CALIFORNIA TRANSPORTATION

Journal

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50 Years of Interstate History via Trans-America Convoy

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Cover Story: Fifty years after the Interstate Highway System became reality, Caltrans participates in a nostalgic journey from coast to coast.

California Transportation
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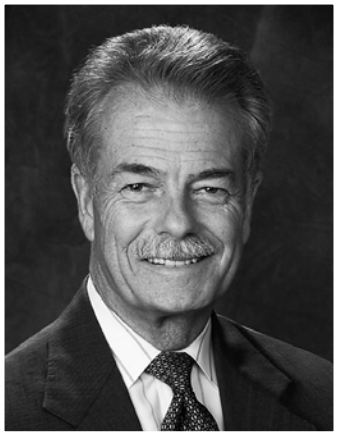
Message from the Caltrans Director

Transportation officials in California are feeling very upbeat following the state's November 7 election. Californians gave their support for the transportation portion of Governor Arnold Schwarzenegger and the Legislature's "Strategic Growth Plan." By wide margins, Californians said "yes" to Propositions 1A and 1B, the initiatives that will stabilize transportation funding and give the state a $19.9 billion shot in the arm, reversing many years of "underinvestment" in the state's mobility infrastructure.

This vote lays a new foundation for financing transportation across California and offers a transportation-funding model for other states. The Strategic Growth Plan places a constitutional fence around the transportation fund-generating Proposition 42, which Californians passed in 2002. It also provides stable funding for mobility for at least a decade. This is good news for the California Department of Transportation (Caltrans), for its regional transportation partners and for California as a whole.



California can now move ahead to renew and improve its transportation infrastructure — which will rival the state's building accomplishments during the 1950s and 1960s, which many consider a golden age of transportation. It was a time when California's highway and freeway system expanded rapidly, and the state significantly improved its statewide water delivery system and invested heavily in the University of California, the nation's premier state system of higher education.

For a number of years, California transportation's greatest problem resulted not from engineers and other transportation professionals' failure to create better mobility solutions. It came from an unsteady flow of funds to underwrite those solutions.

Despite the fact that Californians in 2002 approved Proposition 42, which reserved state sales tax on gasoline for transportation, loopholes allowed some $2.5 billion to be diverted from transportation projects into the state's general fund. Those loopholes are now essentially plugged. Future fund transfers will be allowed, but they will also be strictly limited, and loans must be paid back in a timely manner as defined in law.

That leaves Caltrans and the state's entire transportation community in a position to expand the number of transportation projects they can deliver in coming years. Caltrans now can accelerate safety improvements to sections of the roads and highways that need them most. The Department can complete the state's network of carpool lanes, improve public transit and, most of all, reduce congestion on the state's roadways.

Now that the voters have spoken, the California Transportation Commission (which allots funds for transportation) has completed guidelines on how the funds from Proposition 1B can best be spent. Caltrans is working with the construction industry to ensure that everyone is ready to take on this big, new challenge.

It's pretty clear that Caltrans and its regional transportation partners will be very busy in coming months and years. The bonds have passed and we are putting together an action plan to deliver an increased number of new projects. This will give new life to mobility projects across California.

Will Kempton, Director

Celebrating 50 Years

...the convoy of buses, big rigs, motor coaches, and vintage and modern vehicles, which was escorted by some 20 San Francisco Police Department motorcycles... would make 17 stops in 13 states before finally coming to rest in the nation's capital — at the "Zero Milestone" from which Eisenhower's 1919 military column began its historic journey.

# of Interstate Highways

By John Robin Witt

Editor, California Transportation Journal

Lt. Colonel Dwight D. Eisenhower could hardly have imagined the consequences of his actions when he left Washington, D.C., on June 7, 1919, to cross what he called "darkest America" over a 3,000-mile "system" of sometimes-paved, but just as often mud-clogged, back country roads.

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In a column of 81 U.S. Army vehicles with a company of 339 soldiers and officers, Eisenhower left the nation's capital bound for San Francisco; in the process he laid the foundation for America's 46,508-mile Interstate Highway System.

His journey lasted nearly two months — punctuated by some 230 "calamities" — from demolished trucks to flat tires. Indeed, two trucks belonging to Firestone Tire and Rubber Co. accompanied the column in order to repair the inevitable flurry of flats the convoy would have on the rough journey.

On September 1, after a journey of 56 days, the expedition arrived in Oakland and was ferried across the bay to San Francisco, ending the long trip at Lincoln Park.

The lengthy journey, supplemented by Eisenhower's experience with German Autobahns following World War II, led the future president to conclude that the United States needed a modern and efficient highway system.

"A third of a century later, after seeing the Autobahns of modern Germany and knowing the asset those highways were to the Germans, I decided as President to put an emphasis on this kind of road building," he recorded in his memoirs. "The old convoy had started me thinking about good, two-lane highways, but Germany had made me see the wisdom of broader ribbons across the land."

"Ike" made good on his promise in 1956 when he signed the Federal-Aid Highway Act, which helped to transform the United States into the economic powerhouse it is today. The Interstate Highway System today carries the bulk of the nation's goods and services as well as personal travelers. In fact, according to the American Association of State Highway and Transportation Officials (AASHTO), two million trucks moving on the Interstate Highway System today carry 10 billion tons of goods, or nearly 70 percent of all freight moved across the United States.

