附　属　資　料

① カリフォルニア州運輸局での収集資料
② S/W
③ M/M
④ 収集資料リスト

① カリフォルニア州運輸局での収集資料

米国訪問先報告

訪問先

State of California
Department of Transportation
District 7 Office of STIP/Seismic Retrofit

対応者

Deborah a.Mah,P.E.(Program Manager)
George Kohama(Seismic Retrofit Engineer)

訪問日

1996年 3 月29日

目的

ノースリッジ地震後の橋梁点検、補強システムの状況の調査。

内容

カリフォルニア州における
・橋梁のデータベース内容（インベントリーの内容）。
・橋梁補強の優先順位の考え方。
・補強方法の具体的事例。
・米国における耐震基準の変更状況。
・補強に関する事業量の状況。

Real-Time Traffic Information Available on Internet

The California Department of Transportation (Caltrans) District 7 and Maxwell Laboratories is currently providing, as a free public service, regional traffic information for Los Angeles area freeways via the Internet world wide computer network. This service is available to any computer user with an internet connection. Normally this either takes the form of connection provided by an employer or educational institution, or by a dial-up connection purchased by an individual from a local Internet "Point of Presence" provider. Text-based traffic displays are available to any user who can make a "telnet"-protocol connection from their terminal or computer. To access the graphics displays, maps and photographs, the user runs a World Wide Web client on his/her Internet-connected computer. These browsers (MAC, PC and UNIX) are available both at no cost from software repositories on the Internet or at local computer stores in the form of "Internet-in-a-Box" commercial software. The cost of these packages is minimal.

The service is currently available 24 hours a day, 7 days a week and normally runs in an unattended mode requiring no operator. The graphical traffic display, which shows a schematic representation of the local freeway network on which colored dots indicating speed ranges are overlaid at the instrumented interchanges, is updated every 30 seconds from the Caltrans data feed. Each of the colored dots on the map are "live" links to additional displays which provide detailed information about that particular sensor location.

The Internet is a global computer network, primarily funded in the U.S. by the National Science Foundation, which links tens of thousands of computers and over 5 million users world-wide; the majority of which are in the United States. The usage of the Internet is currently growing at the rate of over fifteen percent per month. The interesting aspects of the internet for this purpose are that (1) it is readily accessible in the workplace by millions of American commuters at commercial, military, government and educational worksites, (2) the necessary infrastructure, communication protocols, and software already exist to cost effectively implement a traffic information system, (3) its distributed nature makes both nationwide and local access and information serving possible.

The concept of providing real-time traffic congestion information to the public has a significant impact on reducing commute time congestion simply by providing existing freeway sensor data to end users in an efficient, rapidly implementable way through an existing communication network such as Internet. The real-time traffic information server can be accessed using the Internet World-Wide Web at Universal Resource Locator (URL):

http://www.scubed.com/caltrans/la/la_small_map.shtml

Accessing the freeway maps requires the use of a graphical Web browser such as NCSA Mosaic. The tables of freeway speeds are available from both graphical browsers and text-based browsers such as Lynx.

Caltrans

Internet

California Department of Transportation • District 7 • 120 S. Spring Street • Los Angeles, California 90012
(213) 897-3656 • FAX (213) 897-3836

7/20/95

FACT SHEET

District 7 Profile

The California Department of Transportation (Caltrans), formerly known as the California Division of Highways, was established by the state Legislature in 1972. The department is primarily responsible for the planning, design, construction and maintenance of the state highway system. Other responsibilities include mass transit system enhancement, railroad system development, sea port and waterway expansion, air transportation planning and assisting area governments and agencies in planning and developing local transportation improvements.

District 7, which includes Los Angeles and Ventura counties, is the second largest of Caltrans' 12 districts. It employs approximately 2,800 people, with the largest group — 1,345 — working in the Construction and Maintenance area.

The District's Design Department has 491 employees, the Traffic Operations Department employs 325 and the Mass Transportation Department consists of 125. There are 100 engineers on a rotation program. The remaining employees in District 7 are distributed between Right of Way and Administration. The annual support budget is $162 million for personnel and $101 million for operations.

There are 27 freeways located within District 7 that, if placed end-to-end, would stretch for 615 miles. During the next seven years, the District will manage a budget of approximately $2.3 billion, which includes all aspects of highway and rail design and construction.

There are 88 cities and 4,083 square miles in Los Angeles County, which has a population of over 9.1 million people. There are 85 million vehicle miles traveled on the county's 527 miles of freeway on an average day. There are 382 highway miles in Los Angeles County.

Ventura County is1,873 square-miles, includes 10 cities, and has a population of over 700,100. An average of 6 million vehicle miles are traveled on a daily basis on the county's 88 miles of freeway. There are 185 highway miles in Ventura County.

The first freeway in California was the Pasadena Freeway (110). Originally called the Arroyo Seco Parkway, it was 6 miles long and cost $5.7 million. It opened on Dec. 30, 1940. The newest freeway is the 17.3 mile Glenn Anderson (Century) Freeway, which stretches from Norwalk to El Segundo. It opened on Oct. 14, 1993 and cost $2.3 billion.

11/94

Caltrans District 7 Public Affairs
120 S. Spring St. Room 100
Los Angeles, CA 90012

213-897-3656
213-897-3836 (fax)

FACT SHEET

Seismic Retrofit Program

There are 12,000 bridges in the California State Highway system, plus an additional 11,500 city and county bridges. There are 2,566 freeway and highway bridges in Los Angeles and Ventura counties. Each bridge is inspected at least every two years by Caltrans' Division of Structures. Some bridges are inspected more frequently.

Since the 1971 Sylmar earthquake struck the Los Angeles area, Caltrans has been engaged in an ongoing bridge retrofit program. Using research developed following the 1971 earthquake, Caltrans implemented new bridge design critieria. From 1986 to 1989, a retrofit program developed by Caltrans identified single-column bridges as being potentially the most vulnerable to earthquake damage. Research sponsored by Caltrans at the University of California, San Diego, led to a retrofit procedure that uses steel jackets to increase the strength of columns.

The department has embarked on an ambitious program of inspecting and retrofitting bridges. Following the 1989 Loma Prieta earthquake in the San Francisco Bay area, Caltrans sponsored accelerated retrofit research primarily conducted at the University of California at Berkeley and the University of California at San Diego. More than $15 million has been spent on seismic research since the Loma Prieta quake, and on-going research is continuing. In fact, Caltrans frequently hosts visiting delegations of civil engineers from around the world who want to inspect the latest in bridge designs.
In addition, Caltrans appointed a Seismic Advisory Board of external engineering and scientific experts to advise the department on seismic safety policies, standards and technical practices. Peer review panels of independent seismic and structural experts also are utilized to review earthquake strengthening strategies on major, complex retrofit projects.

The Seismic Retrofit program is split into Phase 1 and Phase 2. Phase 1 includes 1,039 bridges identified for strengthening after the Loma Prieta quake at a cost of $758 million. By the end of 1995, 1,027 of those structures had either been completed or were under construction. All 1,039 bridges are scheduled to be completed by the end of 1995.

(OVER)

11/95

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Los Angeles, CA 90012

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Phase 2 identified an additional 1,209 bridges for strengthening following the January 1994 Northridge earthquake. As detailed engineering of those structures is completed, the number of bridges that will potentially require retrofitting will change. Currently, the number stands at 1,286. Retrofitting of the Phase 2 bridges is estimated to cost $1.05 billion and be completed in December of 1997.

Initially, Caltrans' Seismic Retrofit program consisted of restraining sections of 1,262 bridges with steel cables. The work cost over $54 million and was completed in 1989. The Seismic Retrofit program now involves strengthening the columns of existing bridges by encircling certain columns with a steel casing or, in a few cases, an advanced woven fiber casing. In addition to the column casing, some of the bridge footings are made bigger and given more support by placing additional pilings in the ground or by using steel tie-down rods to better anchor the footings to the ground. In a few cases bridge abutments are made larger and the existing restrainer units are made stronger because encasing the columns make them stiffer and can change the way forces are transmitted within the bridge. Many Seismic Retrofits involve "hinge seat extensions," which enlarge the size of the hinges that connect sections of bridge decks and helps prevent them from separating during severe ground movement.

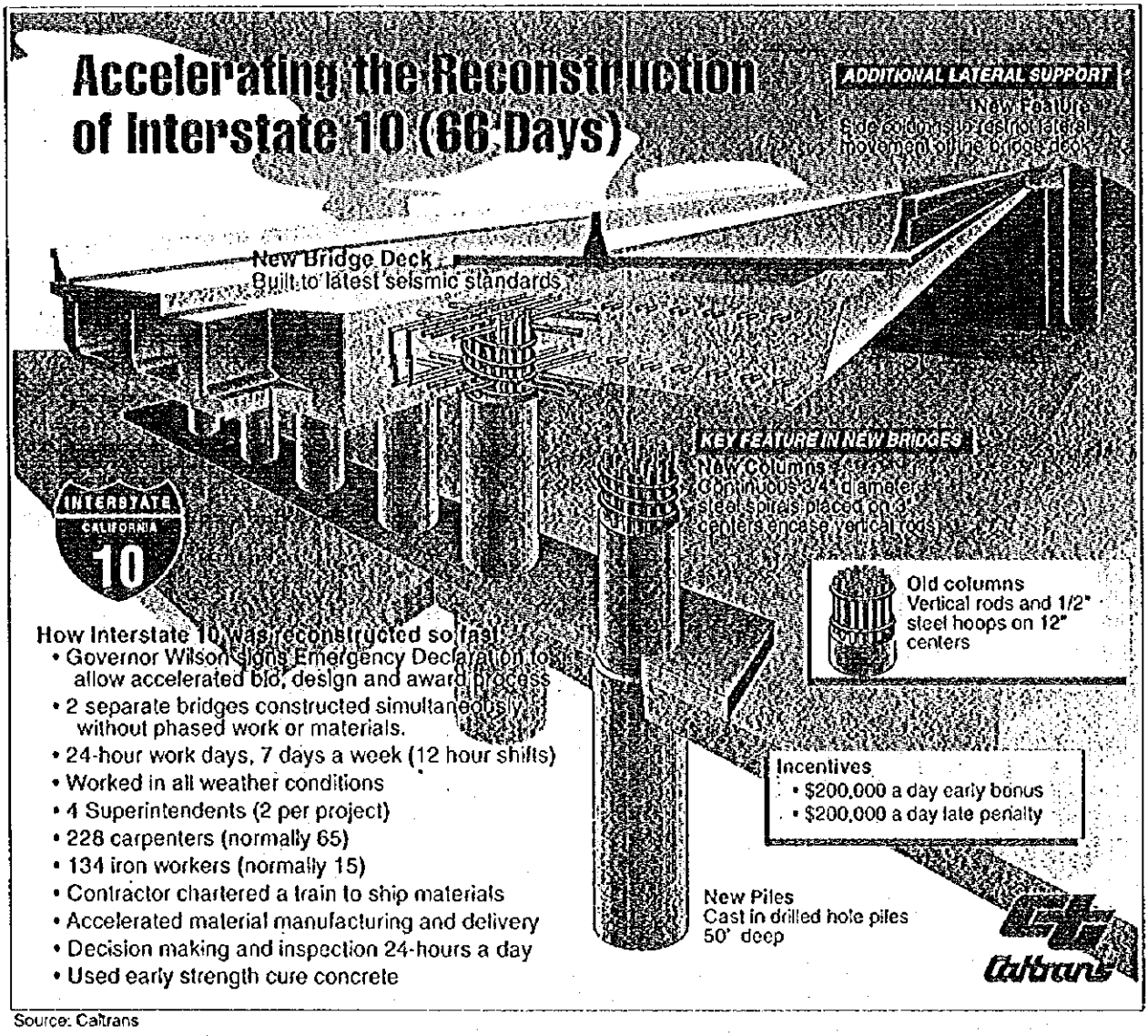
The design of each bridge to be retrofitted is "site specific," or based on the maximum credible earth movement expected at that location. The calculation depends on many factors, including the nearest active earthquake fault, type of geology beneath the bridge and the original bridge design.

