

State of California
Business, Transportation and Housing Agency
Department of Transportation

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HIGHWAY FINANCIAL MATTERS
Project Greater Than 120%
Resolution: FP-99-93
CTC Meeting: June 14-15, 2000

Agenda Item: 2.5d

Original Signed By

W. J. Evans, Deputy Director

Finance

June 1, 2000

**ALLOCATIONS FOR PROJECTS WITH VALUE GREATER THAN 120 PERCENT OF
PROGRAMMED AMOUNT**

RESOLUTION FP-99-83

RECOMMENDATION

The Department recommends the California Transportation Commission approve the following Resolution.

FINANCIAL RESOLUTION

Resolved, that \$81,120,000 be allocated from Budget Act Items 2660-301-0042 and 2660-301-0890, Budget Act of 1999 for the projects on the attached list.

The Department has complied with the National Environmental Policy Act and the California Environmental Quality Act requirements in preparing these projects.

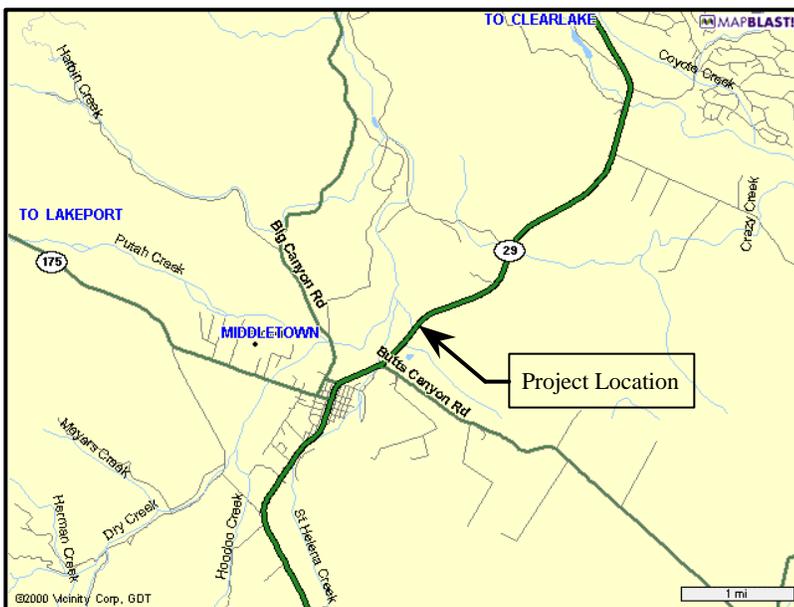
These major construction projects proposed for funding are included in the adopted State Highway Operation and Protection Program (SHOPP).

SUMMARY AND CONCLUSIONS

This resolution allocates State and Federal funds of \$81,120,000 for nine (9) new major construction projects. These projects have a total cost greater than 120 percent of the programmed amounts.

The additional funds of \$33,683,000 requested for these SHOPP projects will come from SHOPP savings and reservations.

Project # Allocation Amount Recipient County Dist-Co-Rte Postmile	Location Project Description Project Support Expenditures	EA (PPNO) Program (Prog Year) Prog Amount	Budget Year Item # Program Codes	State Federal Total Amount
1 \$5,200,000 Department of Transportation Lake 01N-Lak-29 15.2/16.0(KP)	Near Middletown from 0.5 KM South to 0.2 KM North of Putah Creek Bridge Replace Bridge Support Expenditures to Date: \$676,450	230011 (0121A SHOPP/99-00 \$4,040,000	1999-00 301-0042 301-0890 20.20.201.111	\$596,000 \$4,604,000 \$5,200,000



PROJECT DESCRIPTION

This Project is on Route 29 in Lake County, near Middletown, at Putah Creek Bridge. The work involves replacing the scour critical Putah Creek Bridge, upgrading the intersection at Putah Lane, constructing a two way left turn lane and widening the shoulders to 2.4 meters throughout the project limits, and providing rock slope protection around the bridge abutments. A right turn deceleration lane onto Hartmann Road will also be constructed as part of the project.

FUNDING STATUS

The project is currently programmed in the 2000 SHOPP for \$ 4,040,000 in the 1999/00 fiscal year. This request for \$5,200,000 is approximately 29% above the programmed amount.

BACKGROUND

The Project Study Report (PSR) for this project was approved in October 1994. The PSR proposed to replace Putah Creek Bridge with a four span structure, upgrade the intersection at Putah Lane and Hartmann

Road, and provide a three lane roadway with a two way left turn lane and 2.4 meter shoulders. A Supplemental Project Report to replace the bridge with a five span structure and provide a deceleration lane from northbound Route 29 to the Hartman Road was approved in February 2000.

REASON FOR INCREASE

The foundation investigation for the detailed bridge design revealed that the soil conditions were inferior to that assumed during the PSR stage. The investigation indicated that the foundation loads could not be supported by a four span structure, and the pile lengths assumed in the PSR were inadequate. The bridge is now designed with five spans in order to shorten span lengths and reduce the loads to the supports. The need for an additional pier and longer pile lengths increased the pile quantity at all the bridge supports. The north end of the proposed structure is flared to provide for additional width to accommodate the proposed right turn deceleration lane at Hartmann Road. These changes resulted in an increase of approximately \$840,000. The continuation of the right turn deceleration lane from the north end of the structure to the Route 29/Hartmann Road intersection resulted in a \$20,000 increase.

