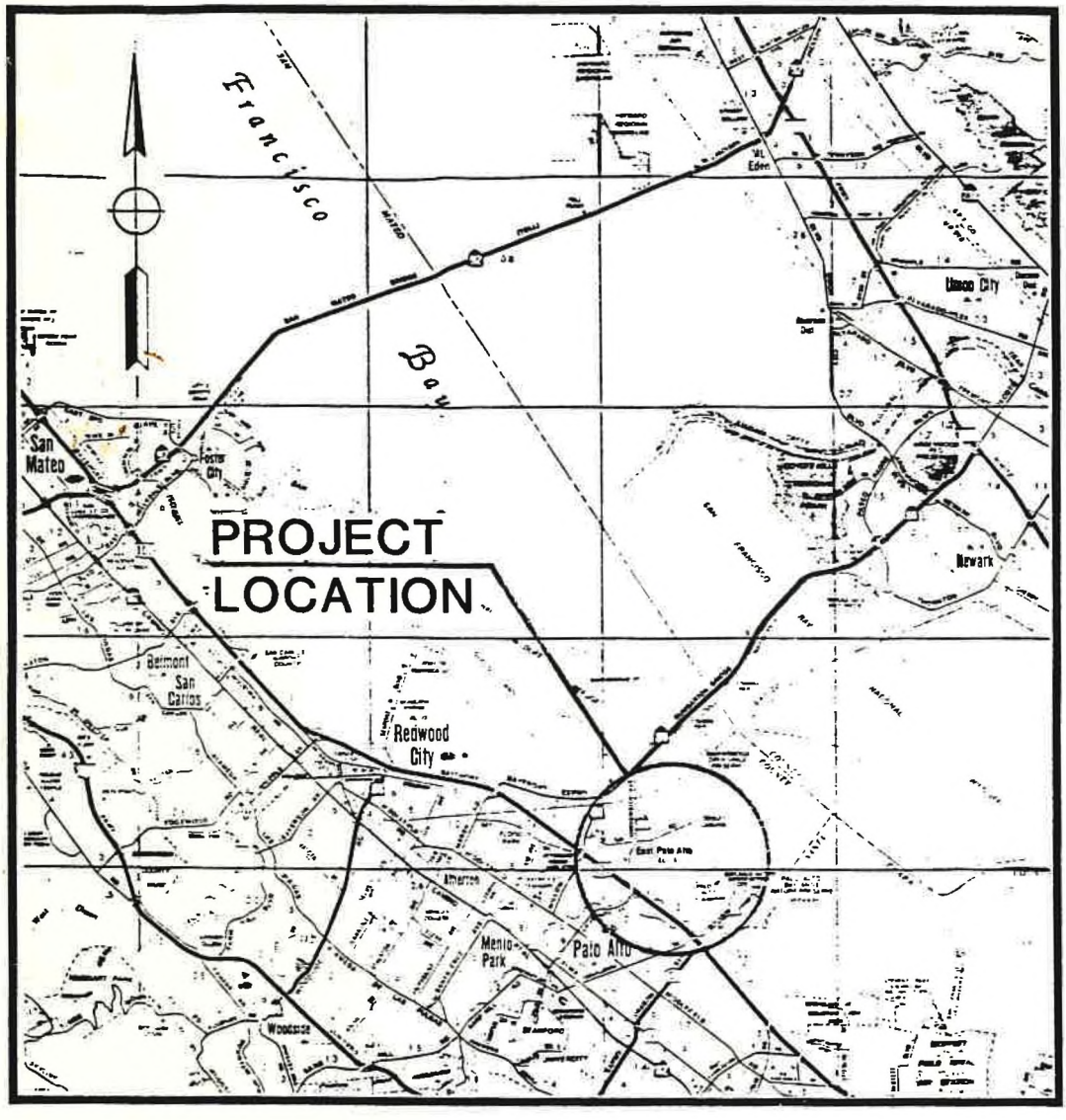
4-SM-109-R0.0/R3.2

PROJECT STUDY REPORT



ROUTE 109

FROM THE DUMBARTON BRIDGE

TO DESTINATIONS SOUTH OF THE BRIDGE

Approved by:

B. C. Bachtold

6/8/84

B. C. BACHTOLD
District Director
Caltrans, District 04

Date

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PROJECT STUDY REPORT

4-SM-109-0.0/3.2
4217-23597G

PROJECT NAME: Alternatives from Dumbarton Bridge to the South

PROJECT LIMITS: SM-109 P.M. 0.0 to 3.2

I. INTRODUCTION

The San Mateo County Transportation Expenditure Plan, approved by voters on June 7, 1988, contains a project to "study alternatives" to allow traffic to flow more directly from the Dumbarton Bridge to destinations south of the Bridge. The intent of this project is to study the feasibility of a southerly approach from Route 101 to the bridge which would provide a more direct route for traffic coming from and going to the south. The route has been identified as Route 109, for which the legislative description is "from Route 84 to Route 101 ". The route location will be determined in a following study.

