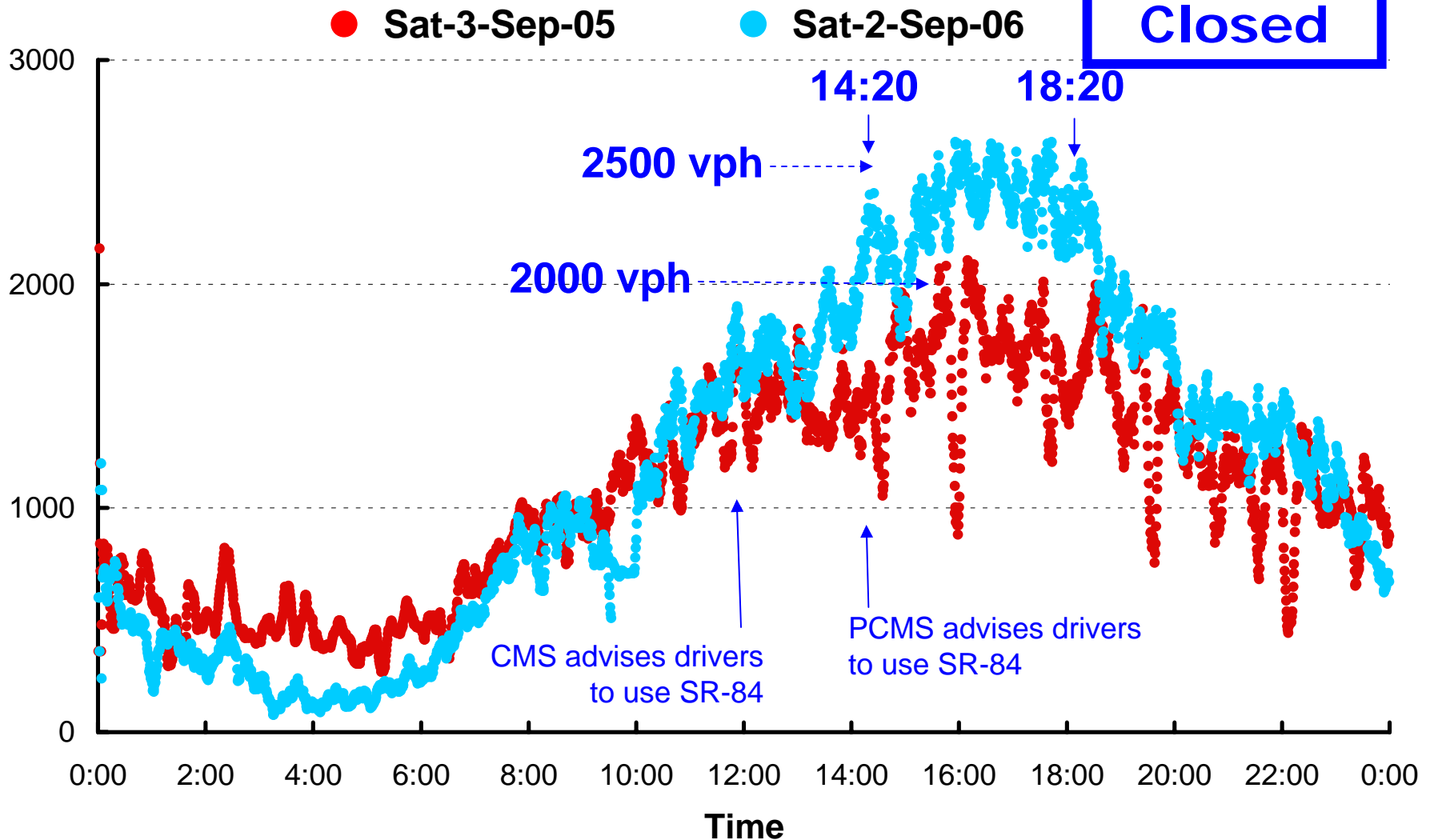


Flow Rates: EB 84 @ Dumbarton Bridge

Labor Day Weekend

Saturday 2005 vs 2006

**EB Bay
Bridge
Closed**

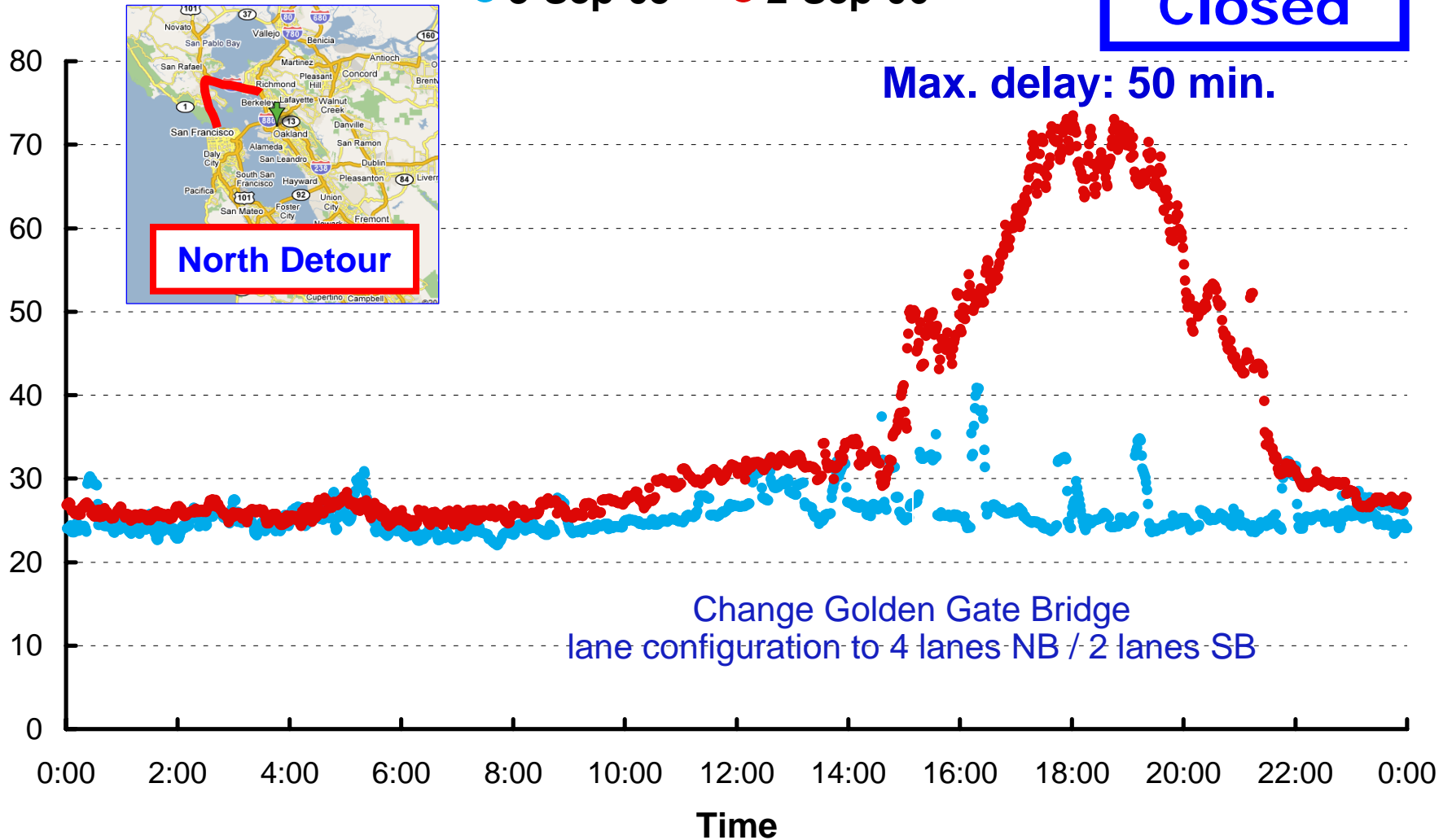


North Detour Travel Time

Saturday 2005 vs. 2006

EB Bay
Bridge
Closed

● 3-Sep-05 ● 2-Sep-06

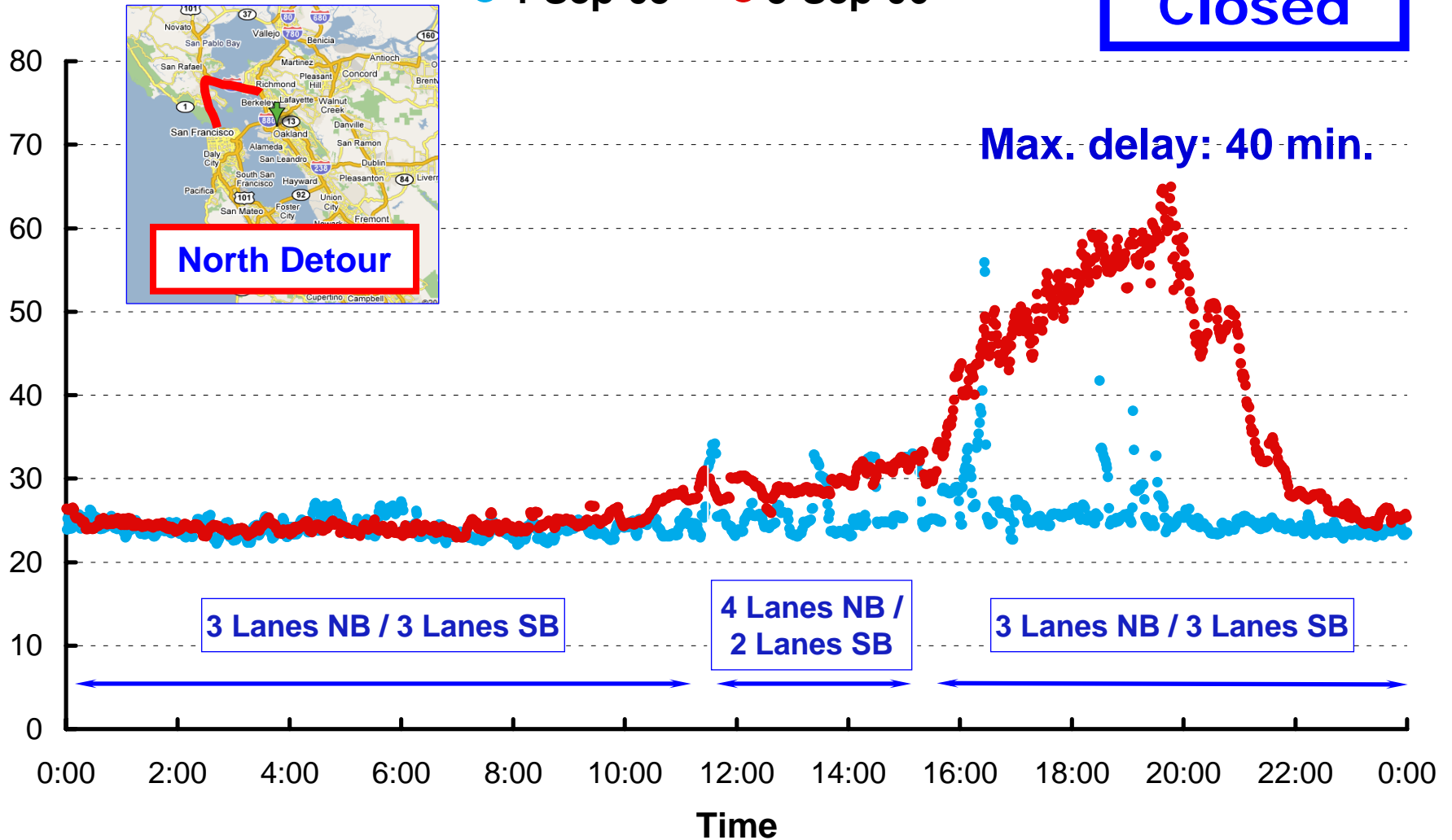


North Detour Travel Time