Hydraulics investigation revealed the need for Rock Slope Protection (RSP) to protect the abutment fills and the roadway approach embankments. The added cost is estimated to be approximately \$300,000.

FUNDING OPTIONS

OPTION A: Approve this request as presented above for \$5,200,000 to allow this project to be advertised.

OPTION B: Deny this request and direct the Department to redesign the project to come within the programmed amount

The Department considered this option. The cost increase is predominantly due to existing poor soil conditions. No other strategy exists to reduce the foundation costs. The project as designed provides for the minimum requirements to replace the existing scour critical structure.

RECOMMENDED OPTION

The Department recommends that this request for \$5,200,000 as presented in Option A above, be approved to allow this project to be advertised.

Project # Allocation Amount Recipient County Dist-Co-Rte Postmile	Location Project Description Project Support Expenditures	EA (PPNO) Program (Prog Year) Prog Amount	Budget Year Item # Program Codes	State Federal Total Amount
2 \$2,260,000 Department of Transportation Sutter 03N-Sut-20 16.8	In Yuba City from Kiley Avenue to the west end of the Feather River Bridge Overhead. Modify interchange. Support Expenditures to Date: \$741,391	381501 (8128) SHOPP/99-00 \$1,663,000	1999-00 301-0042 301-0890 20.20.201.310	\$259,000 \$2,001,000 \$2,260,000



PROJECT DESCRIPTION

This project is at Yuba City in Sutter County, on State Route 20, from Kiley Avenue to the West end of the Feather River Bridge Overhead. The work involves widening the roadway and the structure at Sutter Street to provide a standard merge lane for traffic entering eastbound Route 20 from Sutter Street in Yuba City. The project will also construct drainage improvements that were necessitated by the widening.

FUNDING STATUS

The project is currently programmed in the 2000 SHOPP for \$1,663,000 in the 1999/00 fiscal year. This request for \$2,260,000 is 36% over the programmed amount.

BACKGROUND

The project is needed to improve operations of the existing interchange. The existing ramp, constructed in the late 1940s, does not provide an acceleration/merge length that meets current standards. The Project Study Report (PSR) for this project was approved in November 1991. The PSR proposed to construct a standard merge lane for traffic entering eastbound Route 20 from Sutter Street. A Project Report (PR) was approved in January 1999.

REASON FOR INCREASE

The total earthwork required for the project was underestimated in the Project Report by approximately \$200,000. This was due to the limited information that was available in the as-built plans used to estimate the earthwork at the PSR stage.

The number of drainage systems required increased from five at the Project Report stage to fifteen in the final design to avoid conflicts with several high risk and other utilities in the construction area, resulting in a cost increase of approximately \$150,000. Based on recent traffic investigations, the estimate for traffic control has increased by about \$280,000 largely to pay for more extensive flagging and for one way traffic control.

Modifications to the replacement of existing sidewalks, electrical, and the Storm Water Pollution Prevention Plan (SWPPP) items contributed to a reduction of approximately \$33,000 for a \$597,000 net increase to the overall project cost.

FUNDING OPTIONS

OPTION A: Approve this request as presented above for \$2,260,000 to allow this project to be advertised.

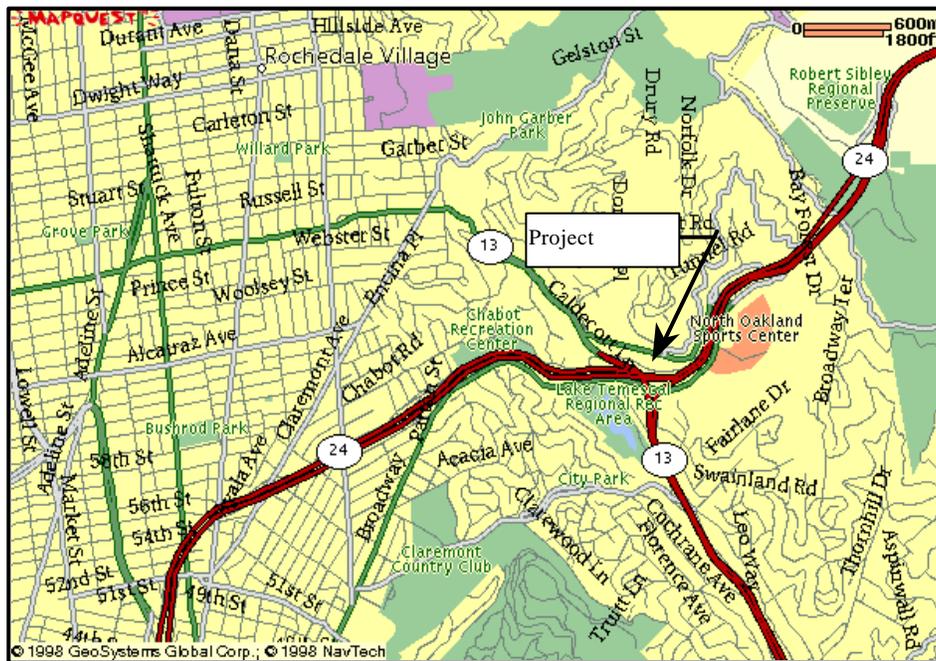
OPTION B: Deny this request and direct the Department to revise the project to bring the cost within the programmed amount.

The design for this project is the minimum needed to provide the operational improvements. The project as designed satisfies the current standards and none of the project elements can be eliminated.

RECOMMENDED OPTION

The Department recommends that this request for \$2,260,000, as presented in Option A above, be approved to allow this project to be advertised.