This Project Study Report (PSR) is the first step in proceeding toward route location/feasibility studies. The range of alternatives varies from improving existing University Avenue to a freeway on the easterly side of the city, west of the Palo Alto Airport and the Municipal Golf Course (Exhibit A). The right of way and construction costs associated with the individual alternatives are shown in Section IV, "Description of Alternatives".

II. BACKGROUND

The Dumbarton Bridge was originally privately constructed and owned. It was opened to traffic in 1927 and was the first vehicular crossing of San Francisco Bay. In 1951 the State Of California purchased the bridge for $2.5 million. It was demolished upon the completion of the new (present) Dumbarton Bridge. The original approach to the bridge was by way of Willow Road.

In 1982 the new Dumbarton Bridge was opened to traffic with work continuing on approach roads and in 1985 all work was essentially completed. The approaches to the new bridge were from University

Avenue, Willow Road and Marsh Road, the latter two by way of Route 84, the Bayfront Expressway. In 1988, a certificate of completion for the new Dumbarton Bridge was filed. A copy is included in the Appendix as Exhibit A-1.

The Final Environmental Impact Statement (FEIS) for the Dumbarton Bridge replacement was completed in 1973. It contained, as western approach alternatives, those new approach roads mentioned above and one called "Embarcadero Road Connection" (See Appendix, Exhibits A-2 and A-3). The location of this alternate is essentially the same as Alternative 1 of this report.

Subsequent to the completion of the FEIS, an action was brought in United States District Court by the Town of Atherton, Citizens Against Dumbarton Bridge, and Malcolm Dudley (Plantiffs) challenging the adequacy of the EIS prepared by the United States Coast Guard in connection with the Permit to be issued by it for construction of the project. A second action was brought in California Superior Court challenging the statutory authorization for the construction of the project as proposed. The plantiffs received an adverse judgement and appealed.

An agreement was worked out between Caltrans, the Town Of Atherton, Citizens Against Dumbarton Bridge and the City Of Menlo Park which stated that the plantiffs would dismiss their lawsuit against the Coast Guard and their appeal and that they would not file any other actions challenging the project or objections to the issuance of any permits for the project as long as Caltrans constructed the Bayfront Expressway, including the connections to University Avenue, Willow Road and Marsh Road, as two lane roadways (See Appendix, Exhibit A-4). Caltrans retained the right to reevaluate the design and operations after completion of the bridge and approach roads with the condition that, before any changes are made, an appropriate environmental document be prepared.

In 1978 the City Of Palo Alto filed a lawsuit against the California Toll Bridge Authority claiming the right to approve the location of the proposed University Avenue approach road. The court found that Palo Alto did not have this right.

The City Of Palo Alto in 1979 issued a staff report (CMR:208:9) studying a southerly connection from Route 101 south of Oregon Expressway to Route 84 at University Avenue (See Appendix, Exhibit A-5). The location of this alternate is essentially the same as Alternate 2 of this report. Their staff's findings were that such a route would have little effect on Palo Alto streets and that the new route would open up access to the East Palo Alto Industrial Park.

In 1980 the Dumbarton Bridge Technical Group, consisting of representatives of Palo Alto, East Palo Alto, citizens groups and

Caltrans prepared a report considering seven Dumbarton Bridge connection alternatives. They ranged from an alignment along existing University Avenue to the southerly connection to Route 101 south of the Oregon Expressway. A schematic of the alternatives and a summary of findings by the group is contained in the Appendix as Exhibit A-6.

Completion of construction of the new bridge and approaches followed.

In October, 1987 Caltrans completed a report to the Legislature on the " Twenty-Year Traffic Demands and Ten-Year Capital outlay for State owned Toll Bridges in the San Francisco Bay Region". Pertinent excerpts from the report regarding the Dumbarton Bridge are contained in the Appendix as Exhibit A-7. Traffic forecasts from the report for the year 2010 showed the need for a six-lane bridge. The present bridge is a 4-lane structure.

In 1988 representatives of all the cities in San Mateo County developed a Transportation Expenditure Plan to be placed before the voters. The plan was to raise $804 million over 20 years through a 1/2 cent sales tax. The plan included a study of a southern approach to the Dumbarton Bridge. In June of 1988, the voters of San Mateo County approved the measure.

In July, 1988 the Bridge and approaches were certified as complete.

In November of 1988 an East Palo Alto Citizens Task Force completed a report entitled "Analysis of Options for Ravenswood Industrial Park Area". The report also addressed the proposed marina at Cooley Landing and it, along with the industrial park, is shown on Exhibit A.

The task force's findings were that a "Highway 109" is needed with or without a stadium development. It would increase access to the development site and direct commuter traffic around the City of East Palo Alto. Their location of the new route was approximately the same as Alternate 2 of this report. Since the completion of the above report, a commitment has been made to the City of East Palo Alto for a $900,000 study of a redevelopment project for the industrial park site.

