DESIGN-BUILD DEMONSTRATION PROGRAM
PROJECT AUTHORIZATION REQUEST

LA-10-31.1/32.3, LA-605-R20.2/20.6
07-245401
Construct Connector between I-10 and I-605

Executive Summary

This project proposes to construct a new direct connector between southbound I-605 to eastbound I-10. This new connector will enhance safety and operations by reducing weaving conflicts and reducing the mainline queue lengths. Environmental studies for the project have been completed and the project team has begun early design efforts.

The Department desires to utilize design-build on this project to achieve several important benefits including faster delivery, transfer of risk, and cost certainty. The Department expects to save twelve months or more through the use of design-build. The Department is requesting authorization to award based on Best Value. The Department expects to achieve better value through competition between design-builders on their approach to maintenance of traffic, utility coordination, and environmental coordination.

This project is one of a group of four projects the Department has identified for the use of design-build contracting. The Department's approach to the Design-Build Demonstration Program is to begin with smaller and simpler projects to test the methodology before attempting larger and more complex projects. The Department intends to utilize the lessons learned on these first projects to ensure success on the next set of projects.

Background and Importance of Project

a. Description and Scope of the project

It is proposed to construct an elevated direct connector from southbound Interstate 605 (I-605) to eastbound Interstate 10 (I-10) that would replace the existing southbound I-605 to eastbound I-10 at-grade connector. The project is comprised of the following:

- Construction of a single lane connector from southbound I-605 to eastbound I-10
- Construction of retaining walls along southbound I-605 right of way
- Construction of a soundwall
- Reconstruction of the existing southbound I-605 to westbound I-10 connector

The project will involve the acquisition of additional right of way, which includes partial acquisition of an existing city frontage road, permanent footing easements from city right of way, and partial to full acquisition of some residences.

b. Project Benefits

This project will provide a direct connection between the I-10 and I-605 freeways and will enhance the safety and operation of the I-10/605 interchange. The primary benefit of this project is the reduction of weaving conflicts on this segment caused by the joint use of the existing connector for both the southbound I-605 to eastbound I-10 movement and the southbound I-605 to westbound I-10 movement. The new connector would eliminate weaving movements on the existing joint segment of the connector and thus reducing weaving related accidents.

The secondary benefit of this project is the reduction of the queue length on the existing outside lane of the westbound I-10 mainline to reduce the accidents within this weaving section and to improve the operation of the westbound I-10 to southbound I-605 connector.

c. Regional Significance

The segment of I-10 freeway from East Los Angeles interchange to the San Bernardino County Line is a major urban freeway which provides commuter access to Los Angeles Central Business District from Riverside County, San Bernardino County and the San Gabriel Valley. The existing facility is comprised of four mixed flow lanes in each direction. Two High Occupancy Vehicle (HOV) lanes, one lane in each direction, were added in 2003 and 2005 respectively.

Interstate 605 runs parallel to the San Gabriel River and traverses an urbanized area. It is a major route that provides access to the San Gabriel Valley and the City of Long Beach. It functions as a major collector distributor route feeding I-10, State Route 60, State Route 91, I-210, I-105, and I-405. HOV lanes have been added along I-605 and have improved efficiency.

The I-10/605 Interchange is a major urban interchange serving commuter, trucking and personal travel needs for a number of cities and communities in Los Angeles, San Bernardino and Riverside Counties.