Sunday 2005 vs. 2006

**EB Bay
Bridge
Closed**

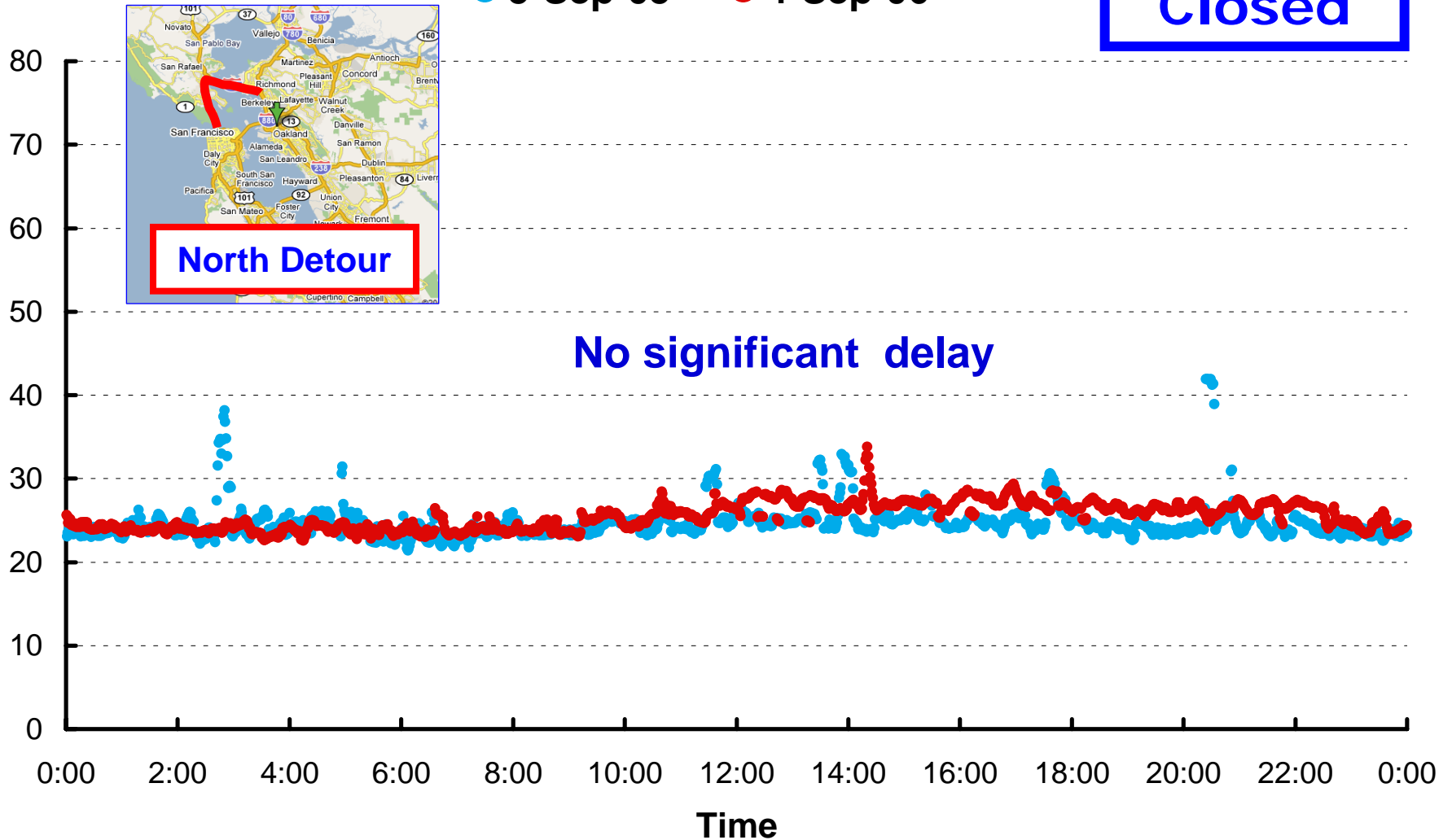
● 4-Sep-05 ● 3-Sep-06



North Detour Travel Time Monday 2005 vs. 2006

EB Bay
Bridge
Closed

● 5-Sep-05 ● 4-Sep-06



South Detour Travel Time

Saturday 2005 vs. 2006

EB Bay
Bridge
Closed

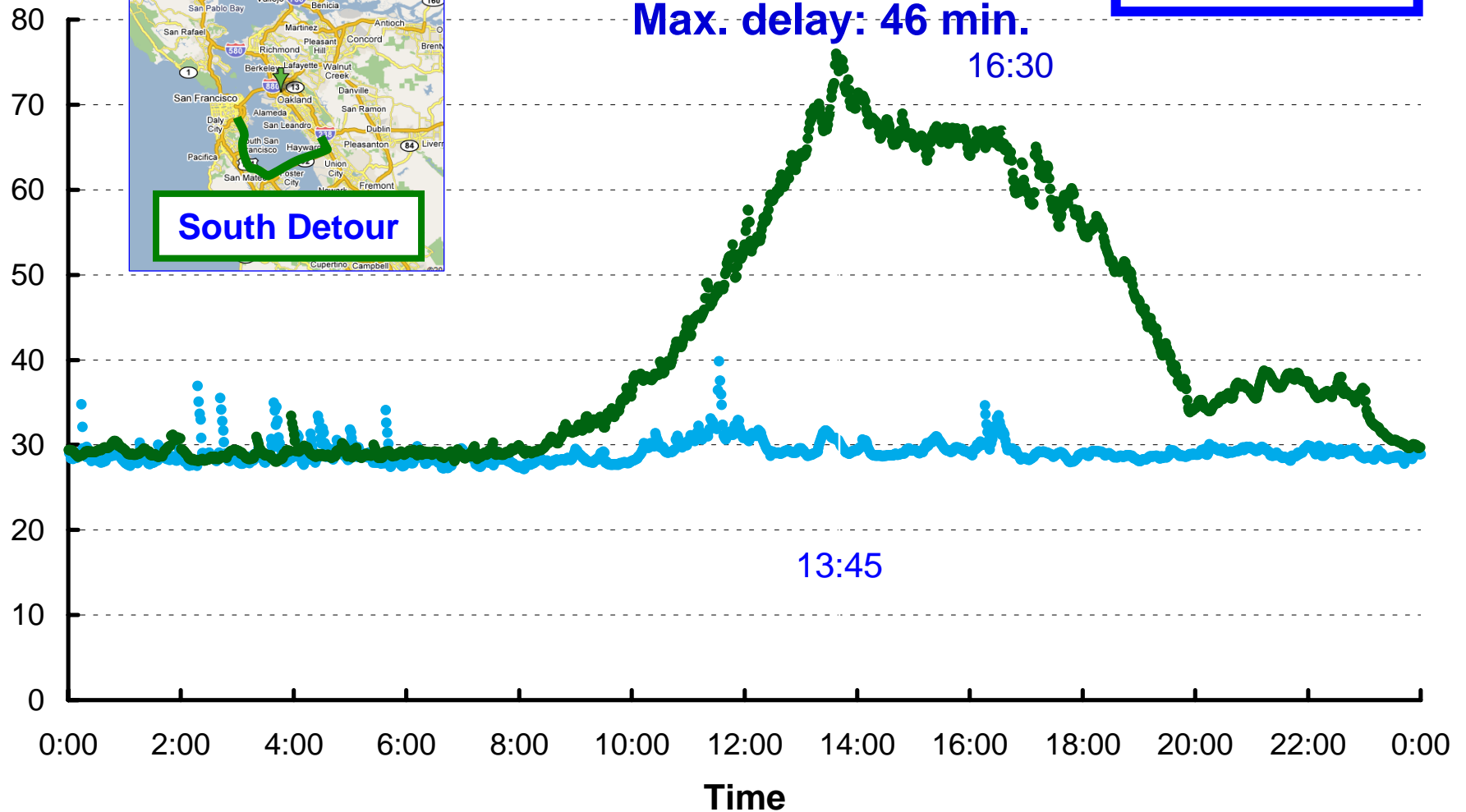
● 3-Sep-05 ● 2-Sep-06

Max. delay: 46 min.