III. PROBLEM DEFINITION

The western approaches to the Dumbarton Bridge experience some of the worst traffic congestion in the Bay Area. Due to the restricted capacity of the Dumbarton Bridge, two lanes in each direction, morning westbound traffic is usually backed up across the Bridge through the toll plaza in Alameda County. Afternoon

eastbound traffic backs up on the approaches as far back as Route 101. See Exhibits C and D for existing traffic and distribution of forecasted Dumbarton Bridge peak hour trips.

Approximately one-third of the peak hour trips using the Dumbarton Bridge has origins or destinations south of the Bridge. By providing a more direct routing for these trips, congestion on the existing western approaches will be relieved. The widening and extension of the Bayfront Expressway to Woodside Road, as proposed in the Tax Expenditure Plan, will also help relieve congestion in the peak periods.

The October 1987 report to the legislature in response to Senate Resolution 46 (1986), regarding plans and proposals for toll bridges, contains a forecasted (Year 2010) AM peak hour volume for the Dumbarton Bridge of 5200 vehicles in the westbound direction and a PM peak hour volume of 5400 vehicles in the eastbound direction. These forecasts represent a 70%(+/-) increase over 1985 peak hour volumes. There are no present plans to increase the capacity of the bridge.

Lack of an adequate regional connection between the Dumbarton Bridge and Route 101 south of University Avenue imposes a considerable amount of through traffic on neighborhoods in East Palo Alto using University Avenue as well as through the Industrial area of Menlo Park along Willow Road (Route 114).

The continued growth and development throughout the Peninsula, South Bay and East Palo Alto areas, will increase traffic congestion and delays occuring on the western approach roads in the City of East Palo Alto.

IV. DESCRIPTION OF ALTERNATIVES

This PSR considers but does not intend to limit the route location/feasibility study to four alternatives. The right of way and construction costs for each alternative are shown in Figure 1 and the typical cross sections are shown in Figures 2 through 4.

Alternative Number 1 begins from the western approach to the Dumbarton Bridge (Route 84 at University), then proceeds south around the bay side of East Palo Alto, paralleling San Francisquito Creek and connects to Embarcadero Road at the existing Route 101/Embarcadero Road Interchange.

Alternative Number 2 is the same as alternative 1, but connects to Route 101 south of the Oregon Expressway/Route 101 Interchange.

Alternatives 1 and 2 would each relieve traffic on University Avenue and Willow Road. They would effectively open up access to the proposed East Palo Alto Industrial Park. They could be used in conjunction with or could replace the University Avenue

approach to the Dumbarton Bridge. As the corridor length of Alternates 1 and 2 is over three miles, both freeway alternatives are envisioned to have an interchange in the vicinity of Bay Road whereas the expressway alternatives would have an intersection.

Alternative 3 is an improved University Avenue, widened to six lanes. This alternative will not reduce congestion significantly, but would accomodate forecasted traffic volume increases with moderate congestion. Traffic conditions on adjacent and intersecting roads will worsen if this alternative is implemented. The potential for commercial or industrial development will not be as great as for Alternatives 1 and 2.

Alternative 4 is an expressway/depressed roadway on the alignment of existing University Avenue with one way access roads at street level and major cross- streets on structure above the depressed roadway. The limits of the depressed roadway are proposed to be from Route 101 to approximately the Southern Pacific Transportation Company railroad tracks between Notre Dame Avenue and Route 84. A depressed alternative was first suggested by the Dumbarton Bridge Technical Group in 1980 (See Appendix, Exhibit A-6). More recently, it was reintroduced to the San Meteo County Transportation Authority by member Malcolm Dudley.

The total cost of this alternative exceeds that of the other alternatives because of the amount of structure work. The noise and the disruption along University Avenue will be significant during the construction, however, the potential for commercial development in East Palo Alto will be improved.

Alternate 5 is the no-build alternative and proposes to leave University Avenue as it exists, a four-lane facility.

V. SYSTEM PLANNING

The legislative description of Route 109 had been, prior to 1989, from the vicinity of Notre Dame Avenue in East Palo Alto to Route 84. Asssembly Bill 3318(1988) amended the description, effective January 1, 1989, to to read "Route 109 is from Route 84 to Route 101". This bill has the stipulation that studies of Route 109 must have the involvement of the governing body of any city or county through which the segment being studied passes.(See Appendix, Exhibit A-8).

A report is being prepared for the adoption of University Avenue between Route 101 and Notre Dame Avenue as the traversable route for Route 109. It is expected that this report will be completed by August, 1989.

The Route Concept Report (RCR) is a planning document which expresses the Department's judgment on what the characteristics of

the state highway should be to respond to the projected travel demand over the 20-year planning period. The RCR contains the Department's goal for the development of each route in terms of level of service and broadly identifies the nature and extent of improvements needed to reach those goals. The RCR then provides the basis for the preparation of Route Development Plans and the system analysis which indicates the level of service provided on the system at a given level of funding.

The RCR for Route 109 covers only the segment of University Avenue between Notre Dame Avenue and Route 84 as that was the limits of the route prior to January 1989. The route concept for this segment is a four lane divided conventional highway.

Depending on the alternate selected, the RCR will have to be amended accordingly.

