FORM GEN. 160 (Rev. 11-02)

CITY OF LOS ANGELES
INTERDEPARTMENTAL CORRESPONDENCE

Date September 14, 2015

To: Seismic Governance Committee
Miguel A. Santana, City Administrative Officer
Sharon Tso, Chief Legislative Analyst
Ted Bardacke, Office of the Mayor

From: Julie Allen, P.E., Program Manager
Sixth Street Viaduct Replacement Project
Bureau of Engineering

Subject: Sixth Street Viaduct Replacement Project (Project) Funding Recommendations

RECOMMENDATIONS

1) That the Seismic Governance Committee (SGC) recommend to City Council that the Bureau of Engineering (BOE), with cooperation and assistance of the City Administrative Officer (CAO) and the Chief Legislative Analyst (CLA), identify additional funding in the amount of $11.17M. This includes $3.45M to fund construction financing costs and additional resources required to complete the Project as identified in Table 3, and $7.72M to restore funding for key project elements identified in Table 4, Items 1 through 6. City Council action is requested by October 15, 2015.

2) That the SGC consider recommending to City Council that BOE, with cooperation and assistance of the CAO and CLA, identify additional funding in the amount of $12.40M to restore additional project elements that would need be implemented immediately to minimize project delays, as identified in Table 4, Items 7 through 17. City Council action is requested by October 15, 2015.

3) That the Mayor and City Council should consider approval of funding in the amount of $17.65M in Fiscal Year 16/17 to incorporate additional Project elements as identified in Table 5.

4) That the SGC recommend to City Council that the Bureau of Street Services include the portions of Clarence Street, Anderson Street, and Mission Road under the Sixth Street Viaduct in the annual street resurfacing program at the completion of the Project, in Fiscal Year 18/19.

Project Budget

As per the current Financial Plan, approved by the California Department of Transportation (Caltrans) on July 7, 2015, the Project budget is $422,664,800, which includes $3,400,000 of City funding for intersection improvements. Additional scope elements associated with the Project have received funding in the amount of $6,252,000, which results in a total Project budget of $428,916,800. The construction budget is $260,256,493, which includes $6M in funding that was recently transferred from the Right-of-Way budget to the construction budget for railroad impact costs. This amount is distributed as per **Table 1** below. Based on the current allocation, the funding available for the remaining construction packages is $217,232,733.

Table 1 – Construction Budget

Total Construction Budget	**$260,256,493**
Allocated Budget Items	
Intersections (excluding City funded portion)	$5,171,100
Railroad Flagging	$2,400,000
Construction Engineering	$23,497,604
Construction Contingency	$8,000,000
Construction Financing Cost	$3,955,056
Remaining Available Funding for Construction	**$217,232,733**

Status of HBP Eligibility Review

As of August 21, 2014, it was estimated that approximately $50M in scope elements were at risk for Highway Bridge Program (HBP) eligibility. Through several meetings with Caltrans and Federal Highway Administration (FHWA) staff, BOE was able to secure eligibility for approximately $18M of the Project elements that were previously at risk for eligibility. In addition, several of the potentially ineligible elements were removed from the Project, including the new river gateway, terracing in the river, and improved river lining. Upon completion of the interim eligibility review, BOE submitted a report to the SGC on September 25, 2014, describing the current status of the HBP funding eligibility review process for the Project. The report included tables categorizing the items that had been determined to be HBP eligible, items to be funded by the City, items determined to be not HBP eligible, and items that were still risk for HBP eligibility.

On August 13, 2015, another meeting was conducted with FHWA and Caltrans staff to discuss eligibility. It was confirmed that a portion of the barrier lighting would not be fully HBP eligible. Instead, they would fund the equivalent cost of historic replica pole lighting. A similar eligible cost would be applied to specialized lighting that is used in the ramps and stairs. The cost of spare conduit within the Los Angeles Department of Water and Power (LADWP) "Line 3" relocation was also discussed, and it was agreed in concept that the cost of the directional drilling portion of the work would be split in proportion of the eligible conduit compared to the ineligible conduit. LADWP has

agreed to provide approximately $2M in funding for the spare conduit, and is coordinating with BOE to determine the appropriate process for transferring the funds. Finally, FHWA and Caltrans affirmed that the remaining scope in the 90% Viaduct design package appeared to be fully eligible for HBP funding, including the $5M landscaping design concept.