16:30



South Detour

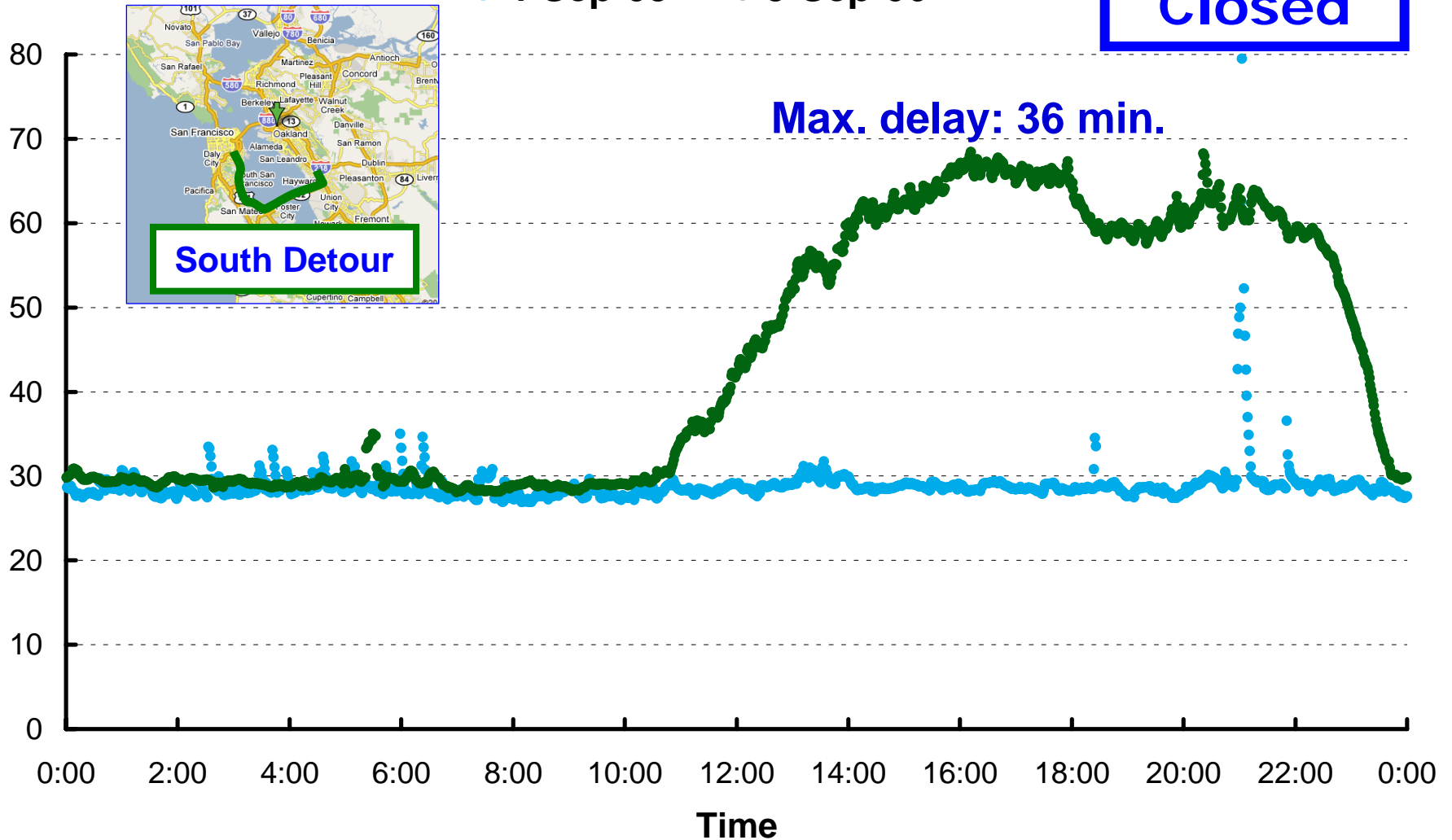


South Detour Travel Time

Sunday 2005 vs. 2006

EB Bay
Bridge
Closed

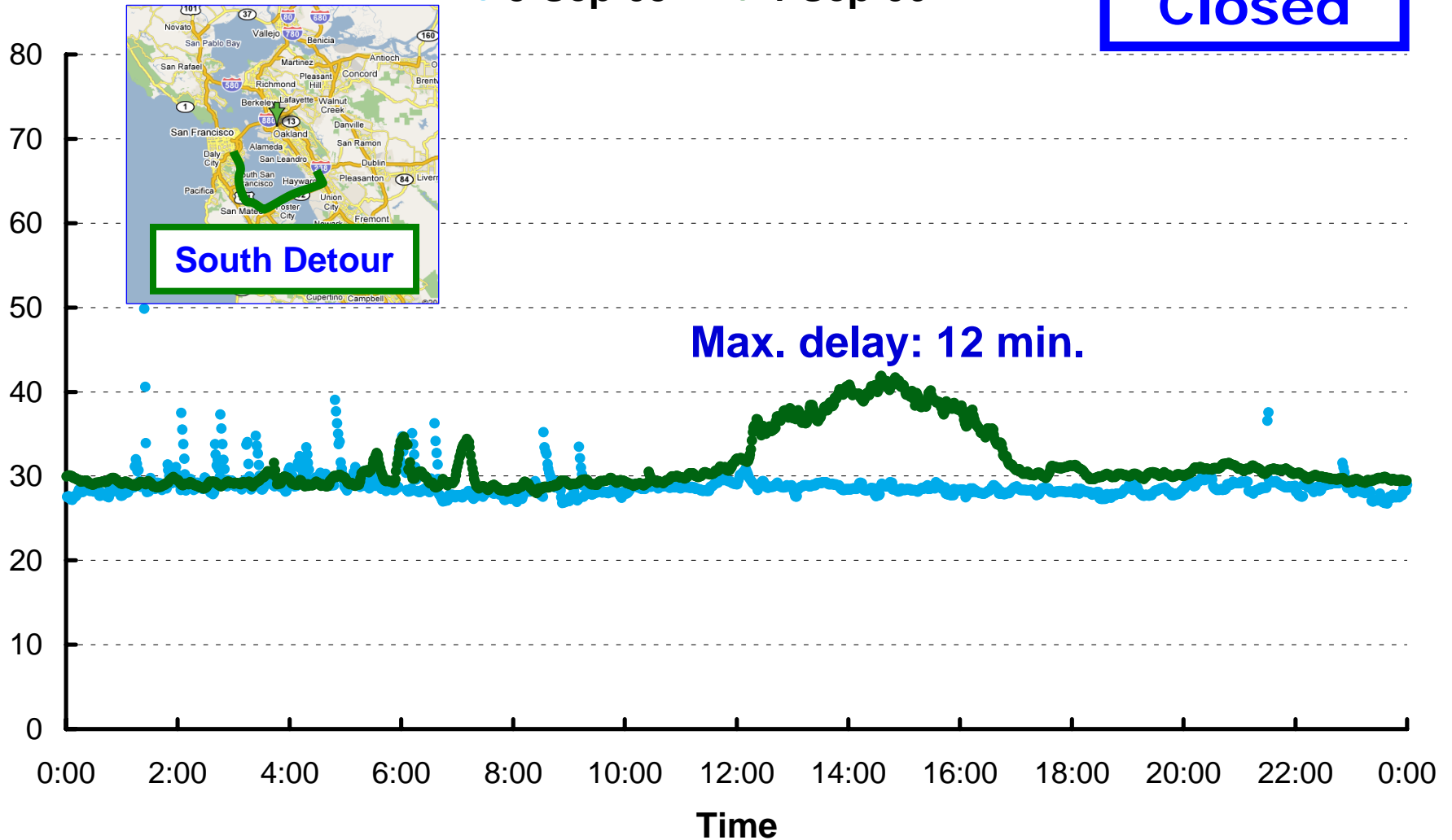
● 4-Sep-05 ● 3-Sep-06



South Detour Travel Time Monday 2005 vs. 2006

EB Bay
Bridge
Closed

● 5-Sep-05 ● 4-Sep-06



Maintaining YBI Access

- Between YBI and San Francisco via Bay Bridge West Span
- Between YBI and East Bay via San Francisco and Regional Traffic Detours or BART



Maintaining YBI Access

East Span Closed

West Span Open for
YBI Residents and
Weddings
Access through Sterling St
on-ramp



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Transbay Transit Changes

- Additional Services
 - BART and Ferry (*more information in the TMP Strategies – Demand Management section*)
 - MUNI 108 bus on regular weekday schedule, with YBI shuttle service
- Cancelled Services
 - AC Transit transbay trips



Transportation Management Plan (TMP) Strategies

FULL BRIDGE CLOSURE Labor Day Weekend 2007



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TMP Strategies

- Public Information
- Motorist Information
- Transportation Management
- Construction Strategies
- Demand Management
- Alternate Route Strategies



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Public Information



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Public Information

- Outreach Sequence
 - Key Stakeholders
 - Elected Officials
 - Media
 - Public



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Key Stakeholders Outreach

Beginning March 2007

- Key Stakeholders
 - County Transportation Authorities
 - City and County of San Francisco (CCSF)
 - City of Oakland
 - Treasure Island Development Authority (TIDA)
 - Cities of Hayward, Marin, Larkspur, San Rafael
 - Golden Gate Bridge
 - Major Professional Sport Teams
 - Oakland Art and Soul Festival



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Elected Officials Outreach

Beginning April 2007

- Two Outreach Meetings
 - Invitations to the offices of Senators, all members of the Bay Area Congressional delegation, all Bay Area state Senators, all Assembly members from the Bay Area, Supervisors in all nine Bay Area counties, mayors in key Bay Area cities
- E-Alerts



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Fact Sheet Sample



The Bay Bridge Will Be Closed In Both Directions Over Labor Day Weekend!

EXPECT REGIONAL TRAFFIC DELAYS

CLOSURES WILL AFFECT TRAFFIC INTO AND OUT OF SAN FRANCISCO AND OAKLAND

The entire Bay Bridge will be closed over Labor Day weekend 2007 in order to perform important seismic safety work on a section of the bridge slightly east of Yerba Buena Island.

We recognize that you may be planning ahead and would like to notify you about major work related to the Bay Bridge Seismic Safety Projects. This work will impact traffic coming into and going out of San Francisco and Oakland over the long weekend.

We will provide more details about the closure and other information within the coming months.

HOW YOU CAN PLAN AHEAD

- Avoid driving between San Francisco and the East Bay during Labor Day weekend.

- Allow extra time for travel.
- Use public transit.
- Use alternate bridges:

Golden Gate Bridge
Richmond-San Rafael Bridge
San Mateo-Hayward Bridge

HOW WE ARE PLANNING

We are coordinating with numerous public transit agencies, including Bay Area Rapid Transit (BART) and the San Francisco Municipal Railway (MUNI), as well as with local and regional bus and ferry service providers to plan scheduling and route changes. We are also actively exploring opportunities for augmenting service and providing as many transit alternatives as possible during the closure.