The first column Seismic Retrofit project was the $724,000 Orange (57) and Pomona (60) freeway connector project, which began in April of 1990 and was completed in February of 1991. By the Jan. 17, 1994 Northridge earthquake, 122 bridges in District 7 (Los Angeles and Ventura counties) had been retrofitted, and all performed as expected during the magnitude 6.8 temblor.

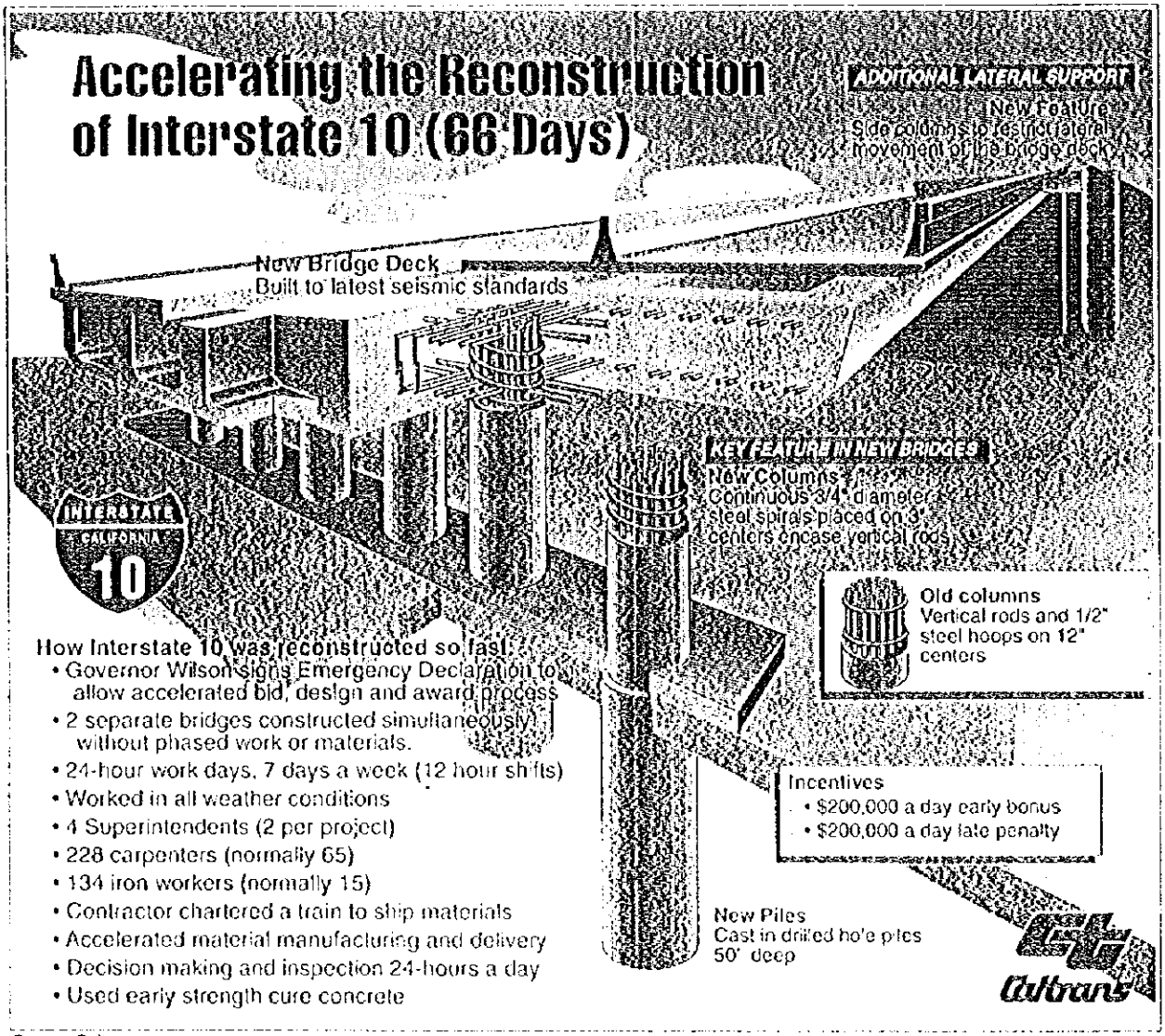
In District 7, there are 336 bridges in Los Angeles County and 42 bridges in Ventura County in Phase 1 of the retrofit program. In Phase 2, there are 300 bridges in Los Angeles County and 19 in Ventura County. The total for both phases in District 7 is 706 bridges (643 in Los Angeles County and 63 in Ventura County) out of a total of 2,566 bridges in the district.

In all, the state's bridge earthquake strengthening program will involve more than 2,400 structures, including the state's toll bridges, and cost approximately $2.5 billion.

Funding for the bridge retrofit program comes from transportation money generated by the tax on motor vehicle fuel. Under the funding priorities approved by the California Transportation Commission, funding for seismic retrofitting of bridges in Phase 1 and Phase 2 and other safety-related projects have the first call on available transportation resources.