VI. RELATED PROJECTS

Related STIP projects and related San Mateo County Measure A projects are shown below. The Transportation Authority's priority rankings of Category A (the highest), B or C are shown for measure A projects. The fiscal year of construction for these projects will be set jointly by the Transportation Authority and Caltrans.

Regional Measure 1 contains provisions for improvement of the western approaches from Route 101 to the Dumbarton Bridge. These related projects are also shown below. Construction of these projects are tentatively proposed for the 1994/95 through 1997/98 fiscal years.

A. STIP Projects

1. No. 669F, Route 84, PM R27.5/R29.2. On the western connection and approach to the new Dumbarton Bridge, widen expressway from 2 to 4 lanes.(92/93 FY. Note: this project is related to San Mateo County Measure A projects and Regional Measure 1 projects).

2. No. 684A, Route 101, PM 0.6/6.6. From the South County line to Whipple Avenue, widen freeway to 8 lanes, construct median barrier and soundwalls (Advertised on 6/5/89).

B. San Mateo County Measure A Projects

1. Route 84, PM 25.7/27.7. From Woodside Road to Marsh Road, construct new 4 lane highway (A).

2. Route 84, PM 25.2/26.2. At Woodside Road/Route 101, modify interchange (A).

3. Route 84, PM R26.0/R27.7. Bayfront Expressway from Willow Road to Marsh Road, widen to 4 lanes (A).

4. Route 84, PM R27.2/R28.2. At Willow Road, construct interchange (A).

5. Route 84, PM R27.7/R29.5. Dumbarton Bridge to Bayfront Expressway, widen to 4 lanes.

6. Route 84, PM R27.9/R29.3. At University Avenue (Route 109), construct interchange (A).

7. Route 101, PM 0.0/0.9. From the south county line to University Avenue, auxiliary lanes and safety improvements (B).

8. Route 101, PM 0.9/1.0. University Avenue Overcrossing, reconstruct interchange (C).

9. Route 101, PM 0.9/3.6. From University Avenue to Marsh Road, auxilliary lanes and safety improvements (B).

10. Route 101, PM 2.1/2.2. Willow Road Interchange, reconstruct interchange (B).

11. Route 101, PM 3.6/3.7. Marsh Road Interchange, modify interchange (A).

12. Route 101, PM 3.6/5.4. From Marsh Road to Route 84 (Woodside Road), auxiliary lanes and safety improvements (B).

C. Regional Measure No. 1

1. Widen and improve Bayfront Expressway (Route 84) from Marsh Road to Willow Road.

2. Upgrade Route 84 from Willow Road to the Dumbarton Bridge .

3. Construct Willow Road Interchange (Route 84).

4. Construct University Avenue Interchange (Route 84).

5. Restripe Dumbarton Bridge.

6. Modify Willow Road/Route 101 Interchange.

7. Modify Marsh Road/Route 101 Interchange.

VII. HAZARDOUS WASTE

As a sponsor of this Route 109 Project Study Report, the San Mateo County Transportation Authority assisted by furnishing information on hazardous waste sites. In recent years, these sites have become major considerations in proposed highway route locations. The Authority contracted Tejima and Associates, Inc. to investigate and prepare a Site History Study Report for the proposed Route 109 between Routes 84 and 101. The report, dated May 4, 1989, identifies two areas of illegal dumping sites and five areas of known or possible hazardous waste sites within the limits and vicinity of the proposed project.

There are two areas identified as illegal dumping sites. The first is a drainage ditch which extends eastward from Stevens Avenue to the slough that runs along the western border of the East Palo Alto Park Property. The second is a small pond located in the marshlands approximately 100 feet north of the Fordham Street and Illinois Street intersection. The debris generally consists of household refuse, auto parts, bicycles, vehicles, tires, motor oil canisters, etc.

Industrial complexes are along both sides of Bay Road east of University Avenue. Many of these complexes, including nurseries, plating, body shops, metal products, paint products, etc., appear on the Hazardous Waste Site Lists of San Mateo County, the State of California Department of Health Services, and the Regional Water Quality Control Board. The following five locations have been identified.

A former biodegradation remediation site is located at the north end of Demeter Street. It lies east of Illinois Street and extends north and south between Stevens Avenue and Purdue Avenue, and east and west between Demeter Street and Pulgas Avenue. The San Mateo County Department of Health Services has indicated that this was the treatment site for contaminated soil excavated from an area surrounding removed underground diesel fuel tanks in 1987. According to the City of East Palo Alto, this site is now owned by the Facciola Meat Company and is covered with approximately 10 feet of fill. A meat processing plant is to be constructed on the site.

Auto salvage yards are located along Tara Street, Laurel Avenue, and Rogge Road. The San Mateo County Office of Environmental Health has observed oil pools throughout these yards. This office stated that a full scale remediation program for these sites is still in its initial stages.

The Romic Chemical Corporation, located at the end of Rogge Road, has hazardous waste present as liquid, sludge, and gas. The Romic Chemical Corporation is currently under investigation by the State of California Department of Health Services.