Eisenhower's trip was repeated, albeit in reverse, on June 16, 2006, when AASHTO launched its own caravan from San Francisco's Lincoln Park to Washington, D.C., beginning on the western end of one of America's most historic roadways, the Lincoln Highway. The California Department of Transportation (Caltrans) was a cosponsor along with AASHTO, which represents 50 state

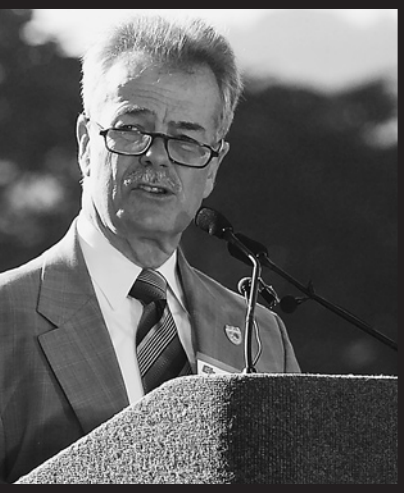
departments of transportations and the District of Columbia and Puerto Rico.

The partnership was intended to "Celebrate the Interstate," both nationally and in individual states, and to address some of the policy questions the nation faces as it points toward the next 50 years of U.S. transportation.

On hand for the Lincoln Park "launching" ceremony were then-Secretary Norman Y. Mineta of the U.S. Department of Transportation, Caltrans Director Will Kempton and former Secretary Sunne Wright McPeak of the California Business, Transportation and Housing Agency. The officials bade farewell to a convoy of buses, big rigs, motor coaches, and vintage and modern vehicles, which was escorted by some 20 San Francisco Police Department motorcycles and other units. The caravan would make 17 stops in 13 states before finally coming to rest in the nation's capital — at the "Zero Milestone" from which Eisenhower's 1919 military column began its historic journey.

"The original vision of President Eisenhower brought us the system of freeways that seamlessly connects each state today, and Caltrans is committed to ensuring the state's transportation system continues to work safely and efficiently," said Kempton.

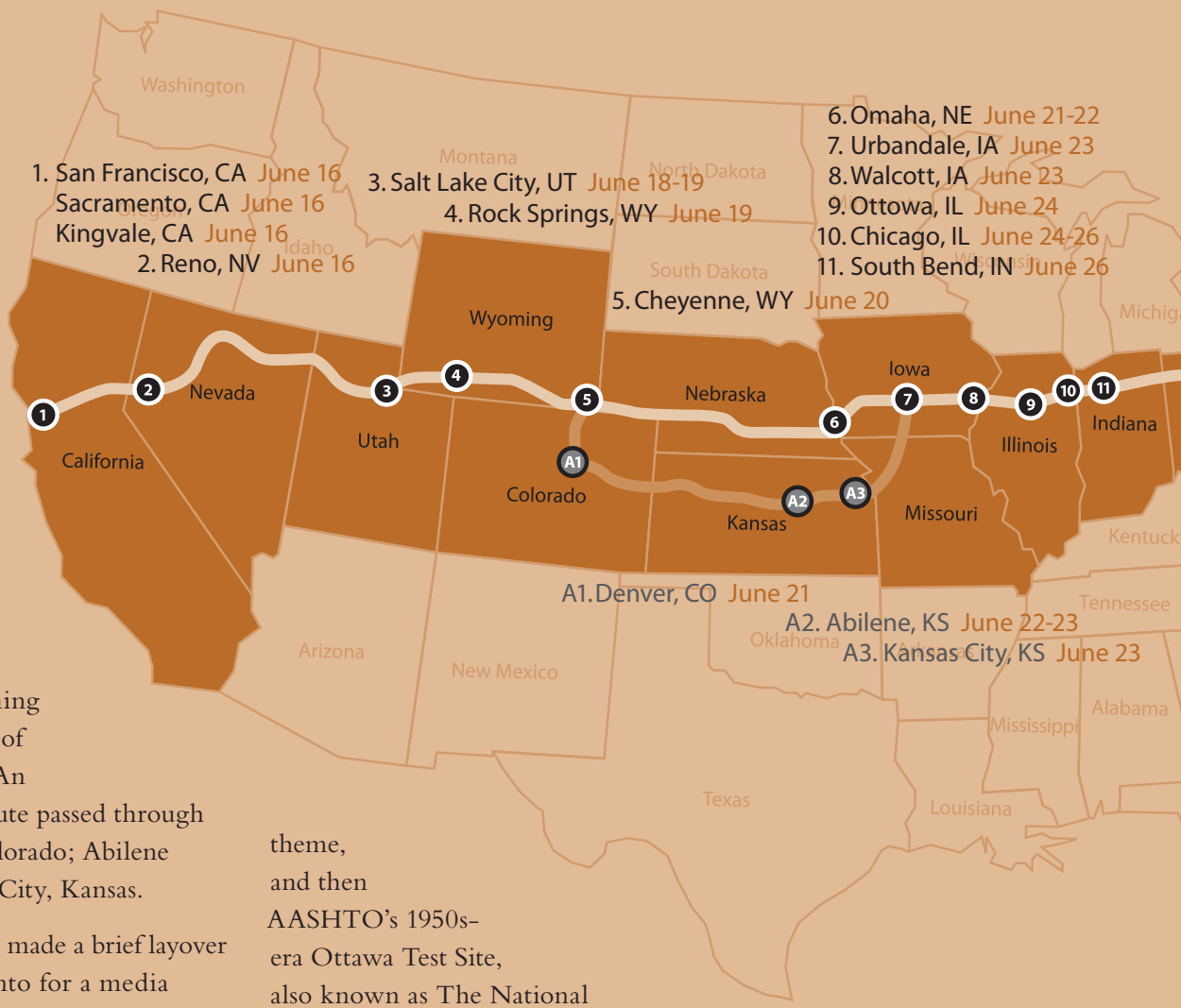
As part of its commitment to the journey's recreation, Caltrans unveiled a Web site, *http://www.dot.ca.gov/interstate/*, to mark the anniversary.



(Previous page): The Interstate 50 convoy travels past Donner Lake, California. (This page, from left): Soldiers ride along the 1919 route through "darkest America"; terminus marker in San Francisco's Lincoln Park; the modern convoy leaving San Francisco; Caltrans Director Kempton at the inaugural event; a California Highway Patrol vehicle framed by a truck commemorating Firestone Tire and Rubber Co.'s participation in the original trek.