Current Project Estimates

The Project is currently at the 90% design milestone. In accordance with the Construction Manager/General Contractor (CMGC) contract that was executed between the City of Los Angeles and Skanska/Stacy & Witbeck (SSW), cost estimates are prepared by the Program Manager (CH2MHill), the Design Consultant (HNTB) and SSW at each design milestone, and the estimates are compared and reconciled. The estimate review process for the 90% design milestone was completed on July 30, 2015. On August 3, 2015, SSW reviewed and analyzed subcontractor quotes that were received, and modified the subcontractor estimates that were included in each of the three independent estimates. In addition, cost estimates have been prepared for the 100% viaduct demolition package, the 100% test pile package, and the 90% foundation package. The summary of these estimates is provided below in **Table 2**.

Table 2a – Current Estimate HNTB

Item	Cost
Demolition	$22,698,656
Foundations	$25,891,072
Viaduct	$176,893,376
Test Pile	$1,300,000
Projected subcontractor increases	$9,900,000
Total	**$236,683,104**
Remaining available funding	$217,232,733
Amount over available funding	**$19,540,371**

Table 2b – Current Estimate CH2MHill

Item	Cost
Demolition	$23,260,738
Foundations	$26,572,112
Viaduct	$179,242,413
Test Pile	$1,249,915
Projected subcontractor increases	$9,900,000
Total	**$240,225,178**
Remaining available funding	$217,232,733
Amount over available funding	**$22,992,445**

Table 2c – Current Estimate SSW

Item	Cost
Demolition	$23,868,000
Foundations	$25,023,000
Viaduct	$186,833,000
Test Pile	$1,300,000
Projected subcontractor increases	$9,900,000
Total	**$246,924,000**
Remaining available funding	$217,232,733
Amount over available funding	**$29,691,267**

At the 65% design milestone, all three estimates for the remaining construction packages were within the approved budget, so a detailed analysis has been performed to understand why the cost increased between the 65% and 90% design milestones. Based upon the analysis, it was determined that at the completion of the 65% design milestone, several design components were not fully detailed, including: Retaining walls within the Los Angeles River; abutment 13 foundation; west bike ramp configuration; barrier transitions; retaining walls for protection of LADWP high voltage ducts; and architectural concrete details at the Y-arm transition and arch rib floor beams. In addition, the designer had not yet performed the time dependent structural analysis models, which are based upon the detailed construction staging plan that was completed after the 65% design milestone. Lastly, several modifications were incorporated as a result of comments from the structural Independent Checker. As a result of the design modifications, approximately 4,000 cubic yards of concrete and 1,500 tons of steel were added to the bridge after the 65% design was completed.

Additional changes between the 65% and 90% milestones include: Inclusion of the realignment of Mesquit Avenue, which had previously been budgeted in the right-of-way phase; an increase in quality control costs based on Caltrans comments; an increase in material costs for the seismic joints in the abutments; an increase in falsework costs to construct two sections of the bridge simultaneously to reduce the construction duration; and an increase in subcontractor quotes for the rebar, fencing, and electrical work.

Cost Reduction Recommendations

Based on input from the designer, the design changes incorporated between 65% and 90% are essential and cannot be eliminated. As a result, BOE has determined that scope reductions and value engineering are required to ensure that the Project can be delivered within the available funding. Three cost reduction workshops have been conducted with the team members to identify potential cost saving measures, evaluate the potential cost, design delay, and feasibility of each option, and to obtain feedback on the preferences for each option. The summary of the cost saving measures evaluated in the workshops is provided as Attachment 1. The cost saving measures are categorized as either design modifications, HBP ineligible items, scope that should be included in the right-of-way budget phase, or savings that must be negotiated with the contractor or further evaluated.

As a result of the workshops and negotiations, BOE has developed a list of recommended cost saving measures to implement, which will allow the Project to be delivered within the available funding. Additional costs that are anticipated to increase between the 90% design and 100% design have also been identified and incorporated to ensure that sufficient funding is available to cover these costs. All of the recommended cost saving measures, totaling $31.77M, and projected cost increases, totaling $1.95M are shown as shaded rows in Attachment 1, for a total net recommended savings of $29.82M. These cost savings are sufficient to address the current balance between the SSW estimate and the available funding. It should be noted that the actual cost savings may differ from the estimated amounts once the redesign effort commences.