The ZOECON/Rhone-Poulenc chemical plant located on the south side of Bay Road between Laurel Avenue and Rogge Road, is a Federal "Superfund" site with remedial plans for the removal of toxic sludge and contaminated soil scheduled for completion by 1991.

CAL-MAC CHEMICAL owns an unpermitted and private landfill that had been used for the storage and disposal of hazardous wastes. The landfill is located at the eastern end of Weeks Street. Buried and leaking drums, as well as their surface wastes have been removed as per the Abandoned Site Program Information System (ASPIS) at the California Department of Health Services. However, soil contaminated with arsenic and organic ammines may still be on the site.

Alternatives 1 and 2 are routed through or near all of the aforementioned hazardous waste sites. Alternative 3, widening and upgrading the existing University Avenue, avoids all known hazardous waste sites. A map showing the hazardous waste site locations with respect to the proposed alternative alignments can be found in the Appendix, Exhibit A-9.

Future studies of the alternative alignments with respect to these hazardous waste sites will be required. There are several options available in dealing with these sites. Avoidance, of course, is one but this is not always possible. It may be decided that the risk and the cost of dealing with a site is the proper course of action or that an avoidance alternative may be undesirable for other reasons. A preliminary site investigation is required as per Caltrans Policy and Procedure 84-4. It is the Department's policy, where hazardous waste sites are involved, to ensure adequate protection to all employees, workers, and the community prior to, during, and after construction.

VIII. ENVIRONMENTAL CLEARANCE

An Environmental Impact Statement will be required for the route determination/adoption studies. The Route Determination and Adoption Flow Diagram shown in the Appendix as Exhibit A-11, shows how the environmental document fits into the process following approval of this PSR.

All alternates will have an impact on noise levels, a displacement of residences and businesses and will remove a portion of a salt pond.

Alternates 1 and 2 will have additional impacts including the covering of a portion of a salt marsh area, realignment of a portion of San Francisquito Creek and a bridge over the creek, modification of a sewerage system, and relocation of a high pressure gas line and one or more high voltage transmission towers.

Caltrans will be the lead agency for the CEQA Environmental Document. The FHWA will be the lead Federal agency for the NEPA Environmental Document.

IX. ACTIONS FOLLOWING APPROVAL OF PSR

The decision to proceed with a route adoption study will have to be recommended by the Department and approved by the California Transportation Commission (CTC). Such studies, when approved are usually contained in the State Transportation Improvement Program (STIP) as "long leadtime" studies.

Support by the affected Cities, the County, and the regional transportation planning agency, (MTC) are usually needed for major corridor studies, such as this, to be added to the STIP. Caltrans will also support the undertaking of such a study.

The following procedures are the major steps to be taken relative to adoption of freeway locations by the California Transportation Commission (CTC). (See Appendix, Exhibit A-11, Route Determination and adoption Flow Diagram).

1. Caltrans is to furnish written notice of the initiation of studies to the appropriate local governing bodies, to other affected public agencies, to any designated advisory groups, and to each legislator within whose district the project is located.

2. Publicized informational meetings are held as appropriate during the course of studies to inform citizens of the progress of studies and to obtain their views.

3. A Project Development Team is formed.

4. Following completion of basic studies and the circulation of the draft environmental impact statement, a public hearing or hearings will be held as necessary. Caltrans will employ a presiding officer and the hearing(s) will be conducted so that all interested persons may be heard as time permits.

5. The Final Environmental Impact Statement (FEIS) and the Project Approval Report are prepared and submitted with written recommendations by the Director of Caltrans to the CTC.

6. Notification is given to appropriate local governing body or bodies, which notice shall be publicized, of the intention of CTC to consider the location of the facility.

7. If any local legislative body requests it, a CTC public hearing will be held. (The CTC may call a hearing on its own motion).

8. After the expiration of thirty days, if no hearing is requested, or after a public hearing, the CTC may adopt a location for the route.

X. PROGRAMMING

The route determination and adoption study is not identified in the 1989 PSTIP. With the present demand for financing of STIP projects, it is uncertain when this project can be included in the STIP, financed by State Highway Funds.

Because the new route is not a currently approved approach to the Dumbarton Bridge, toll bridge funds cannot be used for this study. Legislative action would be necessary to legally describe this route as an approach, thereby making the study eligible for toll bridge funding.

The San Mateo County Tax Expenditure Plan included $200,000 for such a study; however, the total cost of the study is expected to be over $2,000,000.

Possible sources of funding for right of way and construction costs are the State Highway Fund and Toll Bridge Revenues.

XI. DISTRICT CONTACT

Ryu Inoue, Chief
Project Development-Peninsula
Phone: ATSS 542-4220 (415)923-4220

XII. ATTACHMENTS

Exhibit A - Study Area/Alternatives.
Exhibit B - Excerpts from San Mateo County Tax Expenditure Plan.
Exhibit C - Existing Traffic.
Exhibit D - Distribution of Peak Hour Trips-Year 2010.