The proposed project is identified in the Southern California Association of Government (SCAG) 2008 Regional Transportation Plan (RTP) adopted May 8, 2008. Further, both the Route 10 and Route 605 routes are inter-regionally significant and therefore important inter-district routes, hence, the proposed project is consistent with the goals and objectives identified in the July 2006 District System Management Plan (DSMP).

d. Project status

i. Stage of development

Project Approval and Environmental Document were completed on March 27, 2009 with a Negative Declaration/Finding of No Significant Impact. The project is currently in the early design phase. The project team is assembling as-built maps, investigating project

utilities, and reviewing environmental constraints in order to prepare the Request for Proposal.

ii. Current schedule

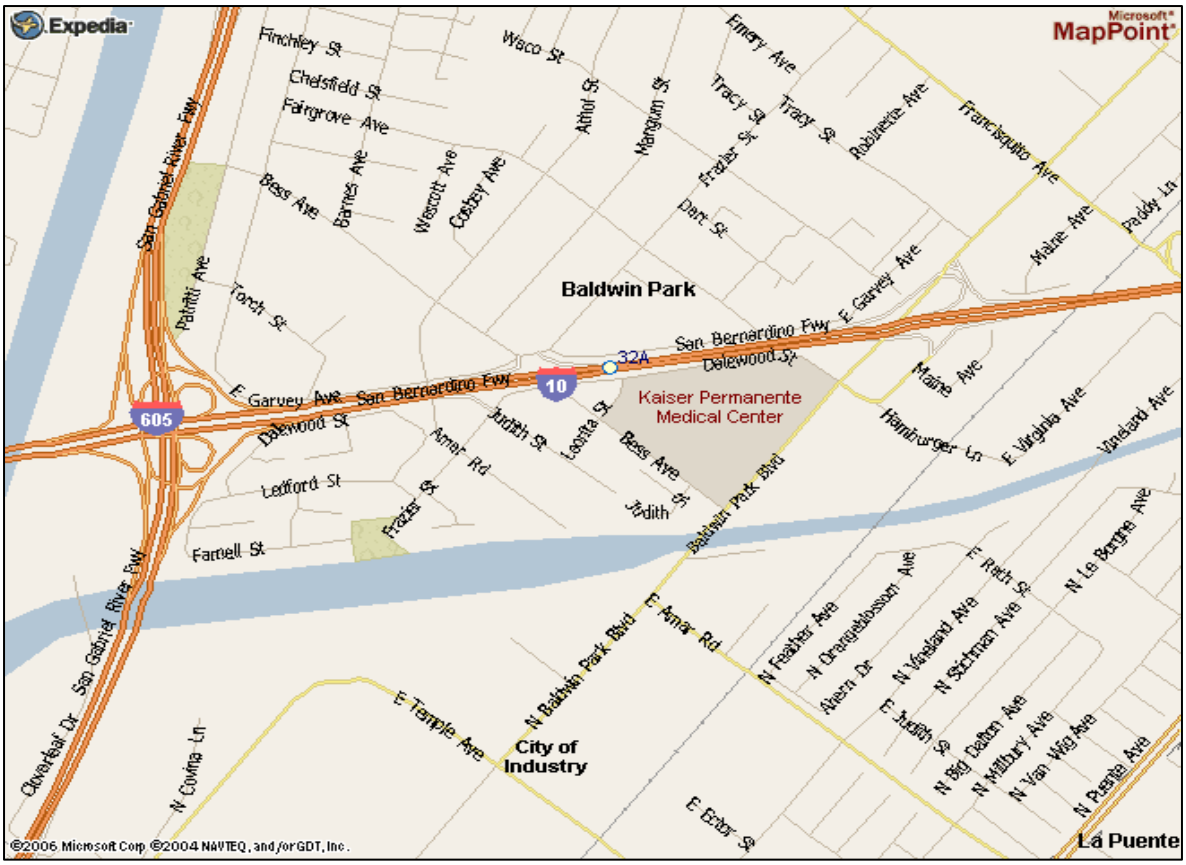
Based on the current 2008 SHOPP and the proposed draft 2010 SHOPP, the schedule is as follows:

Project Approval and Environmental Document	3/27/09	(Actual)
Ready to List	6/21/11	(Programmed FY 10/11)
Advertise	12/13/11	
Award Contract	4/10/12	
Construction Contract Acceptance	2/12/16	

e. Project Cost Estimate

Construction Capital	$55,500,000
Right of Way Capital	$10,500,000
Total Capital	$66,000,000

f. Vicinity Map



Justification for Design-Build Authorization

a. Summary of Analysis and Steps taken to Date

The Department made a call for projects in April of 2009 in anticipation of the California Transportation Commission's (CTC) approval of the Design-Build Program Guidelines. Initial screening criteria were for projects that were fully funded, that had achieved environmental clearance, and with minimal right of way involvement. The nominated projects were then presented to the Department's Design-Build Steering Committee for approval. The projects were compared to the draft CTC guidelines to ensure that they met the proposed criteria and the Steering Committee approved the initial four projects at its August 2009 meeting.

The Department's approach to the Design-Build Demonstration Program is to begin with smaller and simpler projects to test the methodology before attempting larger and more complex projects. The Department intends to utilize the lessons learned on these first projects to ensure success on the next set of projects.

To prepare for the use of design-build, the Department has been developing templates for the Request for Qualification (RFQ) and Request for Proposal (RFP) documents. The templates were posted for industry review between December 2, 2009 and January 8, 2010. The Department expects to achieve consistency in contract documents by developing these templates.

The Project Team is currently using the templates to develop the project RFP. Upon CTC authorization, the Project Team will be prepared to release the RFQ and RFP documents per the proposed implementation schedule contained in this Authorization Request.

b. Procurement Type Requested (Best Value or Low Bid)

The Department is requesting authorization to utilize Best Value procurement for this project. The project scope contains a level of complexity and it is anticipated that the State will obtain value through competition of other factors than just price. This project will allow for flexibility in final design and the Department expects to achieve value in transferring utility coordination, maintenance of traffic, environmental coordination and associated risks. Best Value procurement will allow the Department to compare the approach to these areas by competing design-builders and select the entity that best meets the Department's goals.

At this time, the Department is considering using the following as selection criteria:

- Design-Build Team Qualifications
- Project Cost
- Project Schedule
- Design Alternatives
- Project Management Approach
- Project Quality Approach
- Maintenance of Traffic
- Public Communication

The relative weights for each of these criteria will be developed and clearly documented in the Request for Proposal submitted to the shortlisted design-build entities.

c. Implementation Schedule

The following is the proposed schedule for delivery of this project utilizing design-build:

PA&ED	3/27/09
Request for Qualifications	9/2010
Request for Proposals	12/2010
R/W Certification	12/2010
Award Contract	3/2011
Construction Contract Acceptance	3/2015

d. Expected Design-Build Benefits

Thirty-two states have design-build authority and have used design-build to deliver a large number of projects. There have also been a number of studies that have documented the benefits of design-build over the design-bid-build method of contracting. Based on the results achieved by other state departments of transportation that have utilized the design-build and the available research, the Department anticipates achieving the following benefits by using design-build on this project:

i. Schedule Acceleration - Under design-build, portions of the design and construction phases are overlapped leading to significant time savings. Improved coordination between the designer and the builder lead to better constructability and improved efficiency. The design-builder is also able to order critical materials earlier and schedule subcontractors more effectively. Finally, the designer is able to design the project to take advantage of the contractor's strengths (equipment, materials on hand, and expertise). Each of these benefits can lead to significant time savings. It is anticipated that design-build will enable this project to be completed about 12 months earlier than by design-bid-build.

ii. Innovation –The innovation in the design-build process is the early involvement of the contractor that enables engineering considerations to be incorporated into the design phase and enhances the constructability of the engineered project plans. Interjecting contractor knowledge early into design can foster creative engineering and construction solutions as well as possible innovation available in the staging of construction and maintenance of traffic. Design-build projects have the ability to lessen the impact on the traveling public by shortening overall construction schedule while allowing the contactor maximum flexibility.