- BART will be running overnight service to select stations.
- Ferry service will be expanded on select routes.

- Treasure Island residents, employees, and visitors will be granted access to and from San Francisco by special permit.
- Transbay bus service will not be available.

SOME PEOPLE HAVE ASKED, "WHY LABOR DAY WEEKEND?"

Last year we were able to complete a complex phase of work during Labor Day weekend, while minimizing disruptions to motorists and the community.

This year, the work is even more challenging—requiring a closure of the bridge in both directions. We will use our experience from last year's closure to perform this essential seismic safety work efficiently and with minimal inconvenience to the public.

PUBLIC OUTREACH

We will be making a concerted effort in the months ahead to keep the public informed about the upcoming bridge closure.

We will be reaching out to motorists, transit riders, holiday travelers, and affected residents and businesses through fact sheets, public service announcements, posters, banners, and signs. A telephone hotline number will be established during the closures.

The media will also be kept up-to-date before, during, and after the work.

As Labor Day weekend approaches, baybridgeinfo.org will provide important construction updates. 511 will be the official source for trip planning and traffic conditions.

Please stay tuned for more information!

Stay Informed!

Updated Closure Information available at:

www.baybridgeinfo.org

Be sure to sign up to receive our eNewsletter and eAlerts.

CONTACT US

Bay Bridge Public Information Office

311 Burma Road, Oakland CA, 94607

(510) 286-7167

info@baybridgeinfo.org



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Fact Sheet Sample (Continued)



THE YERBA BUENA ISLAND ROADWAY REPLACEMENT

A section of roadway—approximately the length of a football field—will be constructed on a moveable support system south of the existing bridge. After the bridge has been closed to traffic in both directions, the existing portion of roadway will be demolished and the debris will be removed. Then tracks will be laid across the bridge's lower deck and the new structure will be rolled into position.

When the bridge reopens to traffic, motorists will probably not notice any visible difference. They will be driving on a seismically upgraded section of roadway that will eventually connect the bridge's new East Span, which is currently under construction, to the Yerba Buena Island Tunnel.



1 FULL BRIDGE CLOSURE
The bridge will be closed to traffic in both directions. The new section of roadway has been constructed south of the existing bridge.



2 EXISTING ROADWAY DEMOLITION
Demolition is completed on a 350-foot section of the bridge's upper deck.



3 SPECIAL TRACKS ARE INSTALLED
Tracks are laid horizontally across the bridge's lower deck, in alignment with tracks installed beneath the new roadway.



4 NEW ROADWAY INSTALLATION
The new roadway will be rolled into place along the tracks using a computer-controlled hydraulic system.



5 BRIDGE REOPENED TO TRAFFIC
The bridge will reopen to traffic after all of the work has been completed.

We will be demolishing approximately 350 feet of the original westbound upper deck roadway to the Yerba Buena Island Tunnel and installing a permanent, seismically upgraded structure. Both the upper and lower decks of the Bay Bridge will be closed to traffic during this work.

This work is similar in many ways to the work that was successfully performed over Labor Day weekend in 2006. However, this year, in addition to removing a section of the existing bridge, we will also be moving a new structure into place. All of this work must be completed before the bridge can reopen to traffic. When the bridge does reopen, most motorists will probably not notice any difference, but they will be driving on a new, seismically upgraded section of the bridge.

This work is part of the Bay Bridge Seismic Safety Projects to strengthen the bridge.

Our website, www.baybridgeinfo.org, has a wealth of information about the Bay Bridge Seismic Safety Projects. Bookmark the site for traffic updates, photos, videos, and more! Be sure to sign up to receive our eNewsletter and eAlerts.

www.baybridgeinfo.org

Visit www.511.org
or call
for transit planning



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Media Outreach

Beginning April 2007

- Media Outreach Sessions
 - San Francisco-Oakland Bay Area
 - Sacramento-San Joaquin Area
 - Southern California as requested
- Press Releases
 - Two weeks in advance
 - At completion of closure
- Public Information Officer Live Update
 - One week in advance
 - During Labor Day closure
 - After completion of closure



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State-wide Public Outreach

Beginning April 2007

- Community Meetings
- Website
- Mailers and Flyers
- Banners
- Local Notification
- Telephone Hotline
- E-Alerts
- Public Service Announcements
- Out-of-Town Traveler Notification
- Transit Agency Coordination
- MTC 511 Coordination
- Information Letter to Caltrans Employees
- Coordination with Other Caltrans Districts



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Community Meetings

- Oakland / East Bay
 - Chambers of Commerce
 - Event arenas
 - Emergency services
 - Hotel, Bar and Restaurant Associations
 - Port of Oakland
 - City of Oakland Event Planning Commission
 - Hospital HR
- San Francisco
 - Chambers of Commerce
 - Event arenas
 - Emergency services
 - Hotel, Bar and Restaurant Associations
 - SF Businesses at the Piers
 - SF Businesses
 - City of San Francisco Event Planning Commission
 - Hospital HR




Community Meetings

- Airports
 - Oakland International
 - San Francisco International
 - Mineta San Jose International
 - Sacramento International and Sonoma County
- Treasure Island
 - TIDA Board of Directors meetings
 - Monthly Treasure Island Community meetings
 - Monthly Job Corps
- Key Businesses
 - Genetech of South San Francisco
 - ATT & SBC
 - Charles Schwab
 - One Market
 - Equity Office
 - Boston Properties
 - Delivery, Mail, and Trucking Services
 - Other agencies as needed



Project Website




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Bay Bridge Corridor

WEST APPROACH WEST SPAN YBI & TI SAS EAST SPAN DEMO SKYWAY OAKLAND TOUCHDOWN


- Home
- Bay Bridge Corridor
- Closures & Detours
- News & Info
- History
- Environmental Topics
- Photo Galleries
- Construction Cams
- Construction Videos
- Related Links
- Contact Us



Current Traffic Conditions




FASTRAK
KEEPING THE BAY AREA MOVING



Sign up for the e-Newsletter

Arnold Schwarzenegger
Governor

DATE 8/28/07



THE BAY BRIDGE WILL BE CLOSED


LABOR DAY WEEKEND 2007

from 8:00 pm Friday evening, August 31 until 5:00 am Tuesday morning, September 4.

Welcome To The San Francisco-Oakland Bay Bridge Seismic Safety Projects

This website is designed to offer a window into the historic work being done on the Bay Bridge— from the retrofitting of the original West Span, to the demolition and replacement of the West Approach, to the construction of the new Skyway and dramatic single tower Self-Anchored Suspension (SAS).

Headlines



Full Bay Bridge Closure Labor Day Weekend 2007
The Bay Bridge will be closed 8:00PM Friday August 31st and will re-open Tuesday 5:00AM September 4th.