EXHIBIT A

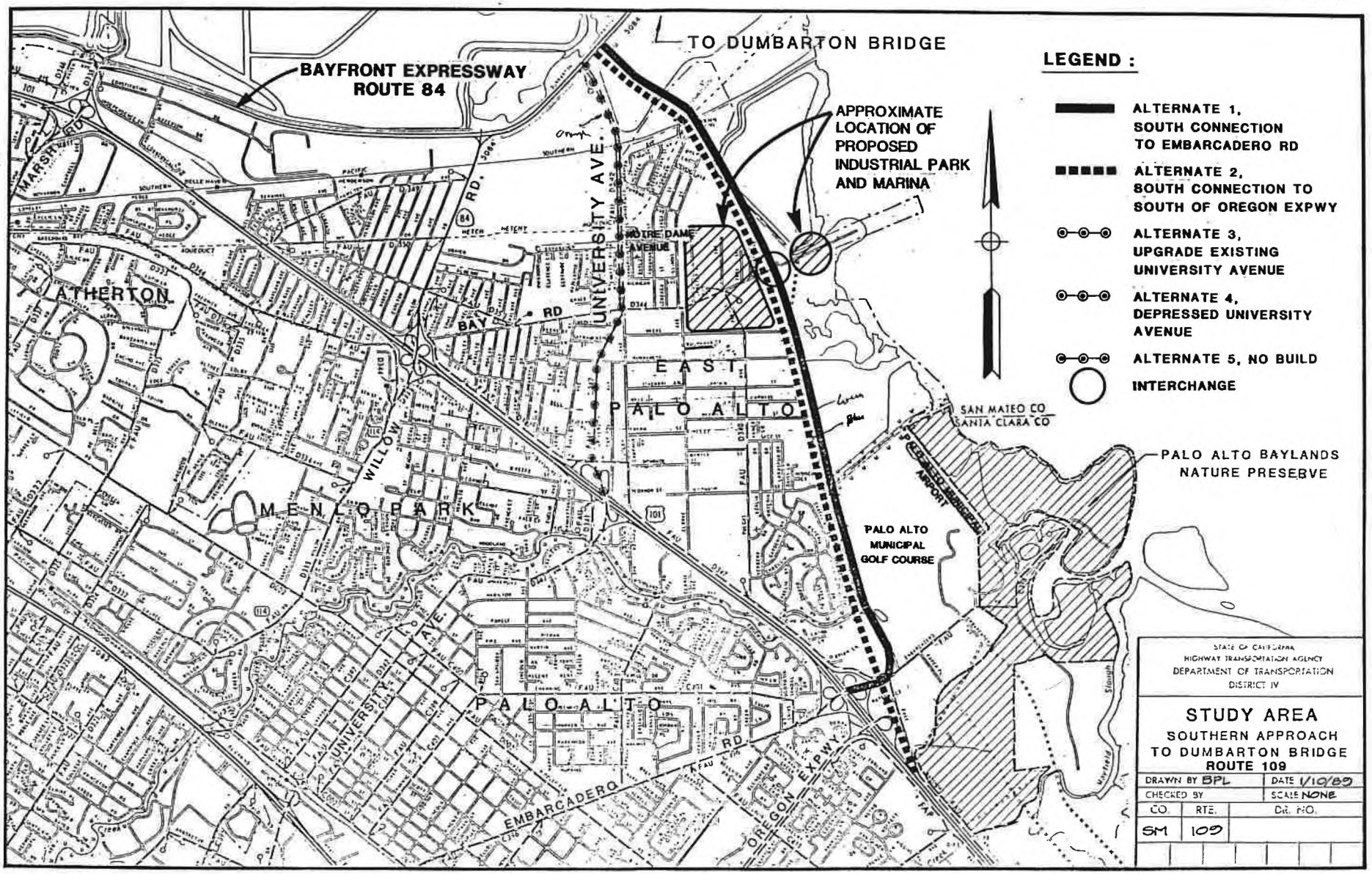
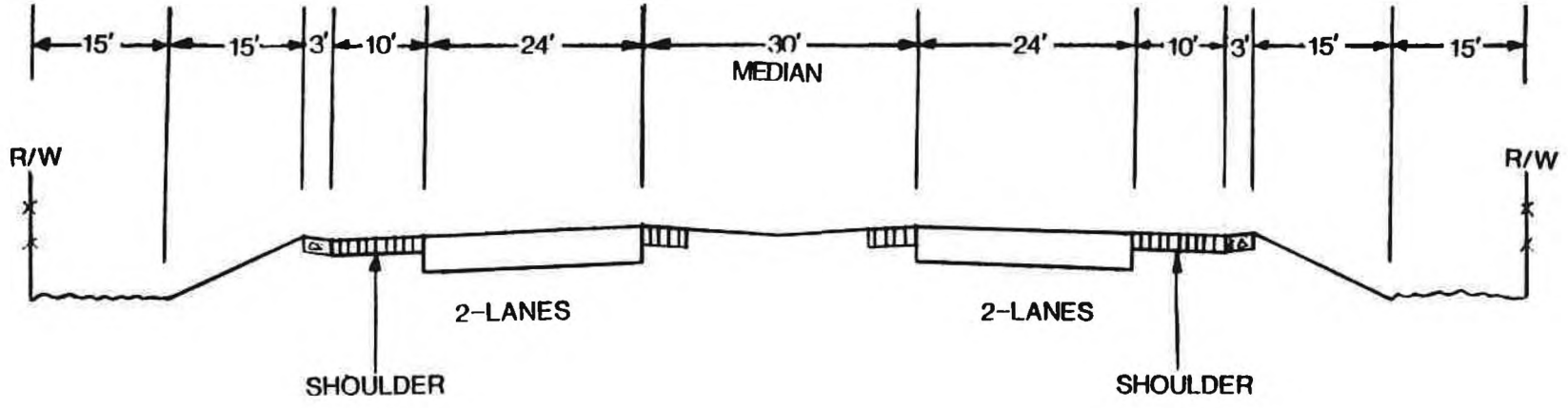