Project # Allocation Amount Recipient County Dist-Co-Rte Postmile	Location Project Description Project Support Expenditures	EA (PPNO) Program (Prog Year) Prog Amount	Budget Year Item # Program Codes	State Federal Total Amount
3 \$7,000,000 Department of Transportation Alameda Contra Costa 04N-Ala, CC-24 5.9/6.2, 0.1/0.4	Near Oakland at the Caldecott Tunnel from 0.4 kilometer east of Alameda and Contra Costa County Line. Convert fluorescent to High Pressure Sodium lights Support Expenditures to Date: \$502,145	163641 (A0057E) (B0057E) SHOPP/99-00 \$4,346,000	1999-00 301-0042 301-0890 20.20.201.340	\$803,000 \$6,197,000 \$7,000,000



PROJECT DESCRIPTION

This project is on Route 24, in Alameda and Contra Costa Counties, at the Caldecott Tunnel near Oakland. The work involves upgrading tunnel lighting by replacing fluorescent lights with high-pressure sodium vapor lights.

FUNDING STATUS

The project is currently programmed in the 2000 SHOPP for \$4,346,000 (\$2,173,000 for Alameda County, and \$2,173,000 for Contra Costa County) in the 1999/00 fiscal year. This request for \$7,000,000 is 61% above the programmed amount.

BACKGROUND

The existing fluorescent light fixtures have deteriorated and their lighting output has been significantly reduced. This project replaces the existing lighting with more energy efficient and brighter high- pressure sodium lights. A Project Study Report (PSR) for this project was approved in November 1992. Due to the budgetary constraints of the mid 1990s, this and similar type projects were not given high priority and were passed over in several programming cycles. In December 1995, the project was included in the 1996 SHOPP under Roadway Rehabilitation.

REASON FOR INCREASE

The increase in cost is predominantly due to the rapid and continuous upgrades in lighting technology and the associated escalation of labor and material costs in this industry. Specifically:

- a) New and improved tunnel luminaire costs have quadrupled in the last 8 years. This has contributed to an increase of approximately \$1,300,000.
- b) New conduits and wire installations are needed because the existing conduit raceways are substandard and too antiquated to be compatible with modern lighting technology. This has resulted in an approximate cost increase of \$200,000.
- c) Due to increase in traffic volume and changes to the traffic control assumptions made during the PSR stage, costs for traffic control items have increased by approximately \$500,000. Construction of this project will require tunnel closures.
- d) Existing deteriorated and damaged louvered screens at the east and west entrances need to be repaired at an estimated cost of \$650,000. Repair of the louvers is needed for proper lighting transitions at the tunnel entrances.

FUNDING OPTIONS

OPTION A: Approve this request as presented above for \$7,000,000 to allow this project to be advertised.

OPTION B: Deny this request and direct the Department to cancel the project.

The Department considered this option and has concluded that the project, as submitted, provides the best and timely solution for:

- Providing a better facility for the travelling public.
- Improving the operating and service life of the tunnel lights.
- Decreasing the economic and resource drain on maintenance dollars by discontinuing the use of a lighting system that has very limited replacement hardware and requires much more frequent upkeep at this point in its service life.

RECOMMENDED OPTION

The Department recommends that this request for \$7,000,000, as presented in Option A above, be approved to allow this project to be advertised.

Project # Allocation Amount Recipient County Dist-Co-Rte Postmile	Location Project Description Project Support Expenditures	EA (PPNO) Program (Prog Year) Prog Amount	Budget Year Item # Program Codes	State Federal Total Amount
4 \$3,000,000 Department of Transportation San Mateo 04N-SM-280 10.8/M27.1	Near San Mateo at South Connector Undercrossing and in Daly City at Route 1/280 Separation. Upgrade Lighting Support Expenditures to Date: \$291,252	163631 (0733D) SHOPP/99-00 \$976,000	1999-00 301-0042 301-0890 20.20.201.340	\$344,000 \$2,656,000 \$3,000,000



PROJECT DESCRIPTION

This project is at two locations on Route 280 in San Mateo County; at the South Connector Undercrossing near San Mateo, and at the Route 1/280 Separation in Daly City. The work involves upgrading the tunnel lighting by replacing fluorescent lights with high-pressure sodium vapor lights.

FUNDING STATUS

The project is currently programmed in the 2000 SHOPP for \$976,000 in the 1999/00 fiscal year. This request for \$3,000,000 is 207% above the programmed amount.

BACKGROUND

A Project Study Report (PSR) for this project was approved in November 1992. Due to the budgetary constraints of the mid 1990s, this and similar type projects were not given high priority and were passed over in several programming cycles. In December 1995, the project was included in the 1996 SHOPP under Roadway Rehabilitation.

REASON FOR INCREASE

The increase in cost is due to the rapid and continuous upgrades in lighting technology and the associated escalation of labor and material costs in this industry. Specifically:

- a) New and improved tunnel luminaire costs have quadrupled in the last 8 years. This has contributed to an increase of approximately \$1,200,000.
- b) Two (2) new programmable controllers are to be added to the project at an approximate cost of \$125,000.
- c) During recent investigations, it was found that all the existing conduits are deteriorated. They will be replaced at an approximate cost of \$200,000.
- d) The estimated costs for traffic control items have increased by \$500,000. Construction of this project will require more extensive night freeway lane closures than anticipated at the PSR stage.

FUNDING OPTIONS

OPTION A: Approve this request, as presented above, for \$3,000,000 to allow this project to be advertised.