Browsers can view a collection of vintage photographs. They also can read about the history of the interstate system in the Golden State.

The modern caravan made visits to Sacramento; Reno, Nevada; Salt Lake City, Utah; Rock Springs and Cheyenne, Wyoming; Omaha, Nebraska; Urbandale and Walcott, Iowa; Ottawa and Chicago, Illinois; South Bend, Indiana; Akron, Ohio; Gettysburg, Pennsylvania; and Frederick,



Maryland, before reaching the District of Columbia. An alternate route passed through Denver, Colorado; Abilene and Kansas City, Kansas.

The column made a brief layover in Sacramento for a media conference and then for a meal at the Caltrans Kingvale Maintenance Station, a celebrated cafeteria for winter snow-clearers and maintenance workers high in the Sierra Nevada. A few of the other caravan stops included the Truck Stop in Walcott, Iowa, billed as the largest in the world and home to the Trucking Hall of Fame and the Truck Museum. In Urbandale, participants visited the Living History Farms with a 1950s "Rock and Road" theme, and then AASHTO's 1950s-era Ottawa Test Site, also known as The National Test Road. South Bend offered tours of the Studebaker National Museum, and Akron featured the home of the Bridgestone Firestone North American Tire Company. The stop in Abilene yielded the Dwight D. Eisenhower Library and Museum, and Gettysburg proudly welcomed visitors to the Eisenhower National Historic Site.

The convoy included an eclectic group of vehicles: a motor coach belonging to TV sports commentator and former Oakland Raiders Coach John Madden, a Firestone-sponsored big rig truck and several vintage and modern vehicles. The long train of vehicles was connected historically to the 1919 caravan through the presence of several descendents of the original event's organizers: Merrill Eisenhower Atwater, President Eisenhower's great-grandson,

Graphic based on AASHTO route map: http://interstate50th.org/convoy-map.shtml

and Andrew Firestone, great-grandson of Harvey Firestone, founder of Firestone Tire and Rubber.

The entourage reached the nation's capital on June 29, the 50th anniversary of the signing of the Federal-Aid Highway Act. Due to inclement weather and flooding in Washington, the convoy's final event was moved from the Capitol's Ellipse — the point from which the 1919 convoy departed — to the Ronald Reagan Building and International Trade Center on Pennsylvania Avenue. Several hundred people welcomed the convoy, including members of Congress and business leaders. CTJ

50 FIFTY

In light of the 50th anniversary, Californians have chosen to remember the Golden State's proud history of achievements in helping to create the Interstate Highway System. For example, California contains parts of three of the longest interstate routes in the country. Interstate 80 begins in San Francisco and stretches 2,899 miles to Teaneck, New Jersey, making this route the nation's second largest interstate segment. I-40 begins in Barstow, stretches 2,555 miles to Wilmington, North Carolina, and ranks third. The fourth longest route, I-10, begins in Los Angeles and stretches 2,460 miles to Jacksonville, Florida.

In 1964, the final 10 miles of I-80 were constructed over Donner Summit at the height of the Sierra Nevada in time to welcome the 1964 Winter Olympics at Squaw Valley, California. The American Society of Civil Engineers judged completion of the project to be "one of the two best engineering feats of 1964." The other is NASA's Cape Kennedy.

In fact, some national highways predated the Interstate Highway System. The Lincoln Highway, envisioned in 1913, was one of America's most famous highways, known as "The Main Street across America." Arguably the first transcontinental highway in the U.S., it crossed 14 states and spanned more than 3,300 miles, coast-to-coast, from Times Square in New York City to Lincoln Park in San Francisco.

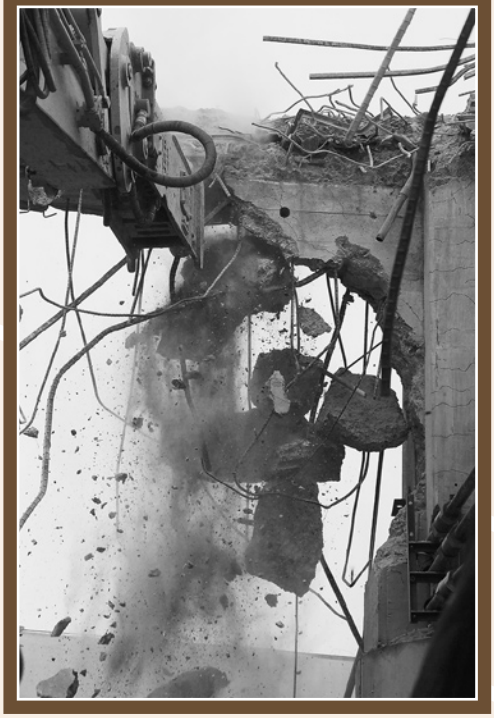
Another famous highway, Route 66, was one of the original federal routes, established on November 11, 1926. It ran 2,347 miles from Chicago to the beach at Santa Monica, California, passing through Missouri, Kansas, Oklahoma, Texas, New Mexico, and Arizona. Although Interstate 40 has replaced Route 66, many people consider the earlier highway the great migratory road west, carrying emigrants from the Dust Bowl and Great Depression to jobs and new lives in California.

And, after all of the Interstate Highway System's accomplishments, it's hard to say whether Lt. Col. Eisenhower would have been merely satisfied or amazed at the result of his historic 1919 trek across "darkest America."

3 Weddings & a Ballgame:

By Bart Ney and Ivy Morrison

Bay Bridge Public Information



The eastbound lower deck of the San Francisco-Oakland Bay Bridge reopened on September 5, 2006, at 4:15 a.m., after a marathon 77-hour closure, marking completion of a significant seismic safety project milestone over the Labor Day weekend.