iii. Risk Transfer - The design build process allows for transfer of risks including cost escalation and schedule delays. The design-build contract is for a firm fixed price and a schedule guarantee for the work. The contractor is responsible for completing the scope of the work in accordance with the schedule. This would include responsibility for the schedule

performance of subcontractors after the initial award. The contractor is responsible for any increase in the quantities of commodities, labor, and any other units that evolve as design is advanced.

iv. Cost Certainty - Because design-build projects are awarded on a fixed price basis, with limited opportunities for cost growth, the Department will have greater certainty regarding the total project cost at a fairly early stage of the process. Under the design-build delivery methodology, the contractor provides the Department with a fixed price for the construction before detailed design is complete and then is responsible for working with the designer to make sure that price remains fixed.

e. Proposed Project Funding Plan

This project is a proposed candidate for inclusion in the 201.310 Mobility Program of the 2010 State Highway Operation and Protection Plan (SHOPP) for the 2010/2011 fiscal year.

Construction Capital	$55,500,000
Right of Way Capital	$10,500,000
Total Capital	$66,000,000
PA&ED	$1,430,000
PS&E	$5,060,000
Right of Way Support	$1,210,000
Construction Support	$5,060,000
Total Support	$12,760,000
Total Project Cost	$78,760,000

d. Project Considerations

i. Project Eligibility

This project has been programmed for funding in the 2008 SHOPP and is therefore eligible for the Design-Build Demonstration Program pursuant to authorization by the California Transportation Commission.

ii. State or local project

This is a State Project on the State Highway System and will fill one the ten slots allocated to the Department by statute.

iii. Selection Method (low bid / best value)

Department is requesting authorization to utilize best value method.

iv. Geographic Location (north/south)

This project is in Los Angeles County and will be a “South” project as defined by the CTC Guidelines.

v. Project Size

With a total cost estimate of over $78 million, this project falls in the category of projects between $20 and $200 million.

Conclusion/Summary

The Department desires to utilize the design-build method of contracting for this project to achieve several important benefits includes schedule acceleration, risk transfer, and cost certainty. The project meets the eligibility requirements as outlined in the CTC’s design-build guidelines approved in September 2009. It is requested that the CTC authorize the use of design-build method of procurement for this project with a Best Value award.

Attachment
Project Delivery Selection Questionnaire

DESIGN-BUILD
PROJECT SELECTION TOOL

The following is a tool that the Department of Transportation (Department) is developing to assist in determining the appropriate delivery method for projects. The Department is testing this tool on projects on the State Highway System that have been nominated for the Design-Build Demonstration Program authorized by Senate Bill (X2) 4. Please provide a response to each question below.

EVALUATION OF PROJECT SCOPE AND CHARACTERISTICS		
QUESTION No.	**QUESTION**	**Rating (A, B or C)**
1a)	**Where is the project in the project development process?** **A**. Detailed or final engineering stage **B**. Preliminary design **C**. Conceptual engineering stage	**B**
1b)	**What is the size/complexity of the project?** **A**. Relatively simple, smaller project with no need for specialized outside expertise **B**. Medium size project with more technically complex components and schedule complexity **C**. Large, complex project with significant schedule complexity (e.g. multiple phases, extensive third-party issues, specialized expertise needed)	**B**
1c)	**Does the project involve significant impacts to highway users and local businesses/community during construction?** **A**. No more than typical **B**. More than typical **C**. Much more than typical	**B**
1d)	**Does the project present right-of-way limitations that would benefit from a contractor's assistance?** **A**. No more than typical **B**. More than typical **C**. Much more than typical	**B**
1e)	**Does the project present environmental permitting issues that would benefit from a contractor's assistance?** **A**. No more than typical **B**. More than typical **C**. Much more than typical	**A**
1f)	**Does the project present utility or third-party issues that would benefit from a contractor's assistance?** **A**. No more than typical **B**. More than typical **C**. Much more than typical	**A**
1g)	**Does the project present unique work restrictions or traffic maintenance requirements that would benefit from a contractor's assistance?** **A**. No more than typical **B**. More than typical **C**. Much more than typical	**B**
1h)	**Would the project benefit by packaging features of work to allow early lock-in of construction materials/labor pricing?** **A**. No more than typical **B**. More than typical **C**. Much more than typical	**A**
1i)	**Would the project benefit by raising quality standards/benchmarks to minimize maintenance and achieve lower life-cycle cost?** **A**. No more than typical **B**. More than typical **C**. Much more than typical	**A**