Funding Request

In addition to Project elements that have been determined to be ineligible for HBP funding, it has recently been identified that financing costs are not eligible to be funded by Prop 1B funds. Prop 1B is utilized as the local match for HBP funding in the construction phase. The financing costs, estimated at $0.45M, must be funded by the City. In addition, BOE is requesting funding to provide sufficient resources to complete the Project, including: Consultant support for additional regulatory compliance and City-requested scope modifications; preparation of grant applications to obtain design and construction funding for additional landscaping elements beneath the viaduct; and a 0.5% Project contingency for additional unforeseen Project costs. The items included in the request for additional funding, in the amount of $3.45M, are identified in **Table 3.** The table includes the fiscal year that the funding commitment is required. Actual expenditures would not occur until after the scope of work is implemented.

Table 3 – List of Items Required for City Funding

Item Description	Approximate Total Cost (in Millions)	Required Funding Commitment by Fiscal Year (in Millions)		
		15/16	16/17	17/18
Construction Phase Financing Costs due to Prop 1B ineligibility	$ 0.45			$ 0.45
Necessary consultant support and other project management services not included in HBP funding (ie. additional regulatory compliance, agency coordination, analysis of City-requested scope additions, etc.)	$ 0.90	$ 0.10	$ 0.40	$ 0.40
90% Design to 100% Design Unforeseen Impacts (0.5% of the Project cost)	$ 2.00	$ 1.00	$ 1.00	
Grant application preparation	$ 0.10	$ 0.10		
Total	**$ 3.45**	**$ 1.20**	**$ 1.40**	**$ 0.85**

As shown in Attachment 1, $31.77M has been identified as recommended cost saving measures. Three of these items (7e, 7f, and 23), totaling $2.8M, could be implemented

with minimal time and aesthetic impact to the Project. These items are identified in bold font in Attachment 1. In addition, the Clarence Street, Anderson Street, and Mission Road improvements under the Sixth Street Viaduct, estimated at $1.25M, could be included in the annual street resurfacing program at the completion of the Project, in Fiscal Year 18/19. The recommendation to include this scope in the annual street resurfacing program has been included as Recommendation No. 4 in this report. BOE also plans to incorporate the cost savings categorized as "Items that should be funded in the right-of-way phase", in the amount of $2.25M, subject to Caltrans approval. Lastly, BOE will be negotiating the cost of the Project with SSW, to ensure that we will obtain a Guaranteed Maximum Price (GMP) within the approved Project budget. Since these negotiations are pending, an assumed cost reduction of $7M has been included in this report, which is the approximate difference between the SSW estimate and the CH2MHill estimate. All remaining cost saving measures identified in Attachment 1 for implementation will require more significant redesign efforts or will provide a reduction in the amenities or overall aesthetic appearance of the new viaduct. However, the bridge will still meet all of the original functional requirements.

Table 4 below includes a prioritized list of Project elements that should be considered for City funding this fiscal year. Items 1 – 6, which provide a total cost savings of $7.72M, would be the most important elements to fund. Incorporation of these items back into the Project would provide for the greatest visual impacts and pedestrian connectivity, while reducing some of the more significant redesign delays that would be required to implement the cost saving measures. Therefore, it is recommended that the SGC recommend to City Council that BOE, with cooperation and assistance of the CAO and CLA, identify additional funding in the amount of $11.17M, which includes $3.45M for items identified in **Table 3**, and $7.72M to restore funding for Items 1 through 6 in **Table 4**. Action by City Council is requested by October 15, 2015 to allow sufficient time for the design team to complete the design of the Project with minimal delays

It is further recommended that the SGC consider recommending to City Council that BOE, with cooperation and assistance of the CAO and CLA, identify additional funding in the amount of $12.40M to incorporate the remainder of the key Project elements identified as Items 7 through 17 in **Table 4**. This funding to restore all of the Project elements would eliminate redesign delays and other potential cost and schedule impacts that may result from the redesign effort. Action by City Council is requested by October 15, 2015 to allow sufficient time for the design team to complete the design of the Project with minimal delays.