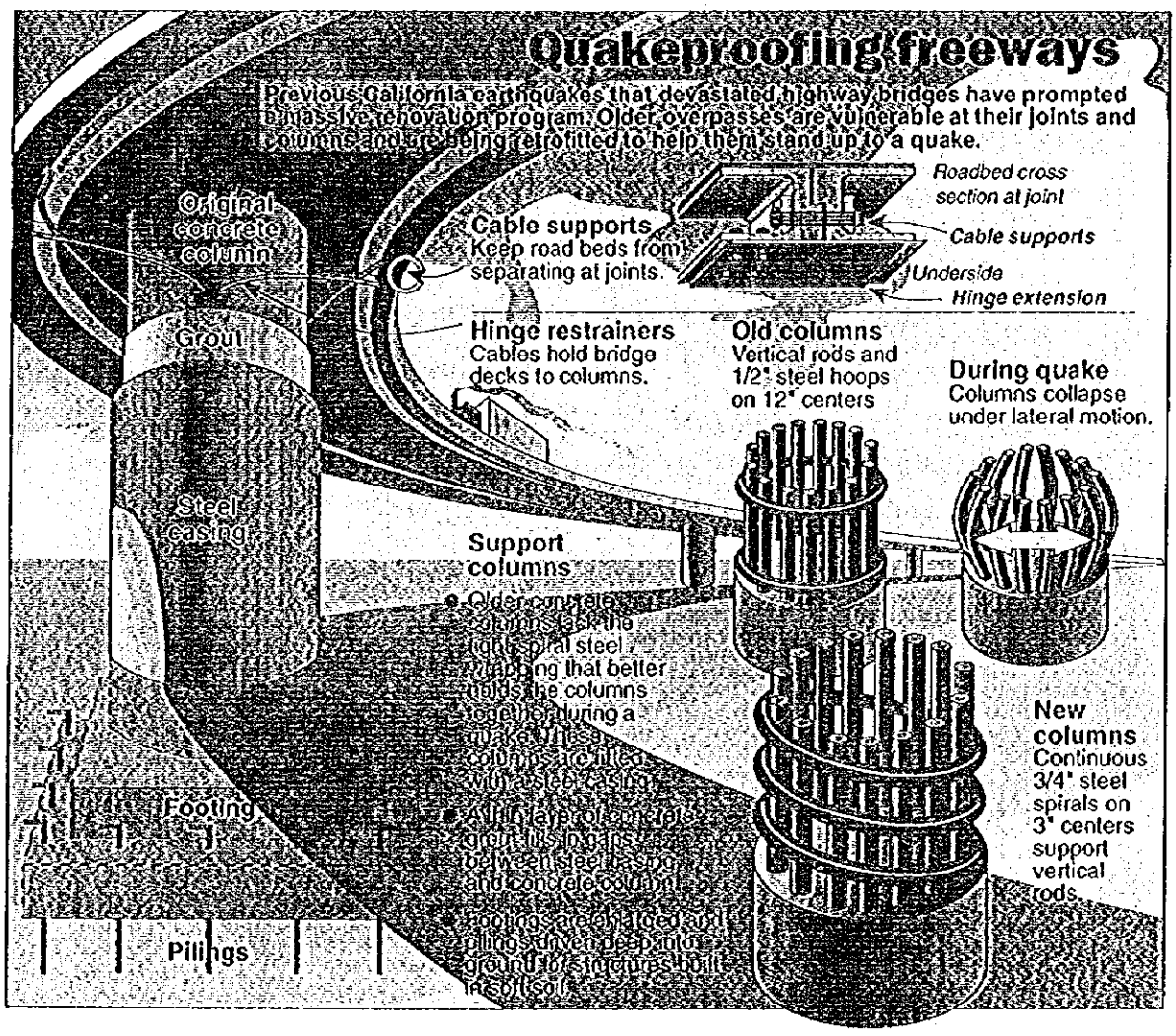


Source: Caltrans



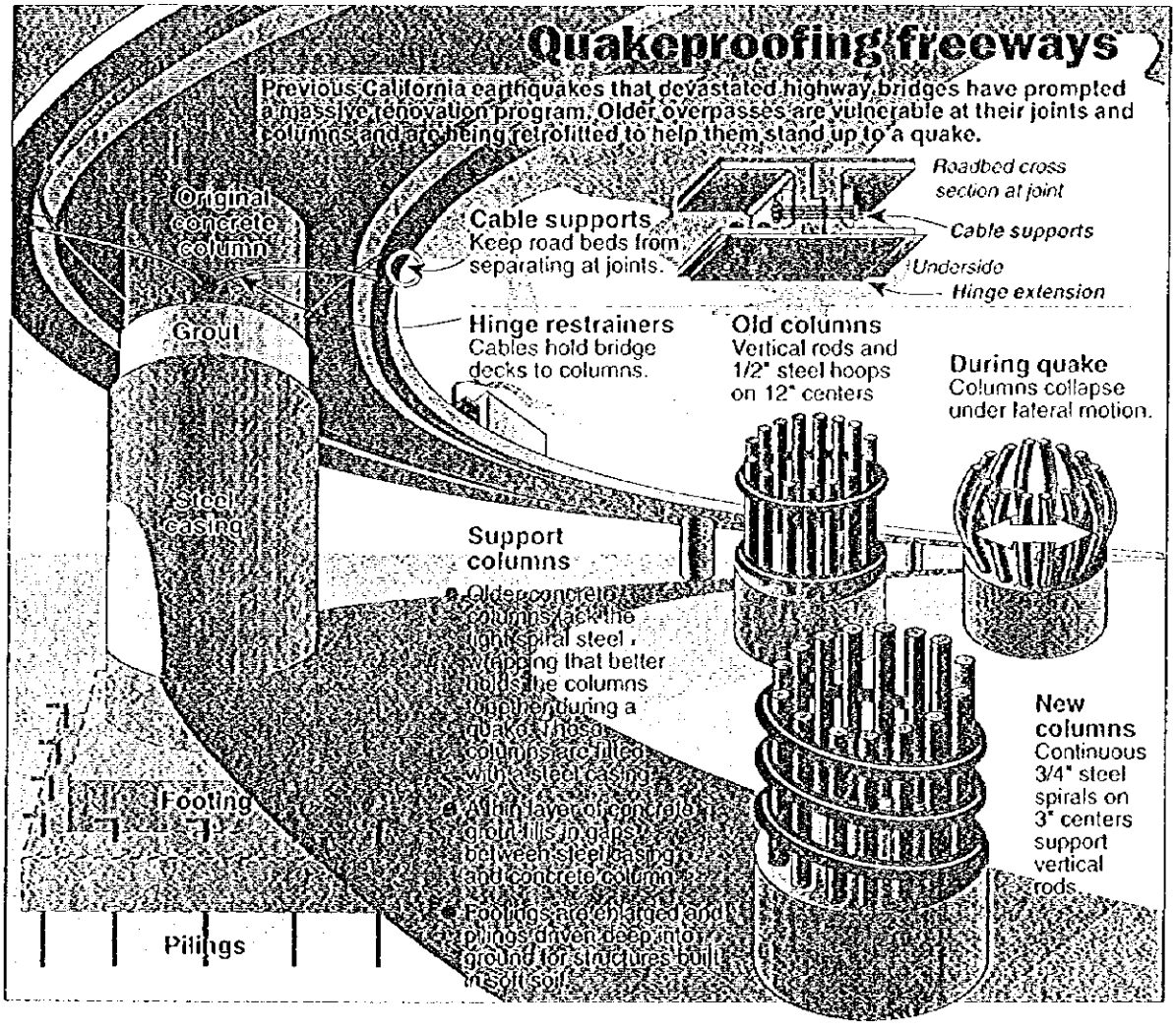
Source: Caltrans

SEISMIC RETROFIT



Caltrans

SEISMIC RETROFIT



Caltrans

STATE OF CALIFORNIA--BUSINESS AND TRANSPORTATION AGENCY PETE WILSON, Governor
DEPARTMENT OF TRANSPORTATION
DISTRICT 7
120 SO. SPRING ST.
LOS ANGELES, CA 90012

OVERVIEW OF THE STATE'S SEISMIC RETROFIT PROGRAM
March 25, 1996

State of California is responsible for over 24,000 Km (15,000 miles) of highways.

There are over 12,000 Bridges on these highways.

Latest studies indicate that over 2,200 of these bridges need to be retrofitted to meet present seismic standards.

The current State's seismic retrofit program began as a results of the 1971 San Fernando earthquake.

The State's seismic retrofit program was accelerated as a results of the 1987 Whittier Narrows earthquake. 1989 Loma Prieta earthquake.

The State's seismic retrofit program was given emergency priority as a results of the 1994 Northridge earthquake.

TYPICAL BRIDGE - (EXHIBIT "A")

TYPICAL EARTHQUAKE DAMAGE

Deck slipped off seats. - (EXHIBIT "B")

Deck/Column failure. - (EXHIBIT "C")

Column failure. - (EXHIBIT "D")

Column/Footing failure.

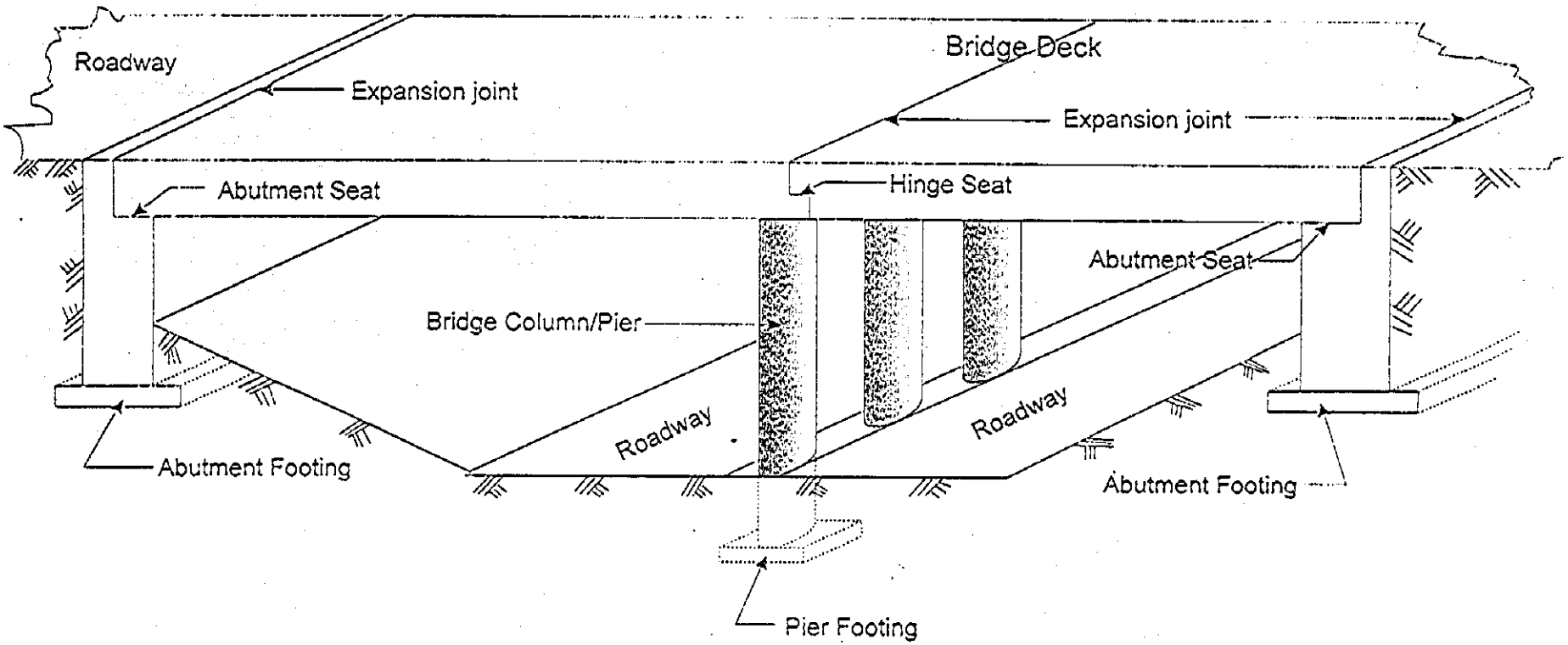
TYPICAL SEISMIC RETROFIT STRATEGIES - (EXHIBIT "E")

Deck slip off seats
Restrainer and seat extensions.

Deck/Column Failures
Bent cap retrofit. (Additional steel and concrete)

Column failure
Column casing, additional column, in-fill walls

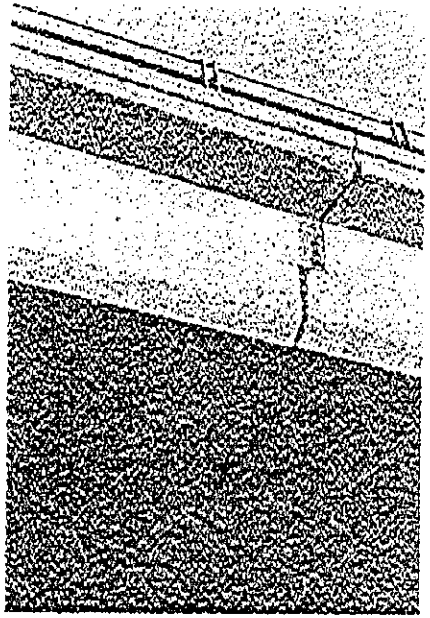
Column/Footing failure
Strengthen footing.



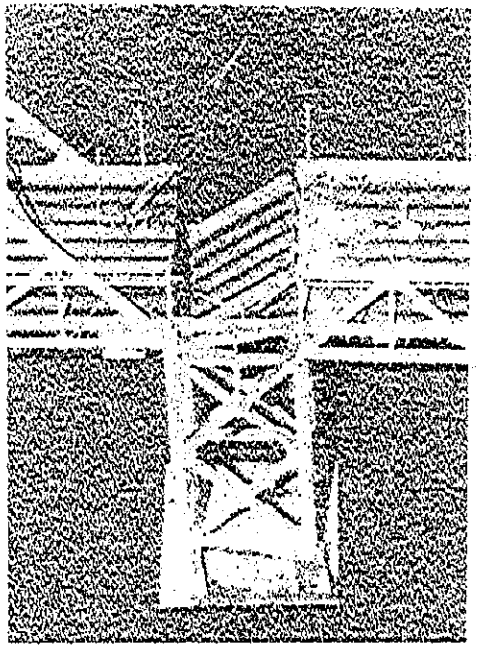
Abutment No. 1 Bent No. 2 Abutment No. 3

TYPICAL BRIDGE

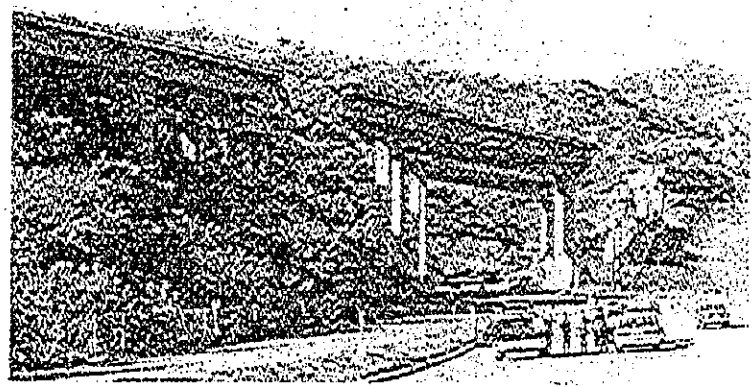
EXHIBIT "A"