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Mailers and Flyers

- Greater Emphasis on East Bay than in Previous Eastbound Only Closure
- Distribution to
 - Local / corridor businesses
 - Neighborhood newsletters and other publications
 - TIDA and Mayor's Office staff
 - Residential neighbors, including Treasure Island / YBI residents



Mailers and Flyers

- Distribution to (Continued)
 - Taxis and shuttle services, airports, hotels, car rental agencies, visitor's bureaus, the State Tourism Office, Chambers of Commerce and automobile associations
 - Hospitals, major employers, funeral homes, farmers markets, carpool centers, parking garages, shopping malls



Mailers and Flyers

- Distribution to (Continued)
 - Major regional and local entertainment and sports venues
 - Cities from San Luis Obispo to Sacramento in the target areas
 - Ferry, bus transit, and rail operators, transit centers, BART, the Water Transit Authority, and the San Francisco Metropolitan Transportation Agency



Mailers and Flyers

- Distribution to (Continued)
 - State and local offices of the California tourism agencies and convention bureaus
 - Approximately 5,000 organizations and private citizens on the Bay Bridge Public Information Office contact list



Transit Agency Coordination

- BART
- Muni
- AC Transit
- Caltrain
- Samtrans
- Golden Gate Transit
- Vallejo Ferry
- Alameda / Oakland Ferry
- Greyhound
- Amtrak
- Airport Shuttle Service



Motorist Information



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Traveler Information

- Changeable Message Signs (CMS's)
- Highway Advisory Radio (HAR)
 - Two weeks in advance
 - During full bridge closure: Real-time modification based on traffic conditions



Traveler Information

- 511 Services for Real-Time Traveler Information
- Updated Transit Information



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Changeable Message Signs

- Regional Deployment
 - Fixed and portable CMS in San-Francisco-Oakland Bay Area (District 4) and neighboring Districts (1, 3, 5, 10)
- Local Deployment
 - Portable CMS on surface streets in various Cities





Fixed CMS



Portable CMS



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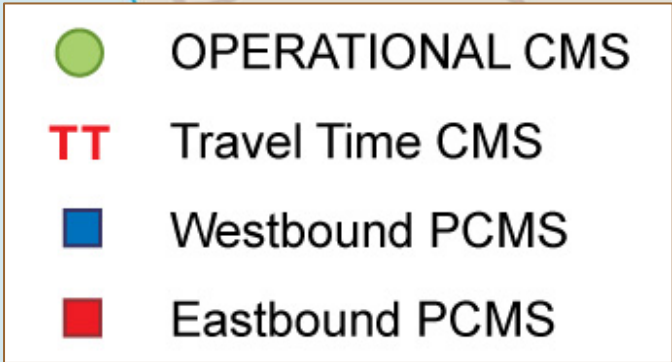
CMS LOCATIONS