Table 4 – Prioritized List of Project Elements to Consider for City Funding This Year

	Project Element	Potential Design Schedule Impact	Other Impacts for Consideration	Potential Savings (in $M)
1	Architectural lighting for arches (conduit is HBP eligible)	< 1 month	Visual impact	$0.67
2	Set of stairs from deck to ground near Santa Fe	< 1 month	Loss of amenities and pedestrian access	$0.30
3	Replace barrier lighting with standard pole lighting	2 to 3 months	Visual impact	$1.75
4	Eliminate pedestrian/bike ramp connection to south side of viaduct	< 1 month	Loss of amenities and connectivity	$2.00
5	Eliminate architectural concrete from the arch floor beam	3 to 4 months	Redesign and visual impact	$2.00
6	Reduce landscaping scope by additional $1.0M (from $2.5M to $1.5M)	No Impact	Loss of amenities and visual impact	$1.00
	Subtotal (Items 1 through 6)			**$7.72**
7	Enhance existing river access tunnel (added - paint, paving, lighting)	2 to 3 months	Visual Impact and LA River connectivity	$3.15
8	Reduce landscaping scope by additional $1.5M (from $4M to $2.5M)	No Impact	Loss of amenities and visual impact	$1.50
9	Remove one set of stairs from the ground and over an arch	< 1 month	Redesign and visual impact	$1.50
10	Modify railing design on viaduct	2 to 3 months	Redesign and visual impact	$0.50
11	Reduce/eliminate cant on railings	2 to 3 months	Redesign and visual impact	$0.25
12	Modify railing, fencing, lighting on stairs	2 to 3 months	Redesign and visual impact	$0.75
13	Modify railing, fencing, lighting on pedestrian ramps	2 to 3 months	Redesign and visual impact	$3.00
14	Standardize 'Y' bents	2 to 3 months	Redesign impact	$0.50
15	Find alternative deck joint design at abutments	2 to 3 months	Redesign impact	$0.25
16	Standardize the lower column "B" dimension and tapers	2 to 3 months	Redesign impact	$0.25
17	Modify Retaining Walls within LA River to reduce cost	1 to 2 months	Redesign impact	$0.75
	Subtotal (Items 7 through 17)			**$12.40**
			Total Funding Requested (in $M)	**$20.12**

Table 5 represents items that would enhance the Project by providing amenities, cultural opportunities, and Los Angeles River revitalization components. Incorporation of these elements, with a total cost of $17.65M, would provide the residents of Los Angeles, visitors, and the filming community a greater opportunity to be engaged with the new iconic viaduct. With the exception of the arch salvage, the items listed below could be implemented in later phases of the Project. As such, funding would not be required this fiscal year. It is recommended that the Mayor and City Council should consider approval of funding in the amount of $17.65M in Fiscal Year 16/17 to incorporate the items listed below.

Table 5 – List of Elements to Consider for City Funding in Fiscal Year 16/17

	Project Element	Approximate Total Cost (in Millions)	Required Funding Commitment by Fiscal Year (in Millions)		
			15/16	16/17	17/18
1	Restore basic landscaping package to original $5M budget (from $4M to $5M)	$ 1.00			$ 1.00
2	Arts Plaza performance area & terracing	$ 2.50		$ 0.50	$ 2.00
3	Terracing on LA River west bank	$ 1.35		$ 0.25	$ 1.10
4	Implement remaining scope of Landscape Master Plan (in addition to Items 2 & 3)	$ 6.50		$ 0.90	$ 5.60
5	Paint concrete for graffiti abatement	$ 3.80			$ 3.80
6	Provide Class 1 surface finish for all concrete surfaces on the bridge	$ 0.25		$ 0.25	
7	Provide additional changeable message signs in lieu of static signs for traffic detours	$ 0.25		$ 0.25	
8	Public Art Component	$ 1.65		$ 0.50	$ 1.15
9	Salvage of one arch for historical preservation	$ 0.35	$ 0.35		
	Total	**$ 17.65**	**$ 0.35**	**$ 2.30**	**$15.00**