Damaged Expansion Joint



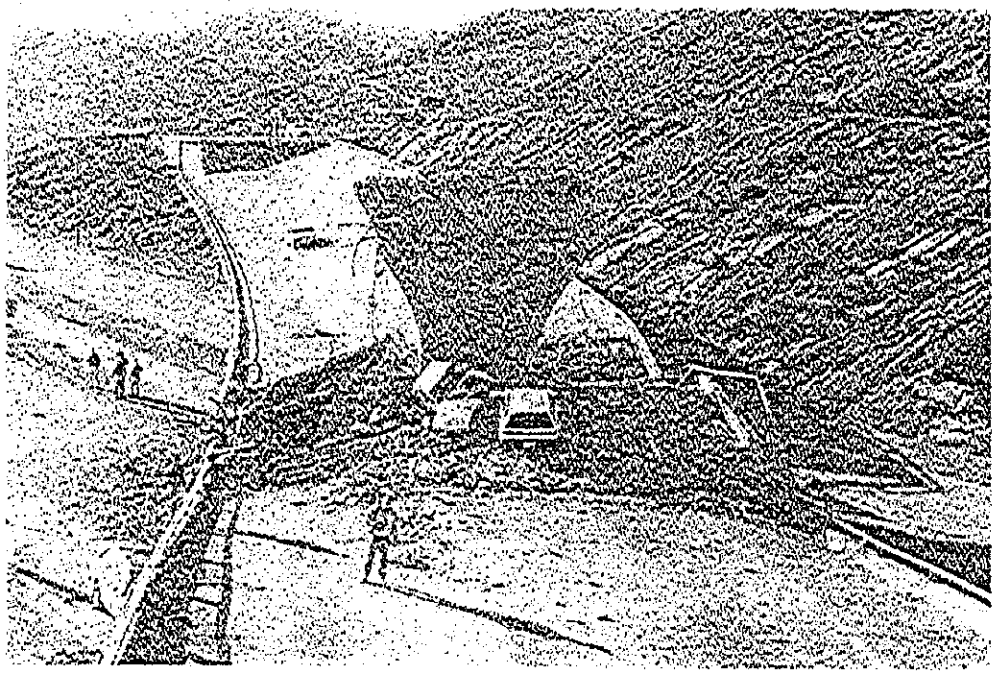
Bay Bridge
1989 Loma Prieta Earthquake



LA-5
Gavin Canyon
1994 Northridge Earthquake

TYPICAL DAMAGES
Seat Failure

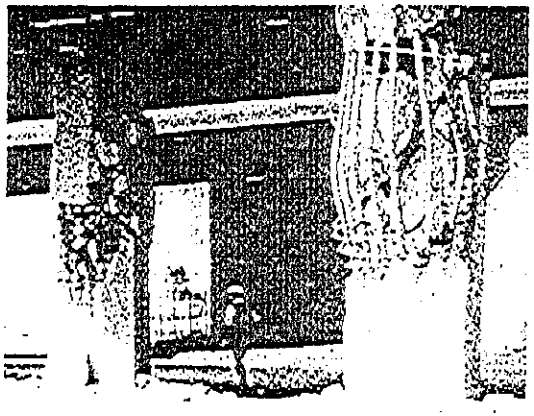
EXHIBIT "B"



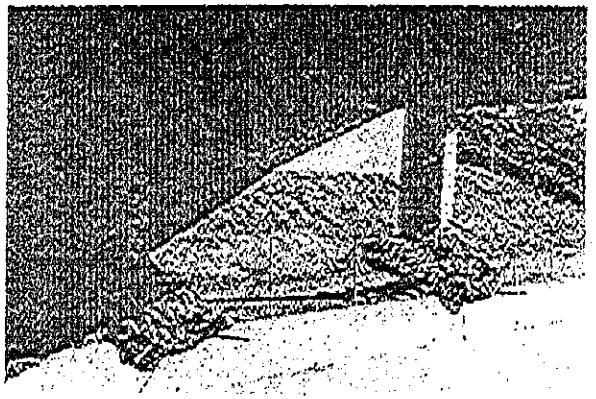
LA-5/14
South Connector Overhead
1994 Northridge Earthquake

TYPICAL DAMAGES
Deck/Column Failure

EXHIBIT "C"



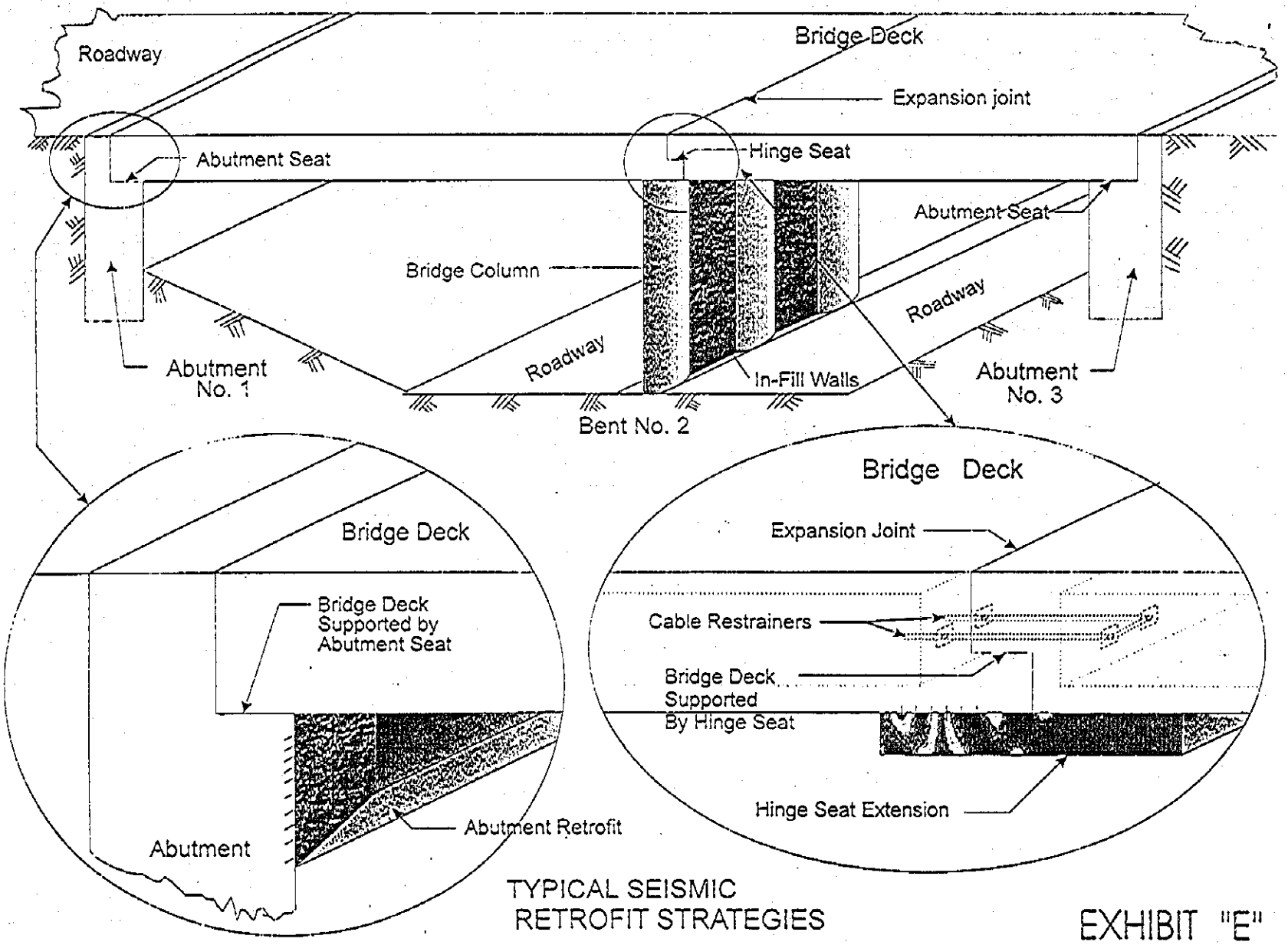
LA-5
San Fernando Road Overhead
1971 San Fernando Earthquake



LA-118
Bull Creek Canyon Channel Undercrossing
1994 Northridge Earthquake

TYPICAL DAMAGES
Column Failure

EXHIBIT "D"



TYPICAL SEISMIC
RETROFIT STRATEGIES

EXHIBIT "E"

[illegible]	122	24
[illegible]	536	18
Jan Tucker	143	24
Mary C. Hollis	121	20

PROPOSITIONS

How California Voted

53% Precincts Reporting	Votes	%
192—Seismic retrofit bond act of 1996.		
Yes	1,761,496	59
No	1,218,858	41
193—Property appraisal. Exception. Grandparent-grandchild transfer. Legislative constitutional amendment.		
Yes	1,951,869	66
No	1,001,484	34
194—Prisoners. Joint venture program. Unemployment benefits. Parole. Legislative initiative amendment.		
Yes	2,179,210	73
No	798,748	27
195—Punishment. Special circumstances. Carjacking. Murder of juror. Legislative initiative amendment.		
Yes	2,563,404	85
No	448,228	15
196—Punishment for murder. Special circumstances. Drive-by shootings. Legislative initiative amendment.		
Yes	2,575,156	85
No	452,855	15
197—Amendment of California Wildlife Protection Act of 1990 (Proposition 117). Mountain lions. Legislative initiative amendment.		
Yes	1,299,129	43
No	1,715,113	57
198—Elections. Open primary. Initiative statute.		
Yes	1,813,728	61
No	1,181,365	39
199—Limits on mobile home rent control. Low-income rental assistance. Initiative statute.		
Yes	1,167,263	40
No	1,769,294	60
200—No-fault motor vehicle insurance. Initiative statute.		
Yes	1,094,469	36
No	1,976,549	64
201—Attorneys' fees. Shareholder actions. Class actions. Initiative statute.		
Yes	1,254,762	41
No	1,786,691	59
202—Attorneys' contingent fees. Limits. Initiative statute.		
Yes	1,492,659	49
No	1,528,436	51
203—Public education facilities bond act of 1996.		
Yes	1,861,413	61
No	1,184,626	39