A Bay Bridge Success Story on the West Approach

It was the third of a series of elaborately staged demolition and construction projects to remove and replace the existing roadway with seismically upgraded structures. It was also the most challenging phase of work, involving the demolition of a one-mile stretch of Interstate 80 in San Francisco, known as the West Approach.

Because of the bridge's daily traffic volume (280,000 vehicles) and the proximity of apartment buildings and offices, the demolition operations required extensive public outreach. The weekend closure was the largest public communication effort to date on the Bay Bridge projects.

Demolition involved removing 10,000 cubic yards of steel and concrete (originally scheduled over several weekends). Using the three-day holiday offered the advantage of only one weekend closure and minimal inconvenience to the public. After careful planning, Caltrans opted to use the weekend.

The work also required extensive public outreach. Of course, many stakeholders remained the same from previous outreaches — legislators, media, project neighbors, community groups, and public agencies. However, the Labor Day weekend outreach also needed to reach holiday visitors from a wide geographical area who might be planning to use the Bay Bridge.

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With a "green light" from the Toll Bridge Program Oversight Committee (TBPOC), which consists of the directors of Caltrans, the California Transportation Commission (CTC), and the Bay Area Toll Authority (BATA), an extensive public outreach campaign was launched. The Metropolitan Transportation Commission/511 provided trip-planning updates on its Web site. Bay Area Rapid Transit and ferry boats provided expanded service during the closures, distributed fact sheets, ran electronic messages, and provided Web site updates. The San Francisco Municipal Railway featured posters on more than a thousand vehicles, and other local and regional transit agencies provided information to their riders.

(Above): The last few vehicles make their way across the San Francisco-Oakland Bay Bridge before its closure last September. (Upper right): Construction moves ahead on the bridge, (below) temporarily leaving piles of concrete and reenforcing bars.

Getting Word Out Before, During and After

The campaign began a month ahead of the closure with legislative outreaches and media advisories in the San Francisco Bay Area and Sacramento. Outreach continued throughout the closures, and even after the bridge reopened, with live, on-site media updates.

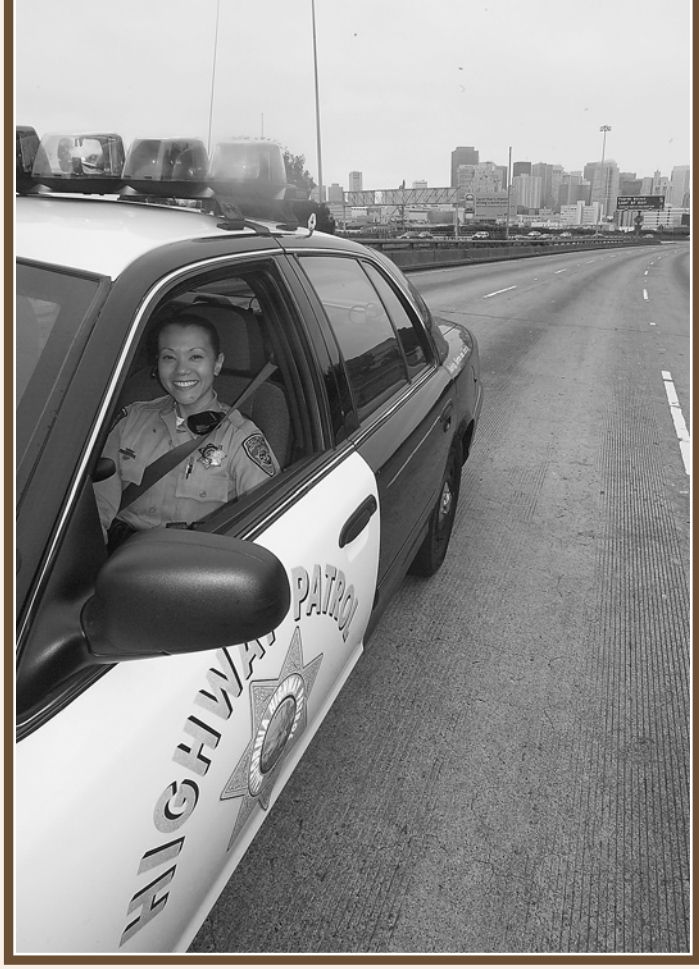
Information outlets included television, radio and newspapers in the Bay Area, Sacramento, Stockton and Modesto, as well as some 30 movie theaters in the same markets. Nearly a million fact sheets blanketed 205 cities in the region. Outreach also included community and other public meetings, and a 24-hour automated hot line in five languages. Web site updates played their parts, as did announcements at San Francisco 49er games, on Changeable Message Signs and in Highway Advisory Radio messages. Banners went up in regional airports, and youths from community organizations acted as "town criers" by announcing the closures and distributing fact sheets at airports and other locations. Information was also distributed at the California State Fair.

It Worked!

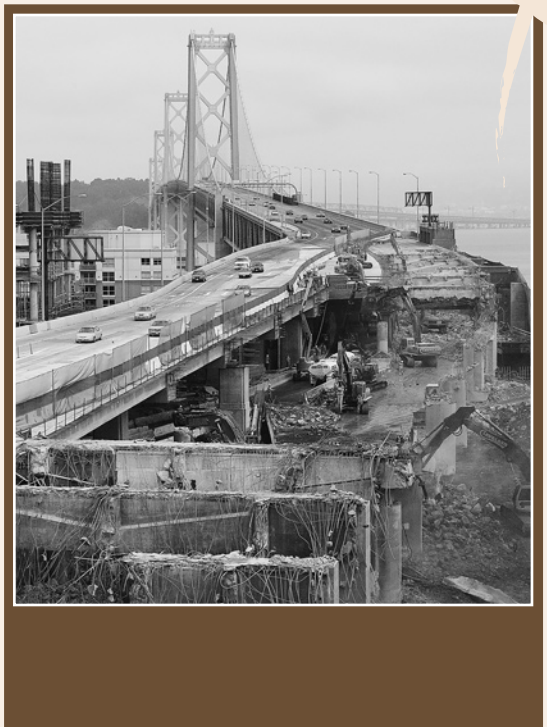
The lower deck closed September 1 at 11:59 p.m., which gave 49er fans enough time to cross the bridge after the game. Other motorists stayed away from the closed span, allowing Caltrans crews and contractor Tutor-Saliba Corporation to accomplish the enormous task. The campaign continued through the weekend with live media updates, with a backdrop of more than 250 workers laboring around-the-clock on the structure.