OPTION B: Deny this request and direct the Department to cancel the project.

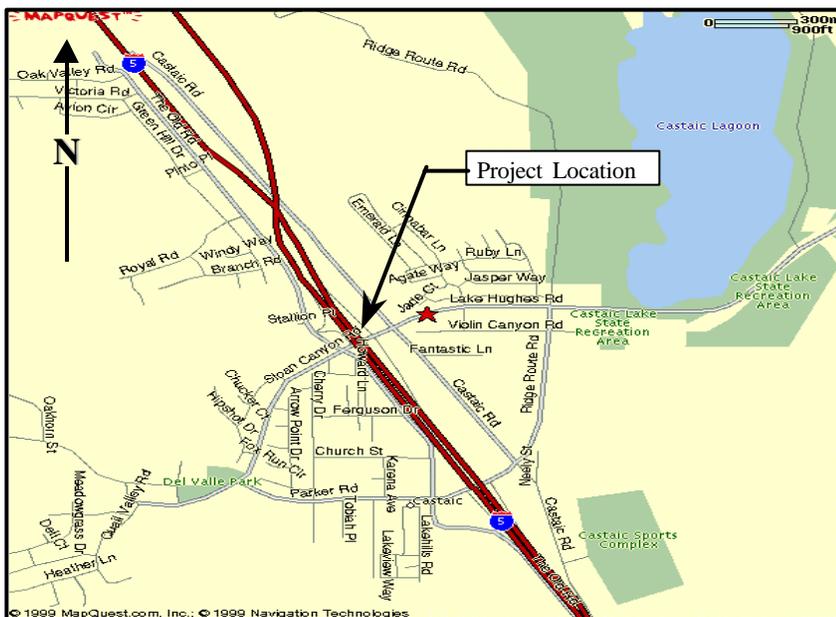
The Department considered this option and has concluded that the project, as submitted, provides the best and timely solution for:

- Providing a better facility for the travelling public.
- Improving the operating and service life of the lights.
- Decreasing the economic and resource drain on Maintenance dollars by discontinuing the use of a lighting system that has very limited replacement hardware and requires much more frequent upkeep at this point in its service life.

RECOMMENDED OPTION

The Department recommends that this request for \$3,000,000, as presented in Option A above, be approved to allow this project to be advertised.

Project # Allocation Amount Recipient County Dist-Co-Rte Postmile	Location Project Description Project Support Expenditures	EA (PPNO) Program (Prog Year) Prog Amount	Budget Year Item # Program Codes	State Federal Total Amount
5 \$12,800,000 Department of Transportation Los Angeles 07S-LA-5 61.7/62.6	North of Santa Clarita from 4.8 kilometers north of Lake Hughes Road to 5.8 kilometers south of Templin Highway. Rehabilitate roadway and construct retaining wall. Support Expenditures to Date: \$967,189	142901 (0176P) SHOPP/99-00 \$9,558,000	1999-00 301-0042 301-0890 20.20.201.120	\$1,079,000 \$11,721,000 \$12,800,000



PROJECT DESCRIPTION

This project is in Los Angeles County, on Route 5, 4.8 kilometers north of Lake Hughes Road and 5.8 kilometer south of Templin Highway. The work involves reconstruction of the embankment with a soldier-pile-tie-back wall and modifying the drainage outlets.

FUNDING STATUS

This project is programmed in the 2000 SHOPP for \$9,558,000 in the 1999/00 fiscal year. This request of \$12,835,000 is 34% above the programmed amount.

BACKGROUND

There have been stability problems in the embankment at this location since the construction of the original highway in the 1930's. Over the past several years, in order to keep the roadway operational, the Department has performed interim rehabilitation measures such as slope stabilization, crack sealing the roadway, mud jacking the Portland Cement Concrete (PCC) slabs and an Asphalt Concrete (AC) overlay.

After the Northridge Earthquake in January 1994, more severe cracking and settlements were observed. The Metal Beam Guard Railing at the edge of the roadway also moved down with the shoulder. To mitigate the problems, the Project Scope Summary Report (PSSR) recommended reconstruction of the embankment with soldier-pile-tie-back walls at two locations with repair and extension of cross drain outlets to the toe of the slope to prevent further erosion.

The PSSR considered construction of only two levels of tiebacks behind the wall. During the detailed design it was determined that the soil strength was much lower than originally assumed and two additional levels of tiebacks for slope stressing are required.

REASONS FOR INCREASE

The increase in cost is primarily due to more extensive re-grading of slopes than anticipated during the preparation of the PSSR. This has resulted in a cost increase of approximately \$2,000,000. The current estimate includes an increase of \$540,000 for the Storm Water Pollution Prevention Plan (SWPPP), due to the substantial increase in the re-grading of the slopes and more rigorous SWPPP requirements. There is an increase of \$450,000 for Traffic Control, due to longer construction duration and the need to relocate Temporary Concrete Barrier (K-rails) to keep all lanes open to accommodate increased traffic volumes on major holidays. There is also an increase of approximately \$250,000 due to the increase in unit costs for asphalt concrete and drainage items.

FUNDING OPTIONS

OPTION A: Approve this request, as presented above, for \$12,800,000 to allow this project to be advertised.