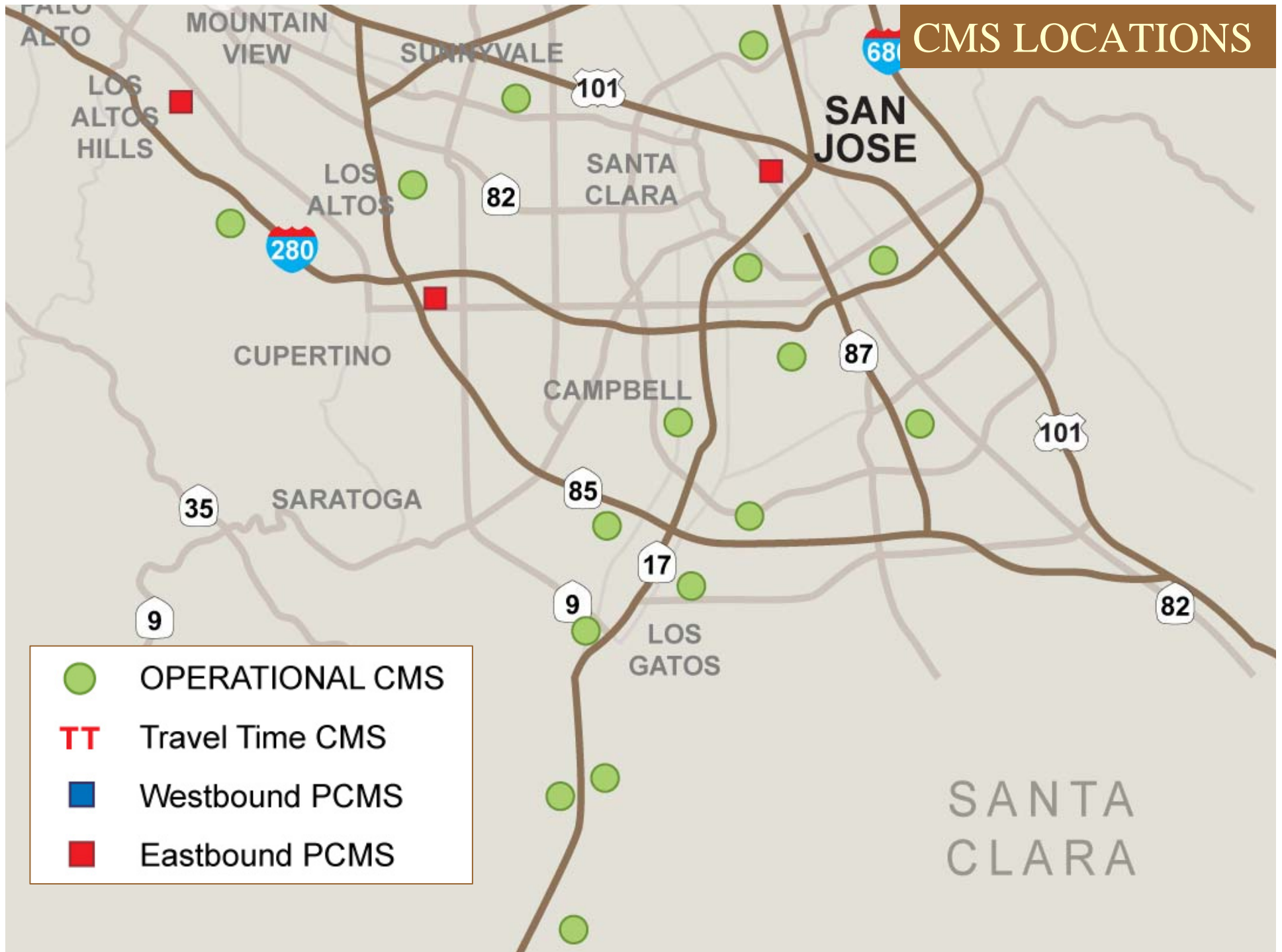
CMS LOCATIONS



CMS LOCATIONS



CMS LOCATIONS



CMS LOCATIONS



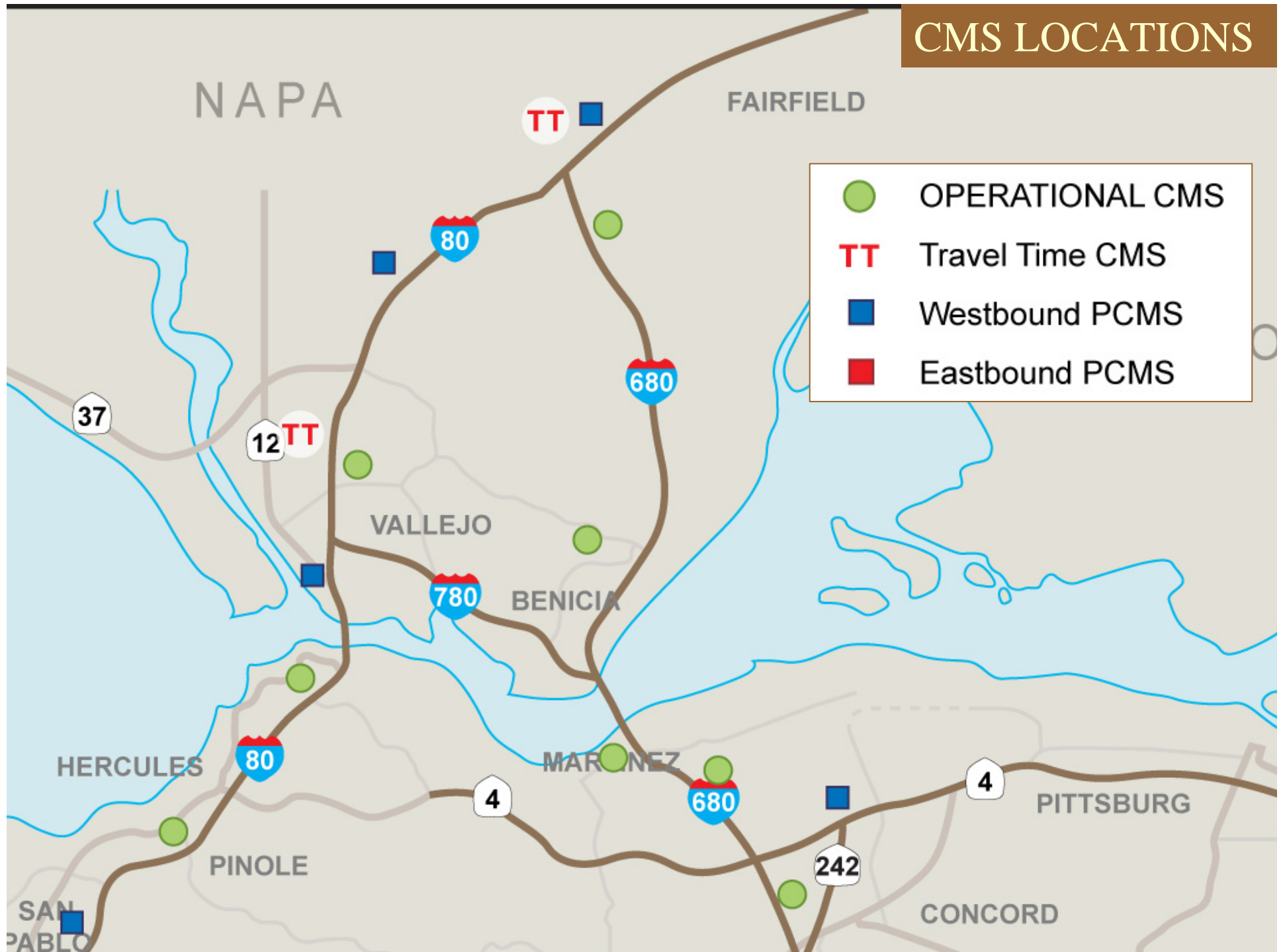
CMS LOCATIONS



CMS LOCATIONS



CMS LOCATIONS



Highway Advisory Radio (HAR)

- 2 to 5 Mile Range
- 1-minute message