TO DUMBARTON BRIDGE
BAYFRONT EXPRESSWAY
ROUTE 84
APPROXIMATE
LOCATION OF
PROPOSED
INDUSTRIAL PARK
AND MARINA
LEGEND :
ALTERNATE 1,
SOUTH CONNECTION
TO EMBARCADERO RD
ALTERNATE 2,
SOUTH CONNECTION TO
SOUTH OF OREGON EXPWY
ALTERNATE 3,
UPGRADE EXISTING
UNIVERSITY AVENUE
ALTERNATE 4,
DEPRESSED UNIVERSITY
AVENUE
ALTERNATE 5, NO BUILD
INTERCHANGE
ATHERTON
MENLO PARK
EAST
PALO ALTO
PALO ALTO
UNIVERSITY AVE.
WILLOW RD
BAY RD
MARSH RD
NOTRE DAME AVENUE
SAN MATEO CO
SANTA CLARA CO
PALO ALTO BAYLANDS
NATURE PRESERVE
PALO ALTO
MUNICIPAL
GOLF COURSE
EMBARCADERO RD
OREGON EXPWY
STATE OF CALIFORNIA
HIGHWAY TRANSPORTATION AGENCY
DEPARTMENT OF TRANSPORTATION
DISTRICT IV
STUDY AREA
SOUTHERN APPROACH
TO DUMBARTON BRIDGE
ROUTE 109
DRAWN BY BPL
DATE 1/10/89
CHECKED BY
SCALE NONE
CO.
RTE.
DIST. NO.
SM
109

FIGURE 1

ROUTE 109

RIGHT OF WAY AND CONSTRUCTION COSTS

Alternative	R/W Costs	Construction Costs	Total
1 - Freeway (4 lanes)	$8,000,000	$63,000,000	$71,000,000
1 - Expressway (4 lanes)	$8,000,000	$43,000,000	$51,000,000
2 - Freeway (4 lanes)	$9,500,000	$64,000,000	$74,000,000
2 - Expressway (4 lanes)	$9,500,000	$54,500,000	$64,000,000
3 - Widened University Ave. (6 lanes)	$18,000,000	$4,000,000	$22,000,000
4 - Depressed University Ave. (6 lanes)	$20,000,000	$73,000,000	$93,000,000