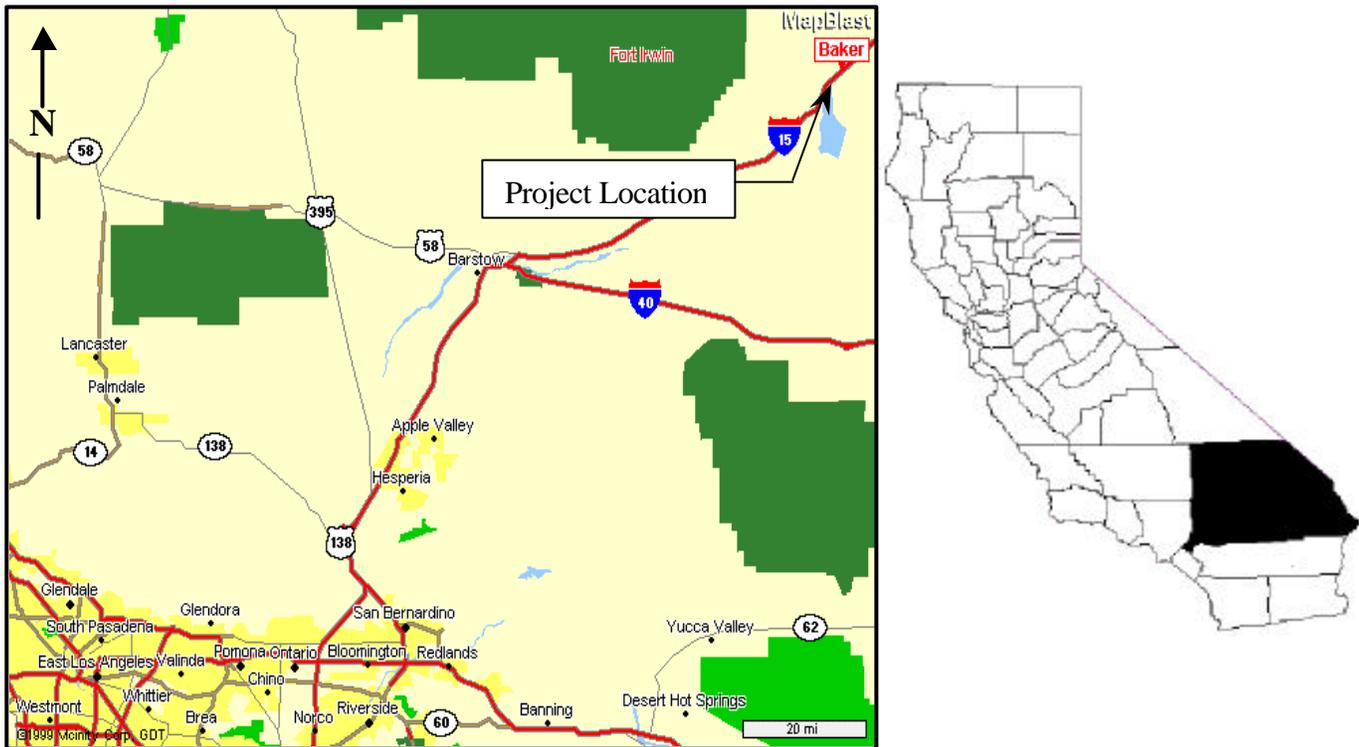
OPTION B: Deny this request and direct the department to deliver the project within the programmed amount.

The Department considered this option, which requires downscoping the project to construct only one soldier-tie-back wall, 457 meter long, and eliminating the second soldier-tie-back-wall, 150 meter long. However, this may result in on going maintenance needs due to continued erosion, pavement cracking, and settlement of the roadway.

RECOMMENDED OPTION

The Department recommends that this request for \$12,800,000, as presented in Option A above, be approved to allow this project to be advertised.

Project # Allocation Amount Recipient County Dist-Co-Rte Postmile	Location Project Description Project Support Expenditures	EA (PPNO) Program (Prog Year) Prog Amount	Budget Year Item # Program Codes	State Federal Total Amount
6 \$10,041,000 Department of Transportation San Bernardino 08S-SBd-15 258.1/261.8 (KP)	From 8.2 kilometers north of Halloran Summit Overcrossing to 0.1 kilometer south of Cima Road Overcrossing. Replace bridge. Support Expenditures to Date: \$1,233,845	406801 (0178F) SHOPP/99-00 \$6,239,000	1999-00 301-0042 301-0890 20.20.201.110	\$1,141,000 \$8,900,000 \$10,041,000



PROJECT DESCRIPTION

This project is on Interstate 15 in San Bernardino County, near the City of Baker, 5 miles north of Halloran Summit to Cima Road. The project proposes to replace ten structures, upgrade bridge approach railing, and rehabilitate existing shoulders to accommodate increased traffic loading during the detour phase.

FUNDING STATUS

The project is programmed in the 2000 SHOPP for \$6,239,000 in the 1999/2000 fiscal year. The current estimate of \$10,041,000 is approximately 61% over the programmed amount.

BACKGROUND

Interstate 15 in San Bernardino is a heavily traveled highway, with high commercial truck volumes. This project was initiated in January 1994 based on a Supplementary Bridge Report that recommended replacement of the

bridges due to signs of deterioration on the bottom flanges of the beams for all of the structures, and due to the deleterious levels of reactive aggregates in the substructures.

The programmed amount of \$6,239,000 was based on the Project Scope Summary Report (PSSR) that was approved in January 1996. The cost of structure items was based on an Advanced Planning Study (APS) dated January 1994.

REASON FOR INCREASE

The cost increase is attributed to increase in structure items, the addition of retaining walls and wing walls that were not addressed in the APS, and unit cost adjustments.