Additional Funding Opportunities

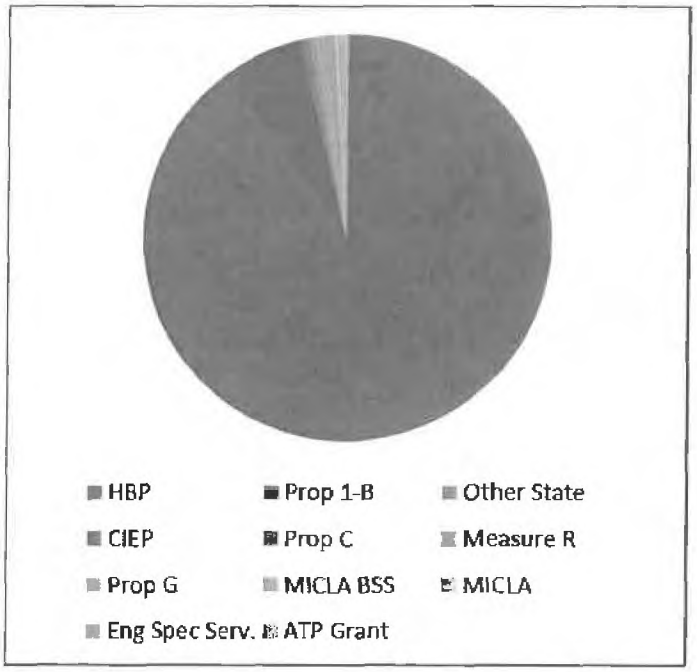
The Project team is continuing to seek additional funding sources outside of the City of Los Angeles (City) budget to supplement the Project funding. On January 30, 2015, we submitted applications for the Metro Call for Projects grants in both the Regional Surface Transportation Improvements category and the Pedestrian Improvements category. An application was also submitted on June 1, 2015 for a $5M Active Transportation Program grant for additional sidewalk and lighting improvements. Finally, a Proposition K grant application has been submitted for recreational and park improvements for the Project. Should additional grant funding be obtained, it would be expected to reduce the amount of City funding that is provided for the Project.

Current Funding Summary

Below is a funding summary for the Project. As shown in **Table 6** in grey, the local funding currently allocated for the Project is about 3% of the total Project cost.

Table 6
Funding Summary

HBP	$383,803,424	89.5%
Prop 1-B	$29,163,220	6.8%
Other State	$200,000	0.0%
CIEP	$822,608	0.2%
Prop C	$1,744,146	0.4%
Measure R	$2,000,000	0.5%
Prop G	$2,761,402	0.6%
MICLA BSS	$4,000,000	0.9%
MICLA	$870,000	0.2%
Eng Spec Serv.	$1,000,000	0.2%
ATP Grant	$2,552,000	0.6%
Total	**$428,916,800**	**100.0%**



Sixth Street Viaduct Cost Saving Measures

	Description of Change	Approximate Cost Savings	Potential Design Schedule Impact	Other Impacts for Consideration	Technical Feasibility	Potential Savings ($M)
					Design modifications	**$19.80**
1	Modify Retaining Walls within LA River to reduce cost	$0.5M to $1M	1 to 2 months	Evaluate stiffening Bent 5N column through a larger drilled shaft in lieu of retaining wall system. 1 to 2 month design impact. Construction schedule not critical.	May be feasible	$0.75
2	Eliminate Architectural Concrete from the arch floor beam	$2M to $3M	3 to 4 months	Removal of $2M in architectural concrete shall be as recommended by MMA/HNTB	Very feasible	$2.00
3	Eliminate Architectural Concrete from the arches	$1.5M to $2M	3 to 4 months		Very feasible	
4	Eliminate Architectural Concrete from the columns Y bents	$0.5M to $1M	3 to 4 months		Very feasible	
5	Modify column shapes at the west and east ramps	$0 to $0.5M	3 to 4 months		Very feasible	
6	Evaluation of design for efficiency (rebar, concrete, cables, foundations)	$0 to $0.5M	> 6 months	Third party review of structural system. Due to design criteria and bridge form constraints, there is limited opportunity to reduce structural cost. $500K to perform review.	May be feasible	
7	Modify Hanger Connections in the arches (pin material / rotating socket fitting)			See details below in a-f		
7a	Go to embeded bolt connection instead of removable bolt system	$0 to $0.5M	1 to 2 months	Embedded bolts likely will not have a service life of 75 years. Future increased maintenance cost	Low feasibility	
7b	Modify stainless steel hanger pin to a galvanized steel pin	$0 to $0.5M	< 1 month	Galvanized steel not as durable, but may provide adequate service life.	May be feasible	
7c	Modify all hanger brakets to standardize all "out of plane angle" pin plan.	Additional cost	< 1 month	Assumption is that adjustments would be by SSW.	May be feasible	
7d	Evaluate the feasibility of using vertical network instead of crossed network cables to reduce cable lengths	$0.5M to $1M	> 6 months	Current design is the most structurally efficient.	Low feasibility	
7e	Remove second rotating socket allowing out-of-plane rotation	$1.5M to $2M	< 1 month	Should be implemented	Very feasible	$1.75
7f	Reduce the number of cross clips at double crossings	$0 to $0.5M	< 1 month	Should be implemented	May be feasible	$0.25
8	Modify railing design on viaduct	$0.5M to $1M	2 to 3 months	A $0.5M reduction is required. Fencing shall not be chain link.	Very feasible	$0.50
9	Reduce/eliminate cant on railings	$0 to $0.5M	2 to 3 months	Cost to be verified	Very feasible	$0.25
10a	Modify railing, fencing, lighting on pedestrian ramps	$3M to $4M	2 to 3 months	Fencing shall not be chain link. Lighting and fencing shall be within 65% design budget.	Very feasible	$3.00
10b	Eliminate only bike/ped ramp connection to the south side of the viaduct	$2M to $3M	< 1 month	Consider if controlled pedestrian access can be provided across the viaduct. LADOT is reviewing.	Very feasible	$2.00
10c	Eliminate helical ramp	$4M to $5M	No impact	Loss of bicycle access to area under the viaduct	Very feasible	
11a	Modify railing, fencing, lighting on stairs	$0.5M to $1M	2 to 3 months	Fencing shall not be chain link. Lighting and fencing shall be within 65% design budget.	Very feasible	$0.75
11b	Remove one set of stairs over an arch	$1M to $1.5M	< 1 month		Very feasible	$1.50
11c	Remove second set of stairs over an arch	$1M to $1.5M	< 1 month		Very feasible	
11d	Remove one stair to the ground east of the LA River	$0 to $0.5M	< 1 month	SSW to verify cost	Very feasible	