To protect the lower deck, workers erected a system of steel beams and columns. Heavy steel and concrete reinforcement structures, added during earlier phases of work, were removed intact and hauled away by truck. Twenty-one hydraulic hammers, which started their work on the deck, were repositioned to ground level by enormous cranes. The work schedule was meticulously planned to make maximum use of all equipment.

As work progressed, three "dust busters" misted the areas to reduce airborne particles. Caltrans provided voluntary air-quality monitoring throughout the weekend — in cooperation with the state Occupation, Safety and Health Administration — to keep readings well within the normal range. Access for public transit on the lower deck presented a great challenge. Once an hour, Caltrans cleared an eastbound lane for transit use, providing bus riders a close-up view of the project.

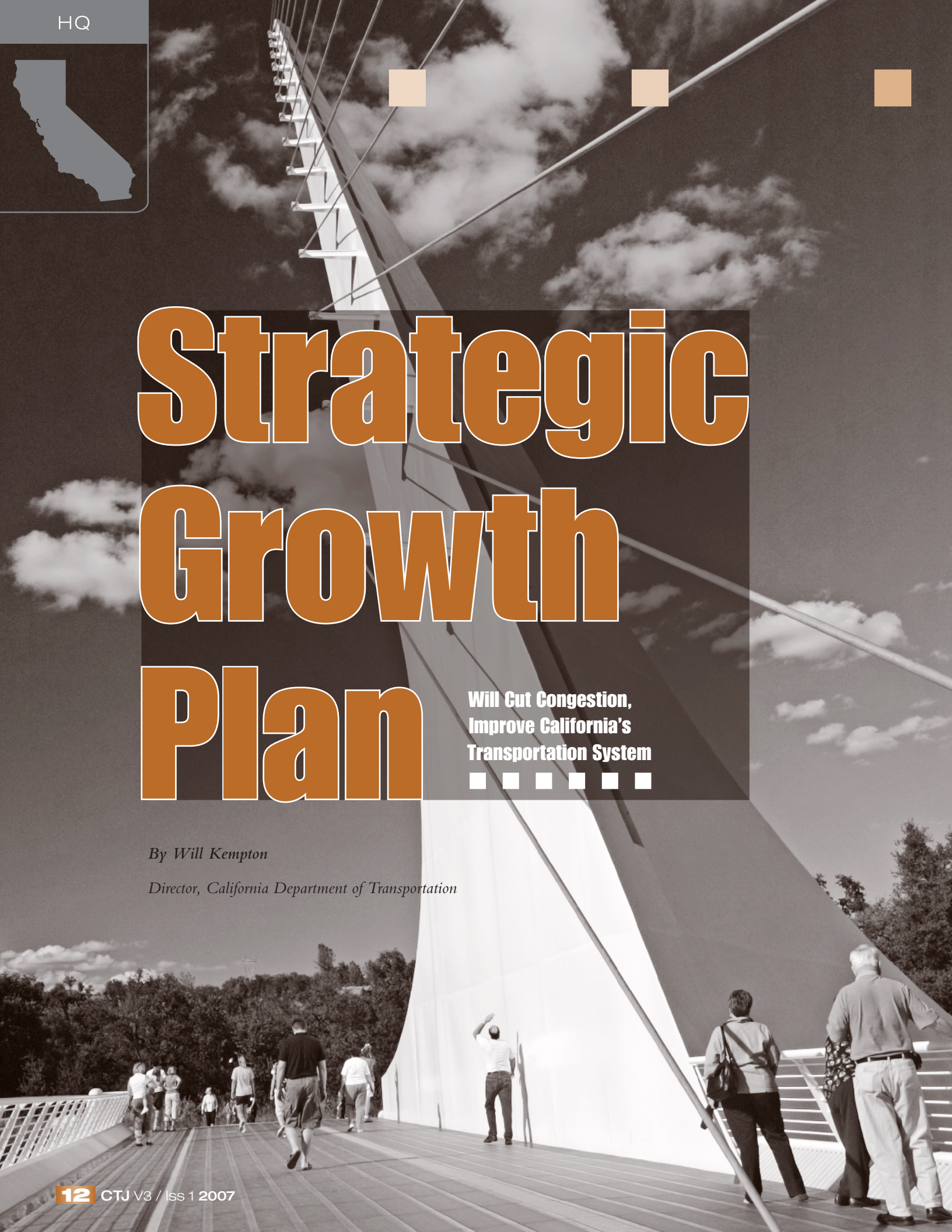


(Above right) A California Highway Patrol officer monitors the site. (Below) Much of the structure has been taken down.



Caltrans also worked with organizers of three planned weddings during the long weekend — providing access to Treasure Island for the bridal parties.

In the end, San Francisco 49er fans from the east side of the bay were able to celebrate their victory and make it back across the bridge before it closed. On Treasure Island, three couples were able to take their vows on time with their guests in attendance. And Caltrans, with support from numerous transit agencies, the City and County of San Francisco, the California Highway Patrol and emergency service agencies, succeeded in completing necessary seismic work on the Bay Bridge. As a result of meticulous Caltrans planning and follow-through, the entire San Francisco Bay Area came out a winner. CTJ



Strategic Growth Plan

Will Cut Congestion, Improve California's Transportation System

By Will Kempton

Director, California Department of Transportation

The SGP is a historic and comprehensive infrastructure investment package, and the transportation component of the plan will decrease congestion, improve travel times and increase safety, while addressing economic and population growth.