During the preparation of the APS, due to the high priority to complete the Seismic Retrofit projects, the project cost was estimated based on a "per square foot" cost, rather than a detailed estimate. Finalizing the quantities and adjustment of the unit cost has resulted in an increase of approximately \$660,000. The original APS estimate did not account for items such as retaining walls and wing walls, approach slabs, epoxy steel and other miscellaneous metal and cable railing. Approximately \$2,161,000 is attributed to these items. The remaining amount of approximately \$981,000 is attributed to the cost increase for the rehabilitation needed to detour traffic onto the shoulders. This would allow for two lanes to remain open at all times on this heavily traveled Interstate highway.

FUNDING OPTIONS

OPTION A: Approve this request as presented above for \$10,041,000 to allow this project to be advertised.

OPTION B: Deny this request and direct the Department to rework the project for redevelopment and redesign.

The Department has considered these options. The project as submitted incorporates the minimum required improvements to accomplish this much needed bridge replacement project. Consideration was given to replacing the bridges with narrower ones, but this would result in only one lane in each direction for traffic during construction. Two lanes in each direction are needed to avoid severe congestion on this heavily traveled Interstate highway. Any redevelopment and redesign of this project would result in a project estimate similar to this request.

RECOMMENDED OPTION

The Department recommends that this request be approved, as presented in Option A above, for \$10,041,000 to allow this project to be advertised.

Project # Allocation Amount Recipient County Dist-Co-Rte Postmile	Location Project Description Project Support Expenditures	EA (PPNO) Program (Prog Year) Prog Amount	Budget Year Item # Program Codes	State Federal Total Amount
7 \$30,755,000 Department of Transportation San Bernardino 08S-SBd-40 82.1/117.9 (KP)	Near Ludlow from 1.6 kilometers east of Crucero Road to 8.0 kilometer west of Kelbaker Road. Rehabilitate roadway. Support Expenditures to Date: \$698,756	377801 (0210E) SHOPP/99-00 \$15,493,000	1999-00 301-0042 301-0890 20.20.201.120	\$2,593,000 \$28,162,000 \$30,755,000



PROJECT DESCRIPTION

This project is in San Bernardino County, on Interstate Route 40, near Ludlow, from east of Crucero Road to west of Kelbaker Road. This project will replace existing asphalt concrete (AC) pavement with Long Life Portland Cement Concrete Pavement (LLPCCP) while incorporating the existing cement treated base, pave the shoulders with Dense Graded Asphalt Concrete (DGAC), construct bridge approach slabs, remove asphalt concrete from bridge decks, treat bridge decks with crack sealant, and upgrade safety and drainage items.

FUNDING STATUS

This project is currently programmed in the 2000 SHOPP for \$15,493,000 in the 1999/2000 fiscal year. This request for \$30,755,000 is approximately 99% above the programmed amount.

BACKGROUND

The project was initiated based on a Project Scope Summary Report (PSSR) approved in August 1995. The PSSR called for removing the top inch of existing asphalt concrete (AC) and replacing it with 6-inch thick AC in the travel lanes and 5-inch thick AC on the shoulders. The PSSR also recommended upgrading the existing safety guard rail to meet new design safety standards and modifying drainage items to meet the new roadway elevation. The pavement design was based on a deflection study conducted in September 1994.

A new deflection study conducted in early 1999 revealed further deterioration in the pavement that was three times greater than that revealed in the earlier study. The study indicated that there are widespread locations of damaged pavement.

The deflection study recommended removal of the entire section of the existing pavement within the project limits and replacing it with DGAC or Portland Cement Concrete Pavement (PCCP). A 40-year life-cycle analysis, assuming a 10-year rehabilitation strategy for AC, determined that LLPCCP would be the least expensive type of pavement to utilize, since it resulted in a savings of approximately \$10,000,000 over the strategy approved in the PSSR, during the 40-year life-cycle.

REASON FOR INCREASE

The increase in cost is attributed to the revisions recommended in the updated deflection study, which increased the depth of removal of existing asphalt concrete pavement, increased the thickness of the replacement pavement and recommended the use of LLPCCP. The major cost increase can be attributed to the substitution of LLPCCP for DGAC pavement, which resulted in an increase of \$13,330,000. Concrete bridge approach slabs are needed to match the Portland Cement Concrete roadway. This resulted in a cost increase of approximately \$890,000. Investigations done during the detailed design revealed that the existing bridge decks needed to be repaired at an additional cost of \$400,000. Change in the pavement rehabilitation strategy resulted in changes to various other items, such as drainage, mobilization and traffic control, resulting in an approximate cost increase of \$640,000.