How L.A. County Voted

35% Precincts Reporting	Votes	%
192—Seismic retrofit bond act of 1996.		
Yes	304,301	64
No	174,231	36
193—Property appraisal. Exception. Grandparent-grandchild transfer. Legislative constitutional amendment.		
Yes	323,905	69
No	146,834	31
194—Prisoners. Joint venture program. Unemployment benefits. Parole. Legislative initiative amendment.		
Yes	341,127	72
No	133,358	28
195—Punishment. Special circumstances. Carjacking. Murder of juror. Legislative initiative amendment.		
Yes	417,817	87
No	61,626	13
196—Punishment for murder. Special circumstances. Drive-by shootings. Legislative initiative amendment.		
Yes	423,782	88
No	60,044	12
197—Amendment of California Wildlife Protection Act of 1990 (Proposition 117). Mountain lions. Legislative initiative amendment.		
Yes	191,448	40
No	285,086	60
198—Elections. Open primary. Initiative statute.		
Yes	277,331	58
No	199,479	42
199—Limits on mobile home rent control. Low-income rental assistance. Initiative statute.		
Yes	193,513	41
No	277,700	59
200—No-fault motor vehicle insurance. Initiative statute.		
Yes	174,064	35
No	318,781	65
201—Attorneys' fees. Shareholder actions. Class actions. Initiative statute.		
Yes	187,827	39
No	298,705	61
202—Attorneys' contingent fees. Limits. Initiative statute.		
Yes	230,378	47
No	256,085	53
203—Public education facilities bond act of 1996.		
Yes	302,982	62
No	186,569	38

Key to Election Tables

- An asterisk (*) denotes an incumbent candidate; a dagger (†) denotes an appointed incumbent.
- A double dagger (‡) indicates a race where a runoff election will be held between the top two candidates if no one receives more than half of the vote.
- Elected candidates and approved measures—or those leading with 99% of precincts reporting—are in bold type. Runoff elections may be required in nonpartisan races where no candidate receives over 50% of the vote. *Results are not official and could be affected by absentee ballots.*
- For primary races, candidates are grouped by party; for other races, party affiliation is indicated in parentheses:

(A) American Independent
(D) Democrat
(G) Green
(N) Natural Law
(P) Peace and Freedom
(R) Reform

[illegible]

Colusa, Glenn, Sacramento, Solano, Sutter, Tehama, Yolo

62% Precincts Reporting	Votes	%
■ Democrat		
Vic Fazio*	32,282	82
Rodger McAfee	7,268	18
■ Republican		
Tim Lefever	26,822	69
Charles Schaupp	11,981	31
■ Libertarian		
Erin D. Donelle	249	100
■ Reform		
Timothy R. Erich	264	100

DISTRICT 4

Alpine, Amador, Calaveras, El Dorado, Mono, Placer, Sacramento, Tuolumne

74% Precincts Reporting	Votes	%
■ Democrat		
Katie Himing	40,802	100
■ Republican		
John T. Doolittle*	62,394	100
■ Libertarian		
Patrick L. McHargue	390	100

DISTRICT 5

Sacramento

82% Precincts Reporting	Votes	%
■ Democrat		
Robert T. Matsui*	52,341	100
■ Republican		
Robert S. Dinsmore	22,847	71
William F. Stein	9,490	29
■ American Independent		
Gordon More	366	100
■ Libertarian		
Joseph B. Miller	206	100
■ Natural Law		
Charles Kersey	41	100

DISTRICT 6

Marin, Sonoma

81% Precincts Reporting	Votes	%
■ Democrat		
Lynn Woolsey*	65,523	100
■ Republican		
Duane C. Hughes	33,397	85
Dan Garsteckl	5,797	15
■ Natural Law		
Bruce Kendall	70	100
■ Peace & Freedom		
Ernest K. Jones Jr.	230	100

DISTRICT 7

Contra Costa, Solano

45% Precincts Reporting	Votes	%
■ Democrat		
George Miller*	30,947	100
■ Republican		
Norman N. Reece	12,446	100
■ Natural Law		
Bob Llatunick	45	100
■ Reform		
William C. Thompson	257	100

DISTRICT 8

San Francisco

59% Precincts Reporting	Votes	%
■ Democrat		
Nancy Pelosi*	34,527	100
■ Republican		
Justin Raimondo	4,152	100
■ Natural Law		
David Smithstein	29	100

DISTRICT 9

Alameda

22% Precincts Reporting	Votes	%
■ Democrat		
Ronald V. Dellums*	18,595	84
Randal Stewart	3,612	16
■ Republican		
Deborah Wright	2,244	44
G. William Hunter	1,622	32
Eric L. Davis	1,224	24
■ Natural Law		
Jack Forem	36	100
■ Peace & Freedom		
Tom Condit	37	100

Ben Brink	22,531	86
Trafton D. Muller	3,631	14
■ Libertarian		
Joseph W. Dehn III	354	100
■ Natural Law		
Robert Wells	49	100
■ Peace & Freedom		
Timothy Thompson	77	100

DISTRICT 15

Santa Clara, Santa Cruz

87% Precincts Reporting	Votes	%
■ Democrat		
Dick Lane	24,863	61
Norman Kline	15,927	39
■ Republican		
Tom Campbell*	38,570	100
■ Libertarian		
Ed Whinmera	512	100
■ Natural Law		
Bruce Quinlivan	53	71
Nick Mikoslavich	22	29
■ Reform		
Valli Sharpe-Geisler	597	100

DISTRICT 16

Santa Clara

83% Precincts Reporting	Votes	%
■ Democrat		
Zoe Lofgren*	27,877	100
■ Republican		
Chuck Wojslaw	13,376	100
■ Libertarian		
David R. Bonino	198	100
■ Natural Law		
Abaan Abu-Shumays	34	100

DISTRICT 17

Monterey, San Benito, Santa Cruz

85% Precincts Reporting	Votes	%
■ Democrat		
Sam Farr*	41,790	88
Art Dunn	4,631	10
Robert Wigod	1,014	2
■ Republican		
Jess Brown	16,770	51
Phillip H. Chavez	9,030	28
Barry D. Norris	7,070	22
■ Natural Law		
John H. Black	41	100

DISTRICT 18

Fresno, Madera, Merced, San Joaquin, Stanislaus

97% Precincts Reporting	Votes	%
■ Democrat		
Gary A. Condit*	38,235	100
■ Republican		
Bill Conrad	29,445	100
■ Libertarian		
James B. Morzella	156	100
■ Natural Law		
Page R. Riskin	8	100

DISTRICT 19

Fresno, Madera, Mariposa, Tulare

51% Precincts Reporting	Votes	%
■ Democrat		
Paul Barile	19,167	100
■ Republican		
George P. Radanovich*	28,830	100
■ Libertarian		
Pamela J. Pascosolido	132	100
■ Natural Law		
David P. Adalian Sr.	19	100

DISTRICT 20

Fresno, Kern, Kings, Tulare

71% Precincts Reporting	Votes	%
■ Democrat		
Cal Dooley*	13,231	100
■ Republican		
Trice Harvey	5,416	42
Cliff Unruh	3,496	27
John Gist	3,083	24
Paul Yeung	1,030	8
■ Libertarian		
Jonathan J. Richter	43	100

DISTRICT 21

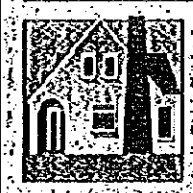
PROPOSITION 192

■ **What It Would Do:** Authorize the state to sell $2 billion in bonds to pay for earthquake reinforcement of 1,100 bridges; includes $650 million for seismic retrofitting of toll bridges.

■ **Supporters:** Gov. Pete Wilson, California Chamber of Commerce, California Taxpayers Assn., the California Transit Assn., construction firms likely to win bridge work contracts.

■ **Opponents:** Assemblyman Bernie Richter (R-Chico), Alliance of California Taxpayers and Involved Voters, National Tax Limitation Committee, the Planning and Conservation League, Sierra Club.

PROPOSITION 193



■ **What It Would Do:** Eliminate property tax increases for grandchildren who assume ownership of a family home.

■ **Supporters:** Republican Assemblymen David Knowles of Placerville and Bill Hoge of Pasadena and state Sen. Maurice Johannessen (R-Redding).

■ **Opponents:** Attorney Gary B. Wesley of San Jose.

PROPOSITION 194

■ **What It Would Do:** Prohibit inmates who work in prison from collecting unemployment insurance benefits when released.

■ **Supporters:** State Senate Republican leader Rob Hurtt of Garden Grove, California Correctional Peace Officers Assn. and Dean Andal, member of the State Board of Equalization.

■ **Opponents:** Stephen C. Birdlebough of the Quaker group Friends Committee on Legislation of California.

PROPOSITION 195

■ **What It Would Do:** Add murder during carjackings, kidnap-carjackings and retaliatory murder of jurors to the list of death penalty crimes.

■ **Supporters:** State Sen. Steve Peace (D-Chula Vista), Assemblywoman Susan A. Davis (D-San Diego), Assemblyman Jim Morrissey (R-Santa Ana), Ventura County Dist. Atty. Michael Bradbury.

■ **Opponents:** Rabbi Leonard I. Beerman, formerly of Leo Baeck Temple in West Los Angeles, Jeannette G. Arnquist of the Catholic Diocese of San Bernardino, the Rev. Jerry A. Lamb, bishop of the Episcopal Diocese of Northern California.

PROPOSITION 196

■ **What It Would Do:** Make murder in drive-by shootings a death penalty crime.

■ **Supporters:** Atty. Gen. Dan Lungren, Women Prosecutors of California, California District Attorneys Assn., California Organization of Police and Sheriffs.

■ **Opponents:** American Civil Liberties Union, Friends Committee on Legislation of California, California Attorneys for Criminal Justice.

PROPOSITION 197

■ **What It Would Do:** [illegible] special protections for mountain lions, restoring the state Fish and Game Commission's ability to allow cougar hunting.

■ **Supporters:** National Rifle Assn., Safari Club, California Rifle and Pistol Assn., California Cattlemen's Assn., California Farm Bureau, state Sen. Tim Leslie (R-Carnelford), former GOP gubernatorial nominee Houston Flournoy, former Fair Political Practices Commission Chairman Dan Stanford, state Sen. Lucy Killea (I-San Diego), University of California political scientist Eugene Lee.

■ **Opponents:** State GOP Party Chairman John Herrington, former state Democratic Party Chairman Bill Press, former GOP nominee for U.S. Senate Bruce Herschensohn, former Democratic Atty. Gen. John Van de Kamp, California Common Cause.

PROPOSITION 199

■ **What It Would Do:** Repeal local rent control ordinances on mobile home parks and prevent the state from imposing new statewide rent control regulations on mobile home parks.

■ **Supporters:** Western Mobilehome Park Owners Assn., Alliance of California Taxpayers and Involved Voters, California GOP, state Sen. Ray Haynes (R-Riverside), state Sen. Newton R. Russell (R-Glendale) and Assemblyman Trice Harvey (R-Bakersfield).

■ **Opponents:** Golden State Mobilehome Owners League, American Assn. of Retired Persons, Congress of California Seniors, California Labor Federation AFL-CIO, California Democratic Party, state Sen. William A. Craven (R-Oceanside).

PROPOSITION 200

■ **What It Would Do:** Create no-fault auto insurance in which drivers would turn to their own insurance companies to cover injuries, bars drivers from suing over almost all accidents.

■ **Supporters:** Wilson, writer Andrew Tobias, computer engineer Tom Proulx and California Chamber of Commerce.