Last year, Governor Arnold Schwarzenegger announced a Strategic Growth Plan (SGP) for California to meet the demands of the state's growing population, and to correct decades of underinvestment in infrastructure. Californians made an important transportation decision last November. On Election Day, they authorized nearly $37.3 billion in general obligation bonds, which will help revive transportation and improve public infrastructure across the state. The transportation portion of the SGP will leverage $107 billion for California's future from three sources: general obligation bonds; existing revenue such as gas taxes and truck fees; and new revenue, including private investment.

The SGP is a historic and comprehensive infrastructure investment package, and the transportation component of the plan will decrease congestion, improve travel times and increase safety, while addressing economic and population growth.

By an overwhelming margin, California voters said that California has underinvested in transportation and other infrastructure and that the state must increase its investment in order to remain competitive in the global marketplace.

Half a century ago, California was renowned for its public works, which ranged from highways to aqueducts, schools and universities. Faced with unprecedented post-war growth, California in the 1950s and 1960s built projects to serve a rising number of new citizens drawn west by the promise of the Golden State. For example, the California State Highway System, once a network of two-lane roads, became the most extensive and efficient highway and freeway system in the world.

With passage of the SGP, California is ready once again to make major investments in transportation — $105 billion for mobility over

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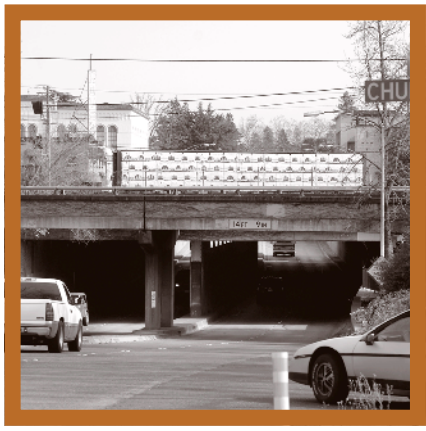


(Above) Historic photos show transportation improvements from an earlier era. The Strategic Growth Plan is primed to build California's mobility infrastructure of the future.

the next 10 years, plus $2 billion for mitigating air quality impacts caused by the state's bustling ports and land-based goods movement. The money will build 1,200 new highway lane-miles and 600 miles of mass transit and will offer more Intelligent Transportation Systems (ITS) to improve highway operations. It will maintain safety, expand the existing system for goods movement, and improve air quality.

(Below and left) The Strategic Growth Plan will improve goods movement throughout California, upgrading bridges, highways, transit and intercity and urban rail.

In addition, it will employ demand-management strategies, which could include dedicated truck lanes and high-occupancy lanes, and it will build new capacity to facilitate traffic movement through existing roadways.

Through a separate initiative, voters approved Proposition 1A, which prohibits money from being diverted from the state sales and use taxes on motor vehicle fuel, and protects the reservation of these monies for transportation purposes — including public transit, city and county street and road repairs, and improvements on the State Highway System.

We could imagine the SGP as a multi-component pyramid using integrated strategies to maximize mobility, including:

- Monitor and evaluate the existing system to provide a foundation for informed decisions about the transportation system.
- Maintain and preserve the system, keeping it in good health while reducing traffic and delaying unnecessary future costs.

- Land-use decisions. Demand management and value pricing will help to finance projects.
- Use ITS and traveler information while employing traffic control and incident management, which could reduce congestion by 20 percent.
- Increase traffic "throughput" by operational improvements such as auxiliary lanes, improved safety and system preservation.
- Caltrans will also complete and expand its existing planned system — completing carpool lanes, upgrading goods movement corridors and expanding rail and transit, park and ride and bicycle facilities.

Moreover, the SGP will permit innovative financing, including public-private partnerships, to pay for building and maintaining California's highways and other transportation infrastructure.

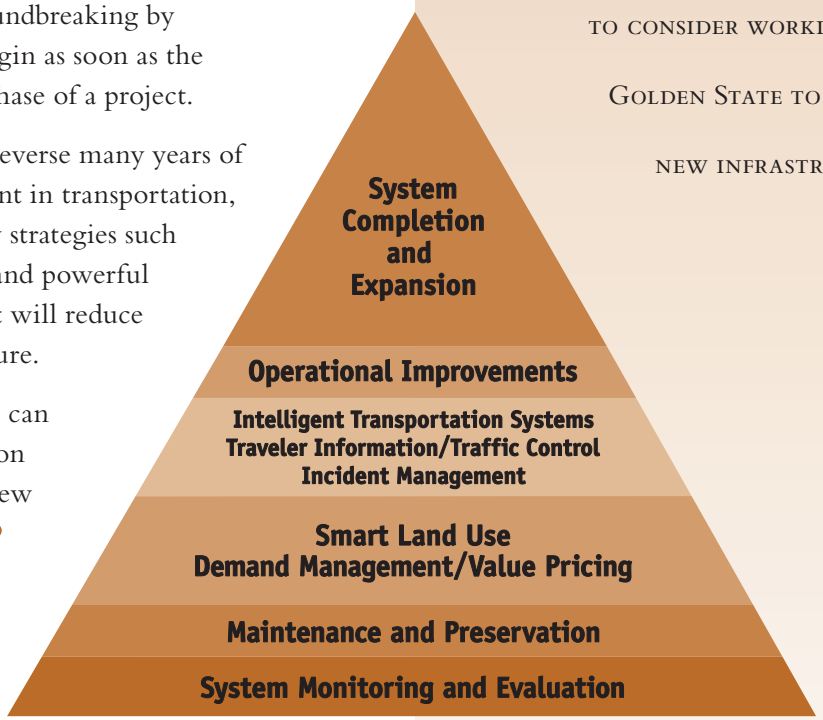
The state will seek authority for Caltrans to use *design-build*, a streamlined process that allows the department to select a contractor to complete project design and construction under one agreement.