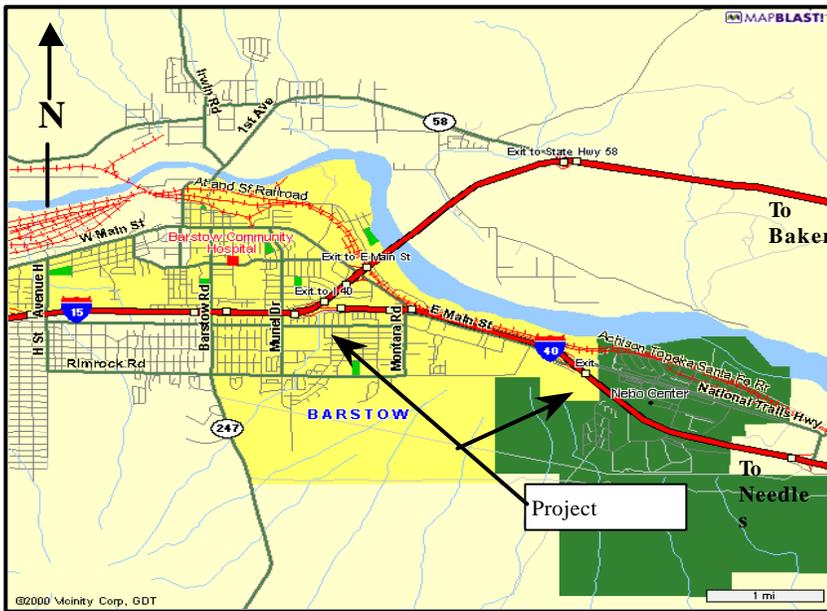
FUNDING OPTIONS

- Option A: Approve this request as presented above for \$30,755,000 to allow this project to be advertised.
- Option B: Direct the Department to redesign the project with the alternative of AC overlay at a cost of \$21,908,000.
The Department analyzed the cost comparison of the LLPCCP alternative and the alternative of replacing with DGAC. A 40-year life-cycle analysis has shown a saving of approximately \$10,000,000 over the forty years life of PCCP.
- Option C: Direct the Department to cut down the limits of the project or only rehabilitate the North Roadbed or the South Roadbed.
With this alternative, the remaining portion of the project will continue to deteriorate and cause significant delays to the traveling public. The cost of maintaining the roadway will continue to rise.

RECOMMENDED OPTION

The Department recommends that this request for \$30,755,000 be approved, as presented in Option A above, to allow this project to be advertised.

Project # Allocation Amount Recipient County Dist-Co-Rte Postmile	Location Project Description Project Support Expenditures	EA (PPNO) Program (Prog Year) Prog Amount	Budget Year Item # Program Codes	State Federal Total Amount
8 \$4,842,000 Department of Transportation San Bernardino 08S-SBd-15, 40 74.2/74.5, 0.0/3.0)	On Routes 15 and 40 from Muriel Drive Overcrossing to Cape Gloucester Avenue Overcrossing. Rehabilitate pavement. Support Expenditures to Date: \$431,741	408601 (0206B) SHOPP/99-00 \$2,621,000	1999-00 301-0042 301-0890 20.20.201.120	\$408,000 \$4,434,000 \$4,842,000



PROJECT DESCRIPTION

This project is in San Bernardino County, in Barstow, on Interstate Route 15, near Muriel Drive, and on Interstate Route 40, from east of Muriel Drive to east of Cape Gloucester Avenue. This project will rehabilitate existing asphalt concrete pavement on Interstate Route 40 and Interstate Route 15 by removing approximately 8 inches of existing deteriorating asphalt concrete pavement and replacing the removed section with approximately 13 inches of new asphalt concrete pavement.

FUNDING STATUS

This project is currently programmed in the 2000 SHOPP for \$2,621,000 in the 1999/2000 fiscal year. This request for \$4,842,000 is approximately 85% above the programmed amount.

BACKGROUND

The project was initiated based on a Project Scope Summary Report (PSSR) approved on August 22, 1995. The PSSR called for removing the top inch of existing asphalt concrete roadway and replacing it with a 6-inch thick new section of asphalt concrete pavement in the travel lanes and with a 5-inch thick new section of asphalt

concrete pavement on the shoulders. The PSSR also recommended that the existing safety guard rail be upgraded to meet new design safety standards, that drainage items be modified to meet the new roadway elevation and that the inside shoulders be widened to comply with current standards. The pavement design was based on a deflection study conducted in September 1994.

A new deflection study conducted in early 1999 revealed deterioration of the pavement that was much greater than that revealed in the earlier study. Analysis of the study recommended removing 8 inches of existing asphalt concrete pavement and replacing it with 13 inches of asphalt concrete pavement on both the traveled lanes and the shoulder.

REASON FOR INCREASE

The increase in cost is attributed to the revisions recommended in the updated deflection study. The increased depth of removal and increased thickness of replacement for Dense Graded Asphalt Concrete resulted in a cost increase of approximately \$1,722,000. More extensive Traffic control, in the form of temporary railing and the staging of construction, is required in the current design due to the extra depth of removal of pavement. This accounts for an approximate cost increase of \$309,000. A storm water pollution prevention plan (SWPPP) is now required, at an additional cost of \$40,000. Due to more stringent design criteria, new safety guard rail is required at locations not covered in the original design for a cost increase of \$124,000. Various other increases in minor items, such as rumble strips, resulted in an increase of \$26,000.