EVALUATION OF SUCCESS CRITERIA		
QUESTION No.	**QUESTION**	**Rating (A, B or C)**
2a) Schedule Issues		
1	**Can time savings be realized through concurrent design and construction activities (fast-tracking)?** **A**. No more than typical **B**. More than typical **C**. Much more than typical	**B**
2	**Can the schedule be compressed?** **A**. No more than typical **B**. More than typical **C**. Much more than typical	**B**
2b) Opportunity for Innovation		
1	**Will the project scope allow for innovation (e.g., alternate designs, traffic management, construction means and methods, etc.)?** **A**. No more than typical **B**. More than typical **C**. Much more than typical	**B**
2	**Must the project scope be primarily defined in terms of prescriptive specifications (i.e., predetermined materials and methods), or can performance specifications (expressing desired end results) be used, or a combination of both?** **A**. Primarily prescriptive specifications **B**. Combination of prescriptive and performance specifications **C**. Performance specifications for significant elements	**B**
2c) Quality Enhancement		
1	**Will there be opportunities for contractors to provide materials or methods that provide greater value than normally specified by the state on similar projects?** **A**. No more than typical **B**. More than typical **C**. Much more than typical	**A**
2	**Will there be the opportunity for realization of greater value due to designs tailored to contractor's area of expertise?** **A**. No more than typical **B**. More than typical **C**. Much more than typical	**B**
3	**Will warranties or maintenance agreements be used?** **A**. No **B**. Limited to short-term workmanship and materials **C**. Much more than typical	**A**

EVALUATION OF SUCCESS CRITERIA (Continued)		
QUESTION No.	**QUESTION**	**Rating (A, B or C)**
2d) Cost Issues		
1	**Will there be opportunities for contractors to provide designs with lower initial construction costs than those typically specified by the state?** **A**. No more than typical **B**. More than typical **C**. Much more than typical	**A**
2	**Will there be opportunities for contractors to provide alternate design concepts with lower lifecycle costs than those typically specified by the state?** **A**. No more than typical **B**. More than typical **C**. Much more than typical	**A**
3	**Is funding for the project committed and available?** **A**. Secured for design phase only or cannot support accelerated construction **B**. Funding can accommodate fast-tracking to some extent **C**. Funding will accommodate compressed schedule/fast-tracking	**C**
4	**Will the cost of procurement affect the number of bidders?** **A.** Procurement cost would significantly limit competition **B.** Procurement cost could affect the number of bidders **C**. Procurement cost would not be a significant issue given the size or complexity of the project	**B**
5	**Will project budget control benefit from the use of formal contingencies?** **A**. No benefit **B**. A formal contingency may permit the Transportation Entity to add project scope or enhance quality within the constraints of its published budget **C**. A formal contingency is required to allow the Transportation Entity to maximize project scope and quality within the constraints of its published budget	**C**
2e) Staffing Issues		
1	**Does the Transportation Entity have the expertise and resources necessary for a complicated procurement process?** **A**. Inadequate resources or expertise **B**. Limited resources or expertise **C**. Adequate resources and expertise	**B**
2	**Are resources available to complete the design?** **A**. Resources are available to complete design **B**. Resources are available for partial design **C**. Specialized expertise, not available in-house, is required	**A**
3	**Are resources available to provide construction oversight?** **A**. Resources are available **B**. Full-time construction oversight could strain staff resources **C**. Resources are unavailable	**A**

Please provide name and telephone number of person most familiar with the responses to this questionnaire for potential follow-up questions: Ray Tritt (916)653-3348