■ **Opponents:** Ralph Nader, Consumers' Union, Consumer Federation of America, Harvey Rosenfield, various plaintiffs and defense lawyers.

PROPOSITION 201

■ **What It Would Do:** Limit class-action securities litigation by investors against publicly traded corporations and impose a "loser pays" system in which plaintiffs pay the cost of defending the suits, if the defense prevails.

■ **Supporters:** Wilson, David Packard, founder of computer firm Hewlett-Packard, Bank of America, Chevron, California Chamber of Commerce, Assemblyman Louis Caldera (D-Los Angeles), U.S. Rep. Christopher Cox (R-Newport Beach), various Wall Street, high-tech and accountancy firms.

■ **Opponents:** Congress of California Seniors, California Labor Federation AFL-CIO, Nader, Consumers' Union, attorneys who bring such litigation, and some lawyers who defend such lawsuits.

PROPOSITION 202

■ **What It Would Do:** [illegible] ments by requiring plaintiffs to [illegible] their cases at the [illegible]

[illegible] York and Henry O[illegible] ginia Proulx, state Chamber of Commerce.

■ **Opponents:** Nader, Rosenfield, Consumers Union, California Labor Federation AFL-CIO, National Resources Defense Council, various plaintiffs' attorneys.

PROPOSITION 203

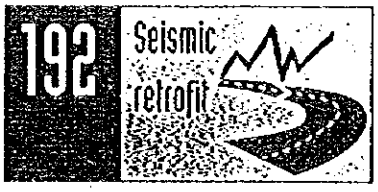
■ **What It Would Do:** Authorize the state to sell $3 billion in bonds to build and renovate [illegible] California's

A California Journal Analysis

March 1996 Primary BALLOT PROPOSITIONS

Proposition numbering

In 1983 the Legislature passed a law requiring that ballot measures be numbered consecutively from election to election, starting with November 1982. Previously, each election got its own set of proposition numbers starting with 1. But the system proved confusing. If you refer to "Proposition 13," do you mean the tax-cutting proposal of 1978 or the water-conservation proposal of 1982? Since 1982, 191 propositions have appeared on various ballots, thus the current crop begins with 192. It will continue this way for 20 years, so the next "Proposition 1" will not be seen until 2002.



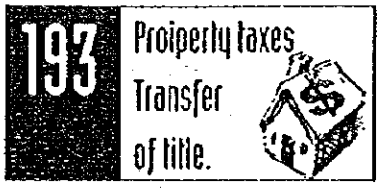
Background: The state's Seismic Retrofit Program was established following the 1989 Loma Prieta earthquake to identify and strengthen bridges that needed to be brought up to seismic safety standards. A review by the Department of Transportation (Caltrans) placed about 1039 state highway bridges in this category, called Phase 1. Retrofitting of Phase 1 bridges is generally complete; the work was funded by state gas taxes. After the 1994 Northridge earthquake, Caltrans identified another 1209 state-owned bridges that do not meet seismic safety standards. In addition to these "Phase 2" bridges, Caltrans also identified seven state-owned toll bridges in need of retrofitting. The cost to retrofit Phase 2 bridges and the toll bridges is estimated at $2 billion. State highway projects traditionally have been financed through the state's gas tax, which was increased by $.09 with approval of Proposition 111 in the 1990 June primary election, and maintenance of state-owned toll bridges has been covered by toll revenues. The legislation that placed Proposition 111 on the ballot was approved prior to the 1989 earthquake; following the earthquake, a law was enacted giving seismic retrofitting priority over other state highway projects.

Proposal: Proposition 192 authorizes the issuance of $2 billion in general obligation bonds to reconstruct, replace or retrofit state-owned highways and bridges, including toll bridges, that make up Phase 2 of the Seismic Retrofit Program. Of this amount, $650 million is earmarked for seismic retrofitting of toll bridges. The proposition specifies that expenditures for retrofitting these bridges, overpasses and interchanges be funded exclusively from the bonds; state gas taxes and toll revenues could not be used for this purpose. Diversion of the bond funds for other purposes would be prohibited. The state auditor general is directed to conduct an annual audit, available for public review, to ensure that funds are spent only on identified projects. Projects financed under this proposition would be exempt from the state's requirements regarding environmental impact statements and mitigation measures. Money from the General Fund would be used to pay off the bonds, including interest, which is estimated to be $1.4 billion over 25 years. If the proposition is not approved in the March 1996 primary election, it would be placed on the November 1996 general election ballot for another vote.

Arguments for: Proponents, including among others former Governor George Deukmejian and Chamber of Commerce President Kirk West, say that approval of this proposition will speed up the process of retrofitting state-owned bridges to meet seismic safety standards, which will save lives, reduce damage and improve the mobility of emergency vehicles and commercial traffic following an earthquake. Hundreds of earthquakes batter the state each year causing severe, hidden damage to the transportation system, particularly bridges and highway overpasses. Evidence that retrofitting works can be seen in Southern California, where every bridge strengthened with state-of-the-art technology survived the 1994 quake intact, according to the California Chamber of Commerce, the

director of the state Office of Emergency Services and a retired California Highway Patrol commissioner. These supporters of Proposition 192 say that retrofitting costs one-tenth as much as rebuilding a bridge after it has collapsed. This bond measure will prevent diversion of funds from critically needed highway and passenger rail projects that otherwise are being shifted to earthquake safety repairs. Proposition 192 also will boost the economy by creating jobs.

Arguments against: Some taxpayer and environmental groups — such as People's Advocate, the Sierra Club and Planning and Conservation League, among others — say that Proposition 192 benefits the highway lobby and toll bridge authorities in the San Francisco Bay Area at the expense of taxpayers who already are paying for seismic retrofitting through the state's gas tax and tolls. Highway builders would benefit because the bonds would free up gas taxes to be spent on new freeway construction, and toll bridge authorities would not need to use their revenues to pay for needed repair work on Bay Area toll bridges. Opponents cite California's tradition of paying for highway and bridge repairs with current revenues and say that taxpayers should not be tricked into approving expensive long-term debt financing to subsidize new highway construction. Furthermore, opponents argue, the state's bonded indebtedness already is at a dangerous level and its bond rating could slip further if this measure passes.

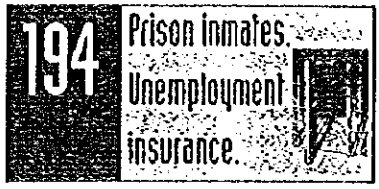


Background: Proposition 13, approved by voters in 1978, froze property tax rates at their 1975 levels and generally limited annual rate increases to 2 percent. A new appraisal, based on current market rates, is required when property is sold or transferred, which could result in a substantial increase in taxes on a property whose market value has risen faster than an average of 2 percent a year. There is an exemption to this reassessment requirement for parents who sell or transfer ownership of their principal residence and up to $1 million of other property to their children.

Proposal: This proposition generally would allow grandparents to transfer real property to their grandchildren without triggering a new appraisal of the property for tax purposes if the parents of the grandchildren are deceased. This exemption from the reappraisal requirement would not apply if the grandchild already has received a principal residence through a previous purchase or transfer that was exempt from reappraisal. The proposition places a $1 million limit on purchases or transfers qualifying for this exemption; this limit would apply to transfers or purchases between grandparents and grandchildren and between parents and children. According to the state's legislative analyst, this change in the property tax law would result in about a $1 million annual loss in property tax revenue to schools, counties, cities and special districts, with the loss to schools made up by the state's general fund. The changes proposed by this measure would apply to sales or transfers occurring after March 26, 1996.

Arguments for: Proponents, including Assemblymen David Knowles and Bill Hoge and Senator K. Maurice Johannessen, state that Proposition 193 would fix a small but important problem with the current property tax law that penalizes individuals who have lost both of their parents. Allowing grandparents to provide for and safeguard the future welfare of grandchildren in these circumstances by transferring real property without triggering an automatic reassessment is just as proper as allowing parents to do this, which current law permits.

Arguments against: Proposition 193 would only increase the unfairness of the current property tax system by creating a special exemption for a privileged few, according to Gary B. Wesley, a private attorney who often opposes ballot measures. He argues that voters should be presented with a comprehensive constitutional amendment to the system that would make it fairer for everyone. He recommends periodically reassessing all business and residential property, regardless of whether it changes hands, and lowering the tax rate.



Background: The California Department of Corrections was given authority to contract with private businesses to hire prison labor under Proposition 139, approved by voters in November 1990. Prior to creation of this Joint Venture Program (JVP), such hiring was prohibited, and goods and services produced by inmates could be sold only to state or local governments. Organized labor historically has opposed the use of prison labor because of the potential for depressing wages and job opportunities for the rest of the work force. Up to 80 percent of inmate earnings under the JVP are subject to federal, state and local income tax withholding, restitution payments to crime victims, support payments to the inmate's family, and reimbursement to the state for incarceration costs. At least 20 percent is set aside for the inmate to receive upon his or her release from prison. Employers generally are required to pay all taxes they would otherwise pay for non-JVP employees, including unemployment insurance. Inmates employed by JVP employers are eligible under current law to receive unemployment benefits when they are released from prison, under the same law that applies to all employees in the state who lose a job through no fault of their own. Employer contributions fund the state's unemployment insurance program, with businesses whose former employees receive benefits more frequently paying higher rates than businesses whose former employees generate fewer payouts from the system. About 700 inmates have been employed under the Joint Ven-

② S/W

SCOPE OF WORK
FOR
THE REHABILITATION AND CONSERVATION PROGRAM
ON THE BRIDGES
IN
THE REPUBLIC OF CHILE (PHASE 2)

AGREED UPON BETWEEN
MINISTRY OF PUBLIC WORKS
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

Santiago, Dated the 28th of March 1996

Mr. Germán Quintana Peña
Minister of Public Works(S)
of the Republic of Chile

Dr. Koichi Yokoyama
Leader of the Preliminary
Study Team
Japan International
Cooperation Agency
(JICA)

Witnessed by
Mr. Hamilton Aliaga Rivera
Executive Director(S)
Chile International Cooperation Agency
of the Republic of Chile
(AGCI)

A. INTRODUCTION

In response to the request of the Government of the Republic of Chile (hereinafter referred to as "GOC") , the Government of Japan (hereinafter referred to as "GOJ") decided to implement the Study on the Rehabilitation and Conservation Program on Bridges in the Republic of Chile (Phase 2) (hereinafter referred to as "the Study") in accordance with the Agreement on Technical Cooperation between GOC and GOJ signed on July 28th, 1978.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA") , the official agency responsible for the implementation of the technical cooperation programs of GOJ, will undertake the Study, in close cooperation with the authorities concerned of GOC.

The present document sets forth the Scope of Work with regard to the Study.

B. OBJECTIVES OF THE STUDY

The objectives of the Study are followings and object of the Study is about one thousand (1,000) bridges selected on rural and transversal roads in Chile.