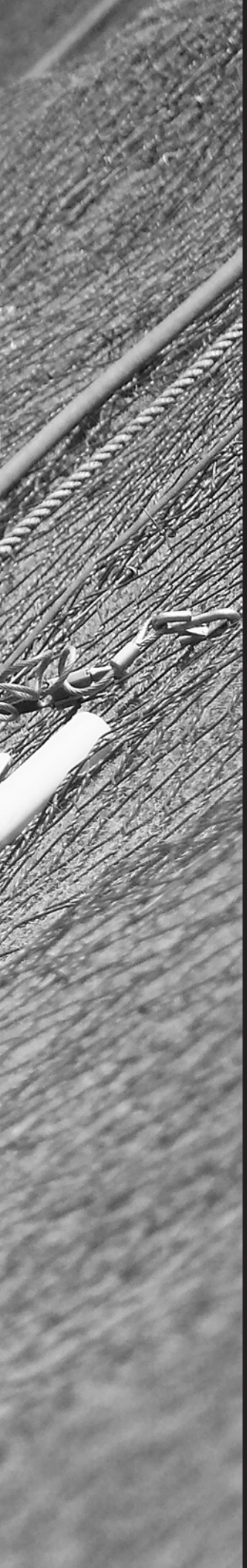
Caltrans also hopes to use *design-sequencing*, a strategy to jump-start groundbreaking by allowing construction to begin as soon as the design is finished for each phase of a project.

The SGP has the power to reverse many years of neglect and under-investment in transportation, while offering effective new strategies such as wiser land-use decisions and powerful project delivery options that will reduce traffic congestion in the future.

With these tools, California can turn around its transportation infrastructure and build a new golden age of mobility. CTJ

With more money available for transportation, California has reached out to the construction industry, inviting contractors to consider working with the Golden State to help build new infrastructure.





Winter can be brutal, especially on Highway 1 along California's

Caltrans Reopens

coast. During the winter season of 2005–06, severe rains washed away

Highway 1

a part of a steep, unstable cliff rising to about 600 feet above the

at Devil's Slide

ocean, known as Devil's Slide. Commuters, shoppers and recreational

Six Weeks Early

travelers were left in a precarious position.

By John Cunliffe

Public Information Officer

Highway 1 hugs the coastline for much of the distance between the towns of Montara and Pacifica in San Mateo County. One section of the road crosses the aptly named Devil's Slide. Opened in November 1937, it has a history of closure due to rock falls and land slides. In 69 years the road has been closed eight times prior to this latest incident. The last time, in 1995, the road was closed for 158 days at a repair cost of almost $3 million.

Caltrans closed the road again on April 2, 2006, after it became clear that depressions at Devil's Slide and two other nearby locations were major problems. Less than 24 hours later, massive boulders came crashing down from 300 feet above the road. Caltrans geologists were already on the scene assessing the storm damage and witnessed the spectacular event. Fortunately, no one was hurt.

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(Previous page) Caltrans workers scaled nearly vertical slopes at the Devil's Slide to stabilize the ground and to prevent rocks and debris from falling down to the roadway. (Far right) An aggressive schedule led to opening the project to traffic six weeks early.

To make the area safe for repair workers, Caltrans scaling crews first had to deal with the rock fall. This meant removing loose boulders above the road. Some were so large that the safest way to deal with them was to blow them up using measured amounts of explosives. Smaller rocks and loose material could then be moved down the cliff to the roadway and hauled away.

Storms continued to batter the area as rock clearing work continued. On April 10, Governor Schwarzenegger proclaimed a state of emergency to relieve seven counties, including San Mateo, directing "...all agencies of the state government to utilize and employ state personnel, equipment and facilities for the performance of any and all necessary activities to alleviate this emergency..."

Even without an emergency declaration, Caltrans understood the importance of restoring this vital road link quickly. Thousands of lives were being affected by closing the only direct north-south link between the towns of Montara, Moss Beach, Princeton, El Granada, Miramar, Half Moon Bay, and the greater San Francisco Bay Area. Typical commute times increased from 30 minutes to two hours. With gas prices ranging from $3.25 to $3.40 a gallon, commuters were understandably frustrated.

The business community felt impacts, too. Increased traffic congestion was a deterrent for tourists and visitors, who are so important to the area's economic well-being, especially during summer. Local merchants resisted measures designed to improve traffic flow through a bottleneck on the detour in Half Moon Bay. They feared a loss of business caused by changed traffic patterns. Highway 1 north of Half Moon Bay became a nine-mile long cul-de-sac, reducing the potential for "passing trade."

The emergency declaration enabled Caltrans to start repair work immediately without having to follow the normal environmental impact, design, bid, and build process. Caltrans engineering geologists got to work with structural engineers to develop a repair design. As soon as Caltrans construction personnel had part of the plan, they were off and running, ordering repair materials, mobilizing contractors and working on a detailed job schedule. If the repair design needed to be changed, adjustments would be made as repairs continued.

Caltrans reopened Highway 1 shortly after 9 p.m. on August 3, six weeks ahead of schedule. It took 82 days of intense repair work, carried out under the watchful eye of coastal residents, to complete a repair that some community members thought impossible. They feared the road would be closed permanently because damage was so severe.

Hal Stober, president of the main contracting company, Gordon N. Ball, Inc., said at the re-opening

Repair work was done around the clock, seven days a week. Estimates indicate that Caltrans saved three years compared to a normal non-emergency project schedule.

ceremony: "One day when I was at the site, I counted 35 people from five different entities all working together in an area no longer than about 200 feet, and they were all getting it done." That's high praise from a man with so much experience in construction.