- Deployment in San-Francisco-Oakland Bay Area (District 4) and Neighboring Districts (1, 3, 10)





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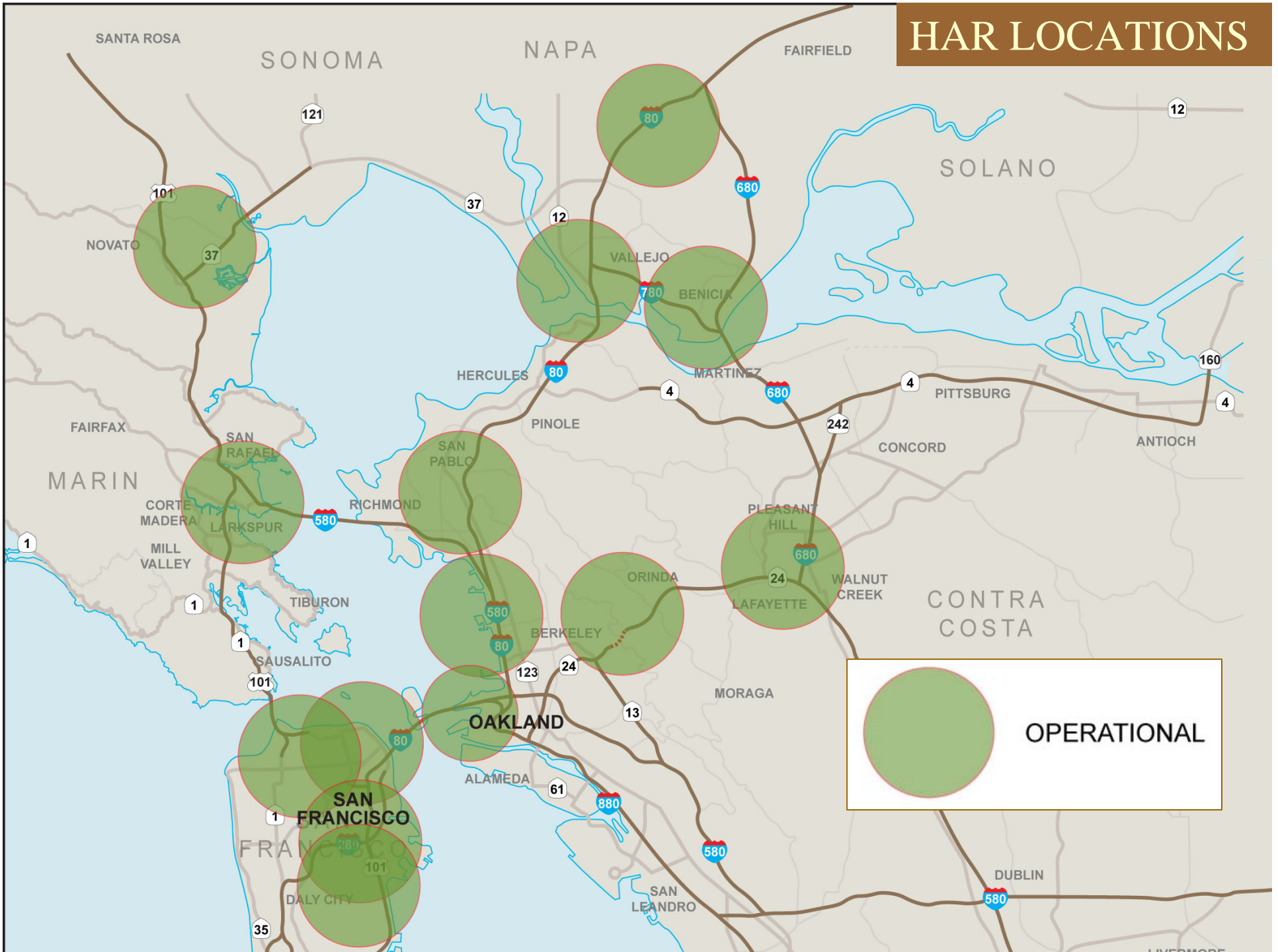
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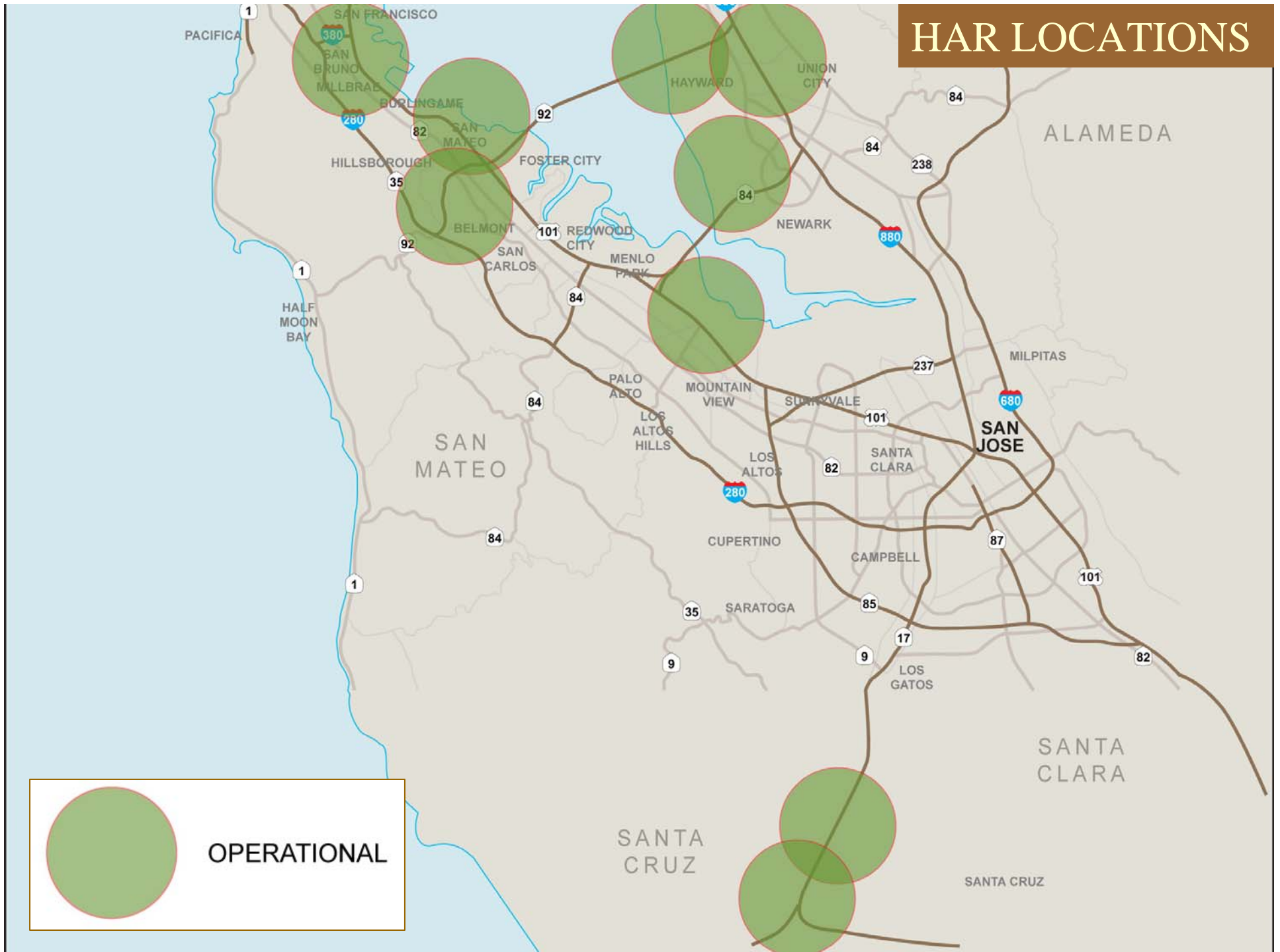
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HAR LOCATIONS