1. to prepare maintenance and rehabilitation guidelines applicable to the object bridges mentioned above.
2. to develop a computer aided design and drafting (CADD) system for the design of bridges.
3. to prepare drawings of standard bridges using the above-mentioned system.

C. SCOPE OF THE STUDY

1. Collection and review of available data and information related to the Study.

1) collection of existing data and information.

2. Preliminary inspection

1) selection of bridges which will be preliminarily inspected by the Japanese Study Team (hereinafter referred to as "the Team").

2) implementation of preliminary inspection.

3) preparation of inventory for bridges preliminarily inspected by the Team and MOP.

4) implementation of supplementary traffic survey.

3. Formulation of the priority list for rehabilitation and /or replacement.

1) preparation of the rehabilitation and replacement policy based on social-economic and traffic conditions.

2) calculation of cost for rehabilitation and replacement for the preliminarily inspected bridges.

3) preparation of the priority list for the preliminary inspected bridges.

4) implementation of economic analysis.

4. Development of the rehabilitation and replacement plan for selected bridges.

1) selection of bridges for detailed inspection and survey.

2) implementation of detailed inspection and survey for the selected bridges.

3) implementation of initial environmental examination on the selected bridges.

4) preparation of the preliminary design for selected bridges.

5) preparation of detailed planning for rehabilitation and replacement.

6) preparation of manuals for inspection, rehabilitation, and environmental assessment.

5. Development of a computer aided design and drafting system for the design of the bridges, according to the method adopted in Chile.

1) determination of applicable standards.

2) determination of design conditions such as bridge types , span length and cross section.

3) development of software system for the design and drafting of the standard bridges selected, with emphasis on compatibility

with the available hardware in Chile.

4) design of standard bridges according to the span and length of each bridge type.

5) preparation of drawings and quantity of materials of standard bridges.

6) preparation of standard method of construction cost estimate of each bridge type.

6. Preparation of Recommendations

1) recommendation for bridge inspection and management organization.

2) preparation of overall recommendations.

D. STUDY SCHEDULE

The Study shall be conducted in accordance with the attached tentative schedule.

E. REPORTS

JICA shall prepare the following reports in English and Spanish and submit them to Ministry of Public Works (hereinafter referred to as "MOP"). In case any doubt arises in their interpretation, English texts shall prevail.

1. Inception Report

Ten (10) copies in English and ten (10) copies in Spanish.
This report will be submitted at the commencement of the Study and is to describe the overall approach and implementation program of the Study.

2. Progress Report

Ten (10) copies in English and ten (10) copies in Spanish.
This report will be submitted within six (6) months after the commencement of the Study.

3. Interim Report

Ten (10) copies in English and ten (10) copies in Spanish.
This report will be submitted within eleven (11) months after

the commencement of the Study.

4. Draft Final Report

Ten (10) copies in English and ten (10) copies in Spanish.

This report will be submitted within thirteen (13) months after the commencement of the Study.

5. Final Report

Twenty (20) copies in English and forty (40) copies in Spanish.

This report will be submitted within two (2) months after the receipt of the written comments on the Draft Final Report from GOC.

F. STUDY RESULTS

At the end of the Study, JICA shall submit the followings, besides Final Report.

1. The final drawings of standard bridges.
2. A computer aided design and drafting (CADD) system for design of the bridges.
3. Manuals on inspection, bridge rehabilitation, bridge planning, CADD system, environmental impact assessment.
4. Plan of rehabilitation and conservation of about one thousand bridges.
5. Detailed planning of rehabilitation and replacement for representative bridges.

G. UNDERTAKINGS OF GOC

1. GOC shall accord privileges, exemptions, and other benefits to the Team , in accordance with the Agreement on Technical Cooperation between GOJ and GOC.
2. To facilitate the smooth implementation of the Study, GOC shall take the following necessary measures;

(1) to secure the safety of the Team.

(2) to permit the members of the Team to enter, leave and sojourn in Chile for the duration of their assignments therein and exempt them from alien registration requirements and consular fees.

(3) to exempt the members of the Team from taxes, duties and

any other charges on equipment, machinery and other material brought into Chile for the implementation of the Study.

(4) to exempt the members of the Team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the team for their services in connection with the implementation of the Study.

(5) to provide necessary facilities to the Team for the remittance as well as utilization of the funds introduced into Chile from Japan in connection with the implementation of the study.

(6) to secure permission for the Team for entry into private properties or restricted areas for the implementation of the Study.

(7) to secure permission for the Team to take all data and documents (including photographs) related to the Study out of Chile to Japan.

(8) to provide the medical services as needed, while its expenses will be chargeable on the members of the Team.

3. GOC shall bear claims, if any arises against the members of the Team resulting from, occurring in the course of, or otherwise connected with, the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Team.

4. MOP shall act as the counterpart agency to the Japanese Study Team and also act as the coordinating body with other relevant organizations for the smooth implementation of the Study, on behalf of GOC.

5. MOP shall, at its own expenses, provide the Team with the followings in cooperation with relevant organizations;

(1) available data (including maps) and information related to the Study.

(2) counterpart personnel.

(3) suitable office space with office equipment and furniture in Santiago, and working spaces in regional offices of MOP.

(4) credentials or identification cards.

H. UNDERTAKINGS OF JICA

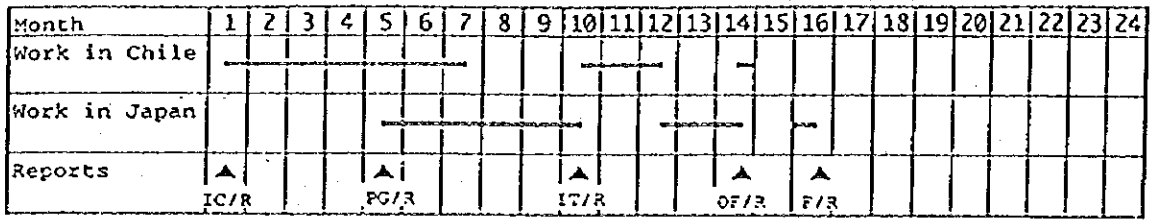
For the implementation of the Study, JICA shall take the following measures;

1. to dispatch, at its own expenses, the Team to Chile, and
2. to pursue technology transfer to the Chile counterpart personnel in the course of the Study.
3. A seminar will be held in Chile at the presentation of Draft Final Report.

I. OTHERS

1. JICA and MOP shall consult with each other with respect to any matter that may arise from or in connection with the Study.
2. The Scope of Work and Minutes of Meeting are prepared both in English and Spanish.
3. When any doubt arises in the interpretation of the documents concerned with the Study, the English text shall prevail.

TENTATIVE SCHEDULE



③ M/M

MINUTES OF MEETING
ON
THE SCOPE OF WORK
FOR
THE REHABILITATION AND CONSERVATION PROGRAM
ON THE BRIDGES
IN
THE REPUBLIC OF CHILE (PHASE 2)

AGREED UPON BETWEEN
MINISTRY OF PUBLIC WORKS
AND
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Santiago, Dated the 28th of March 1996

Mr. Germán Quintana Peña
Minister of Public Works(S)
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Study Team
Japan International
Cooperation Agency
(JICA)

Witnessed by
Mr. Hamilton Aliaga Rivera
Executive Director(S)
International Cooperation Agency
of the Republic of Chile
(AGCI)

The Japanese Preliminary Study Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Dr.Koichi Yokoyama visited Chile from 19th March 1996, in connection with the Study on the Rehabilitation and Conservation Program on the Bridges in the Republic of Chile (Phase 2) (hereinafter referred to as "the Study").

The Team had a series of discussions on the Scope of Work on the Study with relevant authorities of the Government of Chile (hereinafter referred to as "GOC") . Attendees of the Meeting are listed in ANNEX. The Team also carried out field surveys of several representative bridges.

Followings are main items which were agreed upon between both sides. GOC and the Team also agreed that the Full-Scale Study shall be carried out in close cooperation between GOC and the Full-Scale Study Team (hereinafter referred to as "the Study Team") .

1. Items on Scope of the Study.

1-1. Standard Bridges.

1) Design Method

The structural analysis for the standard bridges shall be carried out according to the "Allowable Stress Design Method".

2) Types of Standard Bridges

The selected bridge types are as followings;

(1) Span Range

15 to 35 meters.

The drawings of standard bridges shall be prepared for each 5 meters between above-mentioned span range.

(2) Types of Girder

Steel Plate Girder and Concrete Girder including Reinforced Concrete (RC) , Prestressed Concrete (PC) .

(3) Abutment

Gravity, Reverse-T Types.

(4) Pier

Wall-Type.

(5) Foundation

Direct Foundation.

(6) Angles of Skew

The skew angle is limited to 0 degree.

(7) Cross Section

1 and 2 lanes for up and down tracks.

(8) Maintenance

Maintenance should be taken into consideration in the Study of standard bridge design.

4) Computer Hardware

(1) A set of computer hardware for the CADD system shall be submitted to GOC.

(2) The computer operating system for the hardware shall be compatible with the operating system used by the Chilean authority concerned.

5) Computer Software

(1) GOC shall be responsible for any consequences arising from the use of the software after the Study period.

(2) A set of software for the standard bridges which consists of a structural analysis, design and drafting system with facility to determine quantity of materials shall be submitted to GOC.

(3) The copyright of the software belongs to JICA. GOC will be allowed to copy the software.

1-2. Bridge Rehabilitation and Conservation Plan

Ministry of Public Works (hereinafter referred to as "MOP") and the Team agreed upon work assignment between MOP and the Study Team concerning to the development of Bridge Rehabilitation and Conservation Plan.

(1) MOP should submit information about one thousand of the Study objective bridges to the Study Team at the commencement of the Study, which includes name, location, length, lanes, the type of superstructure and condition of each bridge.

(2) The Study Team shall implement preliminary inspection of

about two hundred (200) bridges which are selected through discussions between MOP and the Study Team. MOP is in charge of preliminary inspection of the rest of the Study Object bridges.

(3) The Study Team shall prepare inventory and priority list for the bridges which are preliminarily inspected by both MOP and the Study Team.

(4) The detailed planning of rehabilitation and replacement will be carried out for 15 ~ 25 bridges, which will be selected through discussions between MOP and the Study Team.

2. Items on the Undertakings of GOC.

1) MOP shall prepare one office space in Santiago for the Study Team, which is at least 250 m^2 and equipped with furniture and national telephone circuit.

2) MOP shall prepare working space in its regional offices when the Study Team requests.

Following items were requested from MOP to the Team. The Team replied to convey them.

1. MOP requested at least one member of the Study Team stay in Chile during whole period of the Study.
2. MOP requested the Study Team hold a series of lectures for regional engineers of MOP each two months.
3. MOP requested the Team submit two hundred (200) copies of bridge maintenance manuals in Spanish to MOP.
4. MOP requested counterparts training in Japan.