Repair work was done around the clock, seven days a week. Estimates indicate that Caltrans saved three years compared to a normal non-emergency project schedule.

The re-opening ceremony was held at the Devil's Slide repair site on a warm sunny morning. Politicians, along with community and business leaders, praised the tremendous effort undertaken to restore this vital road link so far ahead of public expectations.

If nature cooperates, the $9 million repair effort will mean coast residents will never again suffer extended commutes and long detours.

Construction work is also well underway on a permanent solution. A $330 million inland tunnel, bridge and road realignment project will by-pass the notorious, unstable cliffs at Devil's Slide.

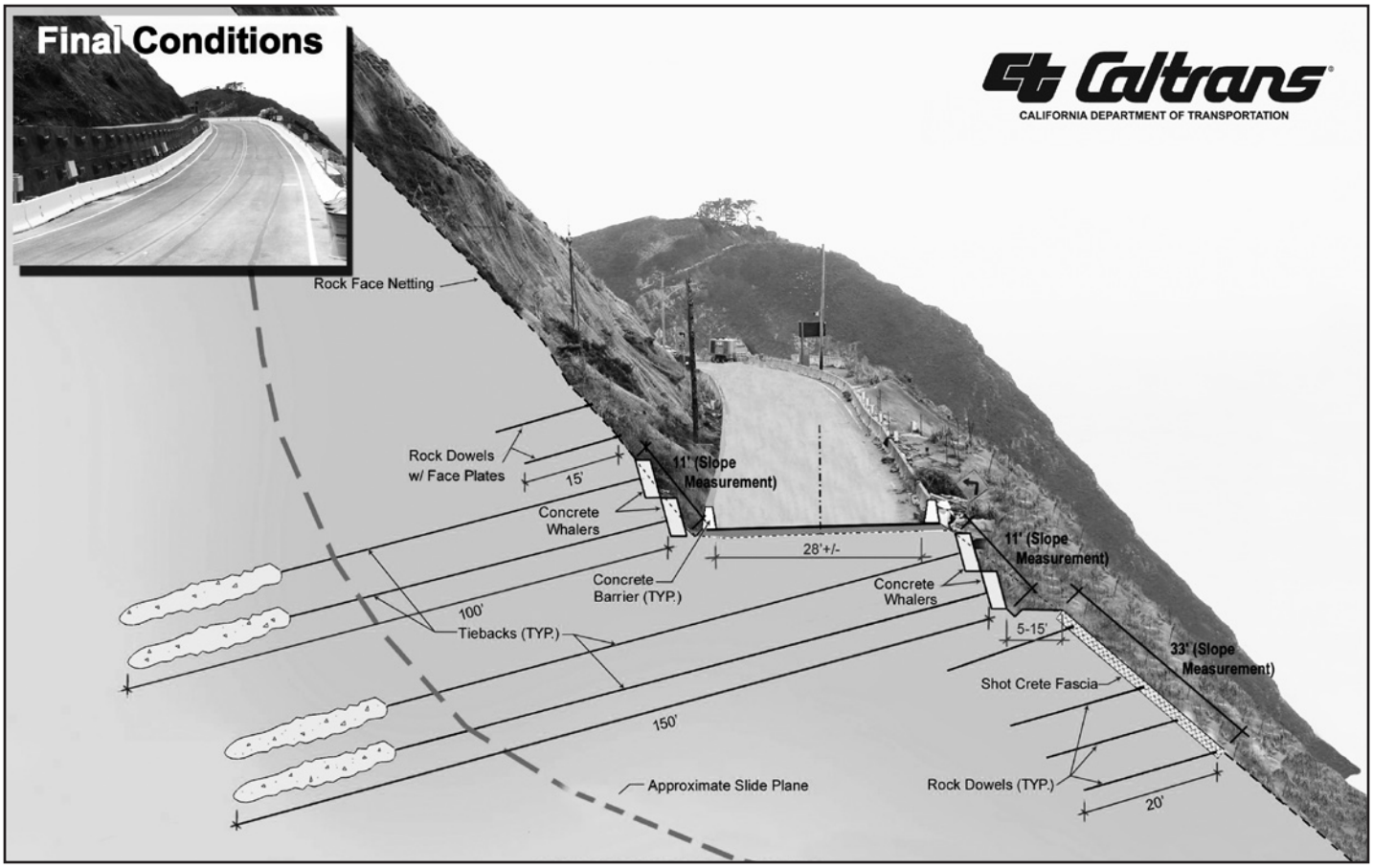
And what's next for the Devil's Slide Project Team? The members are looking forward to 2011 and the next ribbon-cutting ceremony to mark completion of the nearly mile-long by-pass tunnels under San Pedro Mountain. That will be a day to celebrate!

For more on the Devil's Slide Tunnels Project, please visit *http://www.dot.ca.gov/dist4/dslide/*.

John Cunliffe is the Public Information Officer assigned to Devil's Slide projects. He may be contacted through the above Web site or by calling (510) 286-5754. CTJ

DEVIL'S SLIDE ROADWAY REPAIR

View Looking South



Engineering geologists use the term "slope stressing" to describe the repair design. The work at Devil's Slide is the first large-scale slope stressing repair to be carried out by District 4. More than 180 "tie backs" and 1100 feet of concrete bracing walls form the heart of the repair. Tie backs are strong wire cables that pass through bracing walls and into 100- to 150-foot deep, pre-drilled holes. The far end of the cable is bonded to the interior rock by injecting grout. Once the grout is strong enough, the cable is tensioned against the concrete bracing wall by applying a 300,000-pound force. The cable is then locked off, holding the bracing wall and the part of the cliff that is moving to more stable rock. The repair also included more than 300 rock dowels, 15 to 20 feet long, drilled and grouted into the cliff above and below the road to hold fractured rocks together.

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C A L T R A N S

This publication is dedicated to all highway workers, including those who have lost their lives while improving California's highway system.

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