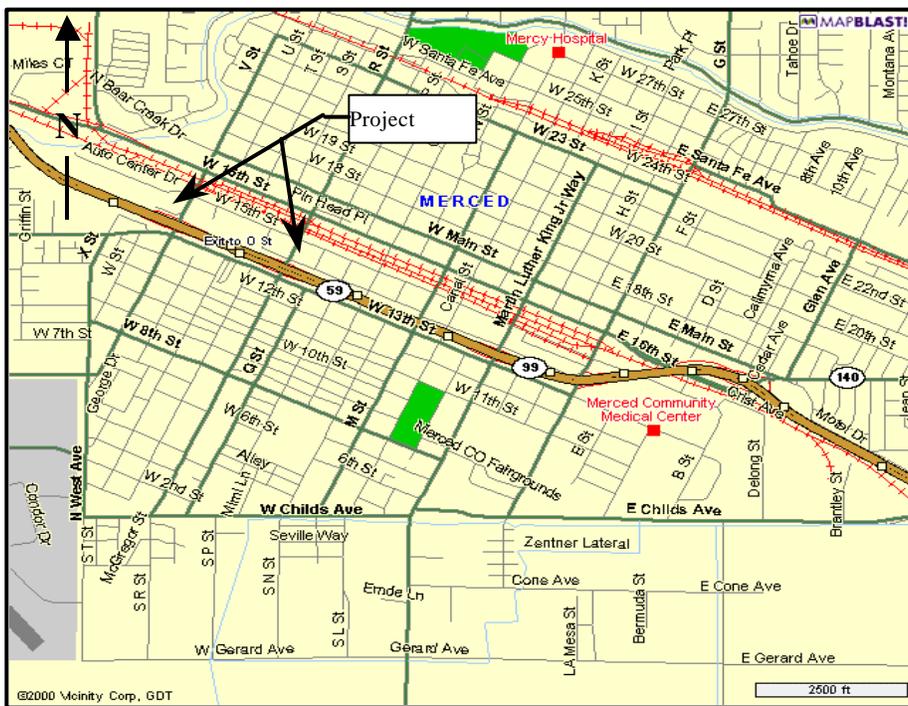
FUNDING OPTIONS

- Option A: Approve this request as presented above for \$4,842,000 to allow this project to be advertised.
- Option B: Deny this request and direct the Department to proceed with the original scope of work. Since significant deterioration of the pavement has been verified, proceeding with the original scope of work would not replace all of the deteriorating pavement and result in future pavement failure.
- Option C: Direct the Department to reduce the limits of the project or rehabilitate only the northbound direction of Interstate Route 40 or the southbound direction of Interstate Route 40. As this option would not address the full deterioration at the site, the pavement on the remaining portion of the project will continue to deteriorate, and the cost to maintain the roadway will continue to rise.

RECOMMENDED OPTION

The Department recommends that this request for \$4,842,000 be approved, as presented in Option A above, to allow this project to be advertised.

Project # Allocation Amount Recipient County Dist-Co-Rte Postmile	Location Project Description Project Support Expenditures	EA (PPNO) Program (Prog Year) Prog Amount	Budget Year Item # Program Codes	State Federal Total Amount
9 \$5,222,000 Department of Transportation Merced 10N-Mer-99,59,140 15.1/16.1, 14.8/14.9, 35.7/35.8	In Merced City at the junction of Routes 99, 59, and 140 between V Street and R Street Interchanges. Improve interchanges. Support Expenditures to Date: \$961,151	482301 (5453) SHOPP/99-00 \$2,501,000	1999-00 301-0042 301-0890 20.20.201.310	\$599,000 \$4,623,000 \$5,222,000



PROJECT DESCRIPTION

This project proposes to improve safety and relieve congestion at the R and V Street Interchanges on State Route 99 in the City of Merced in Merced County. The project consists of eliminating the four on and off ramps between R and V Streets, converting local streets (13th and 14th Streets) adjacent to Route 99 to one-way streets to convey traffic between R and V Streets, and improving the remaining ramps through signalization, widening, and realignment. This project also relocates Route 59 (KP 23.8, PM 14.8) and Route 140 (KP 57.6, PM 35.8) off of Route 99 and onto the one-way streets on 13th and 14th Streets, between R and V Streets.

FUNDING STATUS

The project is currently programmed in the 2000 SHOPP for \$2,501,000 in the 1999/00 fiscal year. This request for \$5,222,000 is 136% above the programmed amount.

BACKGROUND

The project was initiated by the Merced County Association of Governments (MCAG). A Project Study Report (PSR) was completed in September 1995 that provided alternatives to improve the current safety and operational issues at the interchanges. The project was originally programmed in the 1998 SHOPP for \$2,501,000. A Project Report (PR) was completed in February 1999.

REASON FOR INCREASE

The increase in cost is primarily due to the increase in drainage work and the adjustment of unit costs. Many unit costs were not adjusted sufficiently during the PR stage. A significant increase in drainage work has occurred between the PR stage and the final design stage. Several new drainage basins are now required along with new drainage systems to contain runoff within the State's right of way. This has resulted in an increase of approximately \$900,000. The project limits are within existing landscaped areas, the new drainage basins will require the removal of the majority of the landscaping, thus increasing the cost of the replacement planting work. The additional work involves removal of trees (\$60,000), irrigation modification (\$60,000), and erosion control for the new basins (\$54,000). Additional \$462,000 is required to signalize two intersections which are now part of State Routes 59 and 140. Modifications to the overhead signing resulted in a cost increase of approximately \$240,000. Underestimation of quantities in the PSSR estimate and revisions to the unit cost for Asphalt Concrete and Aggregate Base resulted in an additional increase of \$720,000. Detailed design resulted in increased quantity of concrete removal for the existing curbs and sidewalks, thus resulting in an approximate increase of \$125,000. Revisions to traffic control items resulted in an increase of approximately \$100,000.

FUNDING OPTIONS

OPTION A: Approve this request as presented above for \$5,222,000 to allow this project to be advertised.

OPTION B: Deny this request and direct the Department to downscope the project to come within the programmed amount

Department considered this option. This project does not lend itself to staging, where a portion could be constructed now and the remainder under another contract.

RECOMMENDED OPTION

The Department recommends that this request for \$5,222,000 as presented in Option A above, be approved to allow this project to be advertised.