ANNEX

ATTENDANCE LIST

Chilean Side

Eng. Raul Vasquez Donoso	Chief of Bridge Department, MOP
Eng. Manuel Carracedo Contador	Chief of Conservation of Bridge Subdepartment, MOP
Eng. Cecilia Monsalve Henriquez	Civil Engineer
Eng. Walter Wilson	Civil Engineer
Eng. Kenji Yagi	JICA Expert of MOP
Mr. Mitsuo Oba	JICA Expert of AGCI

Japanese Side

Dr. Koichi Yokoyama	Leader, Preliminary Study Team
Eng. Harumi Kikuchi	Member, Preliminary Study Team
Eng. Iwao Yokokawa	Member, Preliminary Study Team
Eng. Takashi Sakaguchi	Member, Preliminary Study Team
Mr. Kenta Seto	Member, Preliminary Study Team
Mr. Yoshimi Sugano	Member, Preliminary Study Team
Mr. Kiyotaka Otsuki	Chief of Project, JICA office in Chile

平成 年 月 日作成

資料リスト（収集資料）

主管部長	文書管理課長	主管課長		情報管理課長	技術情報課長

地域	中南米	調査団名又は専門家氏名	チリ国全国橋梁補修整備計画フェーズ2事前調査	調査の種類又は指導科目	事前調査	作成部課	
国名	チリ	配属機関名		現地調査期間又は派遣期間	H. 8年3月17日～H. 8年3月31日	担当者氏名	

番号	資料の名称	版型	ページ数	オリジナルコピーの別	部数	収集先名称又は発行機関	寄贈・購入（価格）の別	取扱区分	利用表示
N-1	全国道路交通量調査結果(1994年)	A-4横	315	オリジナル	1	MOP橋梁部	寄贈		
N-2	橋梁に対する1995、1996年予算額一覧	A-4	1	コピー	1	MOP橋梁部	寄贈		
N-3	1570～1995年の主要地震一覧	F	1	コピー	1	MOP橋梁部	寄贈		
N-4	場所打ち杭のカタログ	F	10	コピー	1	Geotecnica Consultores	寄贈		
N-5	1996～2001年の道路局の橋梁計画	A-4	6	コピー	1	MOP橋梁部	寄贈		
N-6	国際シンポジウム「最近の地震における知見・教訓」1995年	A-4	275	コピー	1	MOP橋梁部	寄贈		
N-7	1985年3月地理地震	B-5	264	コピー	1	MOP橋梁部	寄贈		
N-8	研修用教材 Vol. 1 土質工学		129	オリジナル	1	MOP土木試験所	寄贈		
N-9	Vol. 2 アスファルト		123	オリジナル	1	MOP土木試験所	寄贈		
N-10	Vol. 3 コンクリート		125	オリジナル	1	MOP土木試験所	寄贈		
N-11	Vol. 4 舗装		97	オリジナル	1	MOP土木試験所	寄贈		
N-12	橋梁調査書様式	F	2	オリジナル	6	MOP橋梁部	寄贈		
N-13	地質・鉱業部の出版物・地質図リスト	B-5	37	オリジナル	1	鉱業省 地質・鉱業部	寄贈		
N-14	地質・鉱業部の年報	A-4変形	72	オリジナル	1	鉱業省 地質・鉱業部	寄贈		
N-15	陸軍地理院の地形図・出版物の価格表	F	6	コピー	1	JICAチリ事務所	寄贈		
N-16	地形図・航空写真図幅の名称、番号リストおよび位置図		1	コピー	1	陸軍地理院	寄贈		
N-17	排気ガス、騒音に関する基準	F	12	コピー	1	MOP環境課	寄贈		
N-18	水質基準	F	13	コピー	1	MOP環境課	寄贈		
N-19	MOP道路局環境業務について	A-4変形	23	コピー	1	MOP環境課	寄贈		
N-20	環境基本法の抜粋（P33～P72）	A-4変形	40	コピー	1	MOP環境課	寄贈		
N-21	MOP、道路局、開発部の組織図	F	3	コピー	1	MOP環境課	寄贈		

平成　年　月　日作成

資料リスト（収集資料）

主管部長	文書管理課長	主管課長		情報管理課長	技術情報課長

地域	中南米	調査団名又は専門家氏名	チリ国全国橋梁補修整備計画フェーズ2事前調査	調査の種類又は指導科目	事前調査	作成部課	
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N-22	第Ⅰ、Ⅱ州道路地図（'96年）1/1,000,000		1	オリジナル	1	MOP橋梁部	寄贈		
N-23	第Ⅲ、Ⅳ州道路地図（'96年）1/1,000,000		1	オリジナル	1	MOP橋梁部	寄贈		
N-24	第Ⅴ、Ⅵ、Ⅶ首都州道路地図（'96年）1/ 500,000		1	オリジナル	1	MOP橋梁部	寄贈		
N-25	第Ⅷ、Ⅸ州道路地図（'96年）1/ 500,000		1	オリジナル	1	MOP橋梁部	寄贈		
N-26	第Ⅹ州道路地図（'96年）1/ 500,000		1	オリジナル	1	MOP橋梁部	寄贈		
N-27	第Ⅺ州道路地図（'96年）1/ 600,000		1	オリジナル	1	MOP橋梁部	寄贈		
N-28	第Ⅻ州道路地図（'96年）1/1,000,000		1	オリジナル	1	MOP橋梁部	寄贈		
N-29	Geografía de Chile	A-4変形	256	オリジナル	1	MOP橋梁部	寄贈		
N-30	Atlas Geografico de Chile Parala Education		144	オリジナル	1	MOP橋梁部	寄贈		
N-31	第6州橋梁調査台帳	F	282	コピー	1	MOP橋梁部第6州事務所	寄贈		
N-32	Mapa Hidrográfico、1/6,000,000		1	オリジナル	1	陸軍地理院	購入		
N-33	活火山分布図、1/6,000,000		1	オリジナル	1	陸軍地理院	購入		
N-34	ランカグア付近の1/50,000地質図 Rancagua 図幅		1	コピー	1	陸軍地理院	購入		
N-35	〃 Las Cabras 図幅		1	オリジナル	1	陸軍地理院	購入		
N-36	〃 Rengo 図幅		1	コピー	1	陸軍地理院	購入		
N-37	〃 El Manzano 図幅		1	コピー	1	陸軍地理院	購入		
N-38	〃 Villa Alhué図幅		1	オリジナル	1	陸軍地理院	購入		
N-39	〃 Dónihue 図幅		1	コピー	1	陸軍地理院	購入		
N-40	1/250,000地形図 Quillota 図幅		1	コピー	1	陸軍地理院	購入		
N-41	〃 Sartiago 図幅		1	オリジナル	1	陸軍地理院	購入		
N-42	〃 Rancagua 図幅		1	コピー	1	陸軍地理院	購入		

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N-43	1/250,000 地形図 Puerto Montt 図幅		1	オリジナル	1	陸軍地理院	購入		
N-44	会社案内 GEOTECNICA CONSULTORES	A-4	28	オリジナル	1	Geotecnica Consultore 社	寄贈		
N-45	会社案内 ASINTOTA	A-4	38	オリジナル	1	Asintota 社	寄贈		
N-46	会社案内 LEN Y ASOCIADOS IN GENIEROS CONSLTORES	A-4	43	オリジナル	1	Len Y Ascociados 社	寄贈		
N-47	LEN Y ASOCIADOS 社環境部の経歴	A-4	58	オリジナル	1	Len Y Ascociados 社	寄贈		
N-48	Rio Maipo 水系の水位／水量観測点位置図	F	1	コピー	1	MOP 橋梁部	寄贈		
N-49	水質モニクリング地点一覧表	A-4 変形	5	コピー	1	MOP 橋梁部	寄贈		
N-50	第6州で実施されたボーリングの柱状図	F	5	コピー	1	MOP 橋梁部	寄贈		
N-51	1/1,000,000 地質図　S30°～S25°		1	オリジナル	1	鉱業省 地質・鉱業部	購入		
N-52	1/1,000,000 地質図　S37°～S30°		1	オリジナル	1	鉱業省 地質・鉱業部	購入		
N-53	1/1,000,000 地質図　S43°～S37°		1	オリジナル	1	鉱業省 地質・鉱業部	購入		
N-54	1/1,000,000 地質図　S49°～S43°		1	オリジナル	1	鉱業省 地質・鉱業部	購入		
N-55	1/1,000,000 地質図　S52°～S49°		1	オリジナル	1	鉱業省 地質・鉱業部	購入		

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P-1	DE PONTIBUS	B5	356	オリジナル	1	CARRACEDO	寄贈		
P-2	ONDAC '96.3	A4	50	オリジナル	1	ARZOBISPO	購入(4,000)		
P-3	橋梁建設パンフレット	B5		オリジナル	15	MOP	寄贈		
P-4	悪天候による落橋の数、1975～1990	A4	1	コピー	1	MOP	寄贈		
P-5	第６州、橋梁台帳	A4	300	コピー	1	第６州 道路管理局	寄贈		
P-6	MINUTA TECNICA	A4	5	コピー	1	第６州 道路管理局	寄贈		
P-7	NOMINA DE PUENTES、III REGION	A4	11	コピー	1	第６州 道路管理局	寄贈		
P-8	悪天候による落橋の数、1986～1987	A4	8	コピー	1	MOP	寄贈		
P-9	緊急を要する橋、1990－1991－1992	A4	7	コピー	1	MOP	寄贈		
P-10	建設道路、概要	A4	5	コピー	1	MOP 橋梁部	寄贈		
P-11	登録コンサルタントと建設業者リスト 1995	A4	1	コピー	1	MOP	寄贈		
P-12	コンピューター、販売会社リスト	A4	1	コピー	1	MOP	寄贈		
P-13	M.O.P 橋梁部所有コンピューターリスト	A4	1	コピー	1	MOP	寄贈		
P-14	橋梁６ケ年計画 1995～2001	A4	6	コピー	1	MOP	寄贈		
P-15	橋梁建設計画	A4	1	コピー	1	MOP	寄贈		
P-16	橋梁建設工事入札図書	A4	100	コピー	1	MOP 橋梁部	寄贈		
P-17	同工事、PROPUESTA ECONOMICA	A4	12	コピー	1	MOP 橋梁部	寄贈		
P-18	橋梁一般図	A1	1	コピー	1	LEN Y ASOCIADOS ING Ltd.	寄贈		
P-19	型鋼カタログ	A4	15	オリジナル	1	MOP／COMPANIA S.H.	寄贈		
P-20	鉄筋カタログ	A4	16	オリジナル	1	CAP	寄贈		
P-21	会社紹介	A4	10	オリジナル	1	ARRIGONI	寄贈		

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P-22	製品紹介	A4	6	オリジナル	1	ARRIGONI	寄贈		
P-23	製品紹介	A4	26	オリジナル	1	PRETENSADAS	寄贈		
P-24	MEMORIA ANUAL .1994. MOP	A4	270	オリジナル	1	MOP	寄贈