HAR LOCATIONS



Transportation Management



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Two Command Centers

- San Francisco SFgo Transportation Management Center
- SFOBB Command Center in Oakland



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Command Center Staffing

- Caltrans
 - Executive Management
 - Transportation Management
 - Highway Operations
 - Construction
 - Public Information
- Police Departments
- Traffic Control Entities (CHP, SF Department of Parking & Traffic, City of Oakland, etc.)
- Emergency Services
- MTC / Bay Area Toll Authority (BATA)





Command Center Activities

- Real-time Traffic Detours Monitoring
- Near Real-time Traffic Impact Analysis
- Incident Monitoring
- Real-time Motorist Information
- Coordination & Information Exchange with Transportation Management Center (TMC)
- Daily Communication with Other Bridges on Detour Routes



Traffic Detours Monitoring

Traffic Volumes (via Vehicle Detector Stations)

- Eastbound
 - NB US-101 just north of Golden Gate Bridge
 - NB US-101 just south of Sir Francis Drake Blvd off ramp
 - EB SR-92 just west of San Mateo-Hayward Bridge
 - EB SR-84 just west of Dumbarton Bridge
- Westbound
 - SB US-101 just north of Golden Gate Bridge
 - SB US-101 just south of Sir Francis Drake Blvd on ramp
 - WB SR-92 near San Mateo-Hayward Bridge toll plaza
 - WB SR-84 near Dumbarton Bridge toll plaza



Traffic Detours Monitoring Travel Time (via 511)

- Eastbound
 - North detour: via NB US-101 @ Golden Gate Bridge toll plaza to EB I-580 to I-580/I-80 I/C
 - South detour: via SB US-101 @ I-280 I/C to EB SR-92 to NB I-880 to I-880/I-238 I/C
- Westbound
 - North detour: via NB I-580 @ I-80 I/C to WB I-580 to SB US-101 @ Golden Gate Bridge toll plaza
 - South detour: via SB I-880 @ I-238 I/C to WB SR-92 to NB US-101 @ I-280 I/C



Traffic Impact Analysis

- Based on detour routes monitoring results
 - Divert traffic from San Mateo-Hayward Bridge to Dumbarton Bridge
 - Advise EB SR-92 traffic to use alternate routes on surface streets
 - Advise NB US-101 traffic to use Bellam Blvd off ramp to EB I-580



Incident Monitoring

- During the full bridge closure, TMC will:
 - Review District-wide CHP / CAD incident logs
 - Identify logs for incidents along the mainline detour routes that are impacting traffic (stalls, accidents, debris, etc.)
 - Identify those that require action by Maintenance / field personnel
 - Coordinate and exchange information with the SFOBB Command Center and media
 - Activate / modify CMS / HAR messages
 - Use 511 to update motorists of traffic conditions
 - Issue Sigalerts as needed



Incident Management Tools

- Closed Circuit Television Cameras (CCTVs)
- Construction Zone Enhanced Enforcement Program (COZEEP)
- Caltrans Bridge Tow Truck Service
- Freeway Service Patrol (FSP)
- Local Traffic Control



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Construction Strategies



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Construction Strategies

- Experienced Contractors
- Construction Staging
- Continuous Construction Schedule Monitoring
- Command Center for Information Update



Contingency Plan

- Additional Construction Equipment on Standby (Construction Contingency Plan)
- Emergency Public Information and Media Outreach Plan
- Emergency Transportation Response Plan



Demand Management



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Additional BART Service

- Enhanced Daytime Service
 - During BART regular hours of operation
- All Night Service
 - During the hours when BART does not normally operate
 - Saturday 1 AM to 6 AM
 - Sunday 1 AM to 8 AM
 - Monday Holiday 1 AM to 6 AM
 - Hourly service to 14 stations



Additional Ferry Service

- Alameda-Oakland Ferry
 - Between Alameda, Oakland, and San Francisco
- Vallejo BayLink Ferry
 - Between Vallejo and San Francisco
 - Supplemental Vallejo Baylink 200 bus service



Additional Ferry Service

- Golden Gate Ferry
 - Between Larkspur and San Francisco
 - With added direct transit service (Route 42) between East Bay and the Golden Gate Larkspur Terminal
 - Between Sausalito and San Francisco
 - Between Larkspur and Sausalito
 - New direct ferry service



Alternate Route Strategies



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Alternate Route Strategies

- Additional Temporary Traffic Capacity on Alternate Routes
- Additional Toll Collectors at Other Bridges



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Temporary Additional Traffic Capacity

- SB I-880 / WB SR-92 Ramp
 - Add a lane on the ramp
 - Use inside shoulder for WB SR-92 through traffic
 - Close Hesperian Blvd off ramp



Post-Evaluation Study

- Summary of Changes to Scheduled Events
- Traffic Volumes
- Travel Time Delays
- Transit Ridership
- Operational Impacts Caused by Accidents
- Lessons Learned



Special Thanks

- Toll Bridge Program Oversight Committee
 - Will Kempton, *Director, Caltrans*
 - Andre Boutros, *Acting Executive Director, California Transportation Commission*
 - Steve Heminger, *Executive Director, Metropolitan Transportation Commission/Bay Area Toll Authority*
- Project Management Team
 - Tony Anziano, *Toll Bridge Program Manager, Caltrans*
 - Brian Maroney, *Toll Bridge Program Deputy Manager, Caltrans*
 - Stephen Maller, *Deputy Director, California Transportation Commission*
 - Andrew Fremier, *Deputy Executive Director, Metropolitan Transportation Commission/Bay Area Toll Authority*
- Caltrans Project Manager, Ken Terpstra