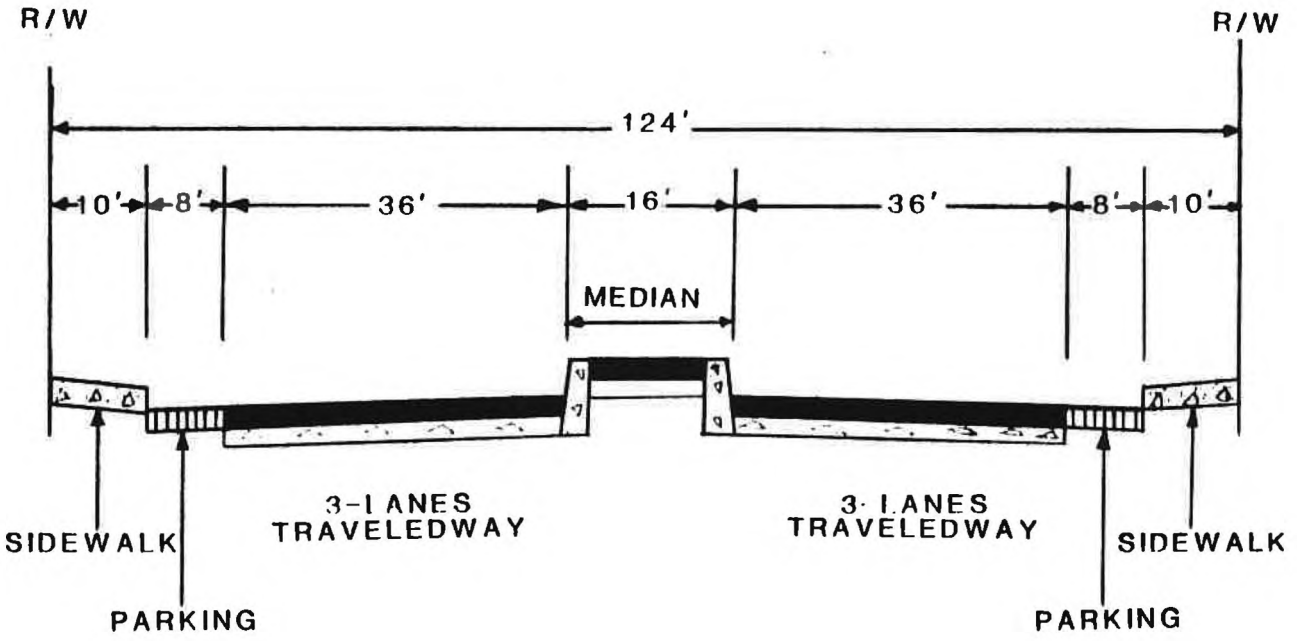


TYPICAL X-SECTION FOR 4-LANE

EXPRESSWAY OR FREEWAY

ALTERNATIVES 1 & 2

FIGURE 2

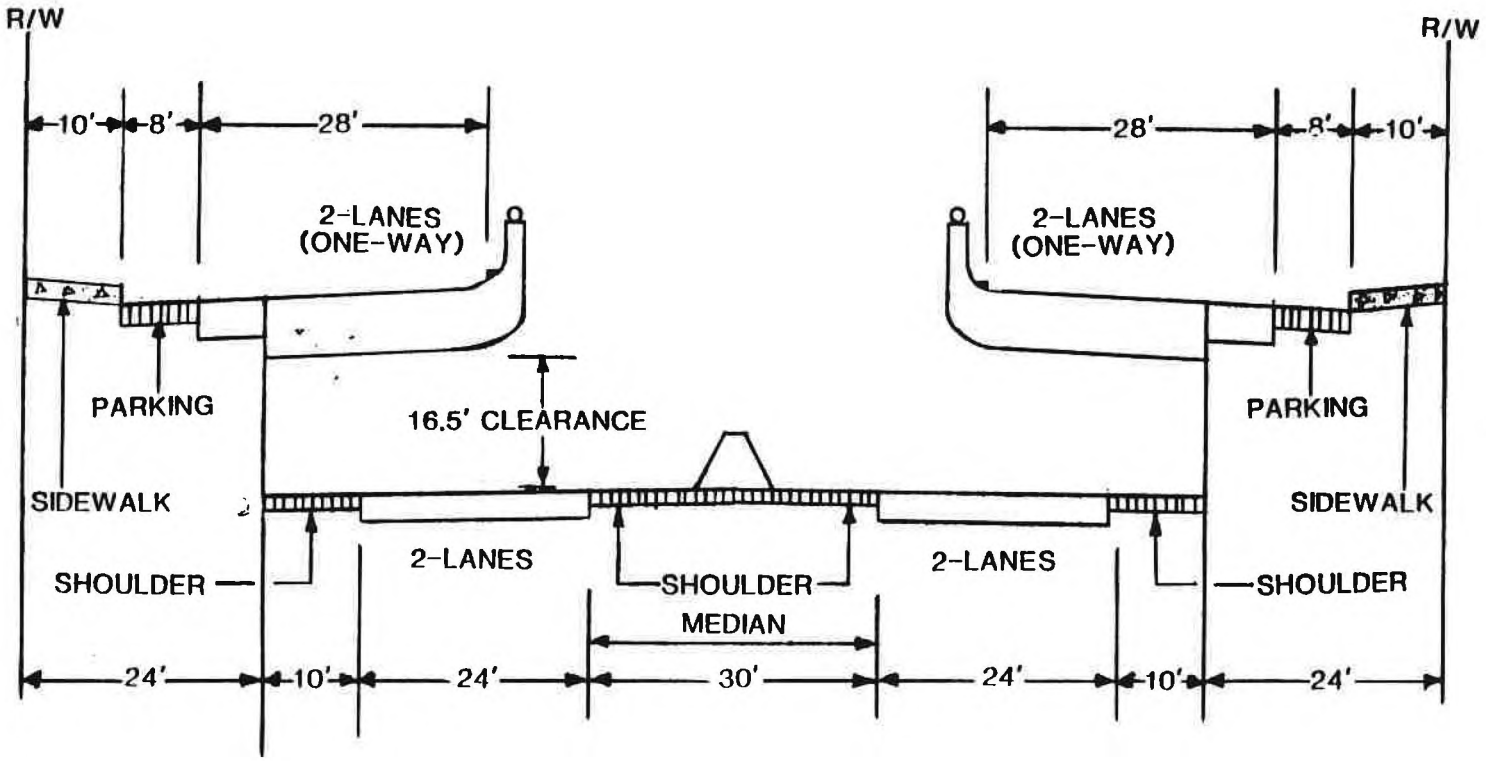


TYPICAL X-SECTION FOR PROPOSED 6-LANES

EXISTING UNIVERSITY AVENUE

ALTERNATE 3

FIGURE 3



DEPRESSED UNIVERSITY AVE. WITH ONE-WAY

ACCESS ROADS AT EXISTING STREET LEVEL

ALTERNATE 4

FIGURE 4