Sixth Street Viaduct Cost Saving Measures

	Description of Change	Approximate Cost Savings	Potential Design Schedule Impact	Other Impacts for Consideration	Technical Feasibility	Potential Savings ($M)
11a	Remove second set of stairs to the ground	$0 to $0.5M	< 1 month	SSW to verify cost	Very feasible	
12	Find alternative deck joint design at abutments	$0 to $0.5M	2 to 3 months	Caltrans had a recent failure on a similar modular joint and has a preference for the deck plate shown. 3rd option to be evaluated.	Very feasible	$0.25
13	Standardize "Y" bents	$0.5M to $1M	2 to 3 months	Reduce form types from 8 to 6.	May be feasible	$0.50
14	Eliminate "future" lighting system in barrier	$0 to $0.5M	2 to 3 months	BSL is requiring the foundations as a condition of maintaining the barrier lighting.	May be feasible	
15	Add scuppers to barrier rail to reduce deck drainage	$0 to $0.5M	2 to 3 months	Use of a scupper will require a larger inlet at the remaining catch basin. Likely little cost savings.	Low feasibility	
16	Remove Street Improvements on Clarence, Anderson, Mission and Santa Fe	$1M to $1.5M	< 1 month	City would need to allocate annual street resurfacing funding for this work.	Very feasible	$1.25
17	Reduce Landscaping Scope	$3M to $4M	No Impact	Some funding is needed for earthwork around tunnel	Very feasible	$3.50
18	Reduce bridge deck width by 2' (reduce median)	$0.5M to $1M	> 6 months	More than a year design impact	May be feasible	
19	Reduce the number of storm water Best Management Practices	$0 to $0.5M	1 to 2 months	EfR requires all stormwater to be captured and treated. Would need alternate.	Low feasibility	
20	Eliminate river tunnel modifications	$0.5M to $1M	1 to 2 months		Very feasible	
21	Replace the west arch frame and the arch frame over the 101 Freeway with a box girder design (removal of 4 total arches)		> 6 months	More than a year design impact. Unknown cost savings. Range from additional cost to $2M savings depending on design details.	May be feasible	
22	Evaluate construction sequence change. Determine most cost effective schedule duration.	Additional cost	> 6 months	8 to 10 month increase in duration to use original sequencing.	May be feasible	
23	Evaluate Quality control efficiencies and scope coverage	$0.5M to $1M	No Impact	Should be implemented, if feasible	May be feasible	$0.80
24	Reduce/eliminate cant on arches	$1.5M to $2M	> 6 months	Reduction in falsework	May be feasible	
25	Evaluate the impacts of reducing sidewalk width on west approach to eliminate moment slab	$0 to $0.5M	2 to 3 months		Infeasible	
26	Standardize the lower column "B" dimension and tapers to increase formwork efficiency	$0 to $0.5M	2 to 3 months	Can be evaluated	May be feasible	$0.25
27	Evaluate concrete shrinkage parameters	$1M to $1.5M	1 to 2 months	May require larger expansion joint movement rating and have unforseen impacts on bearings	Low feasibility	
28	Eliminate Class 1 surface finish	$0 to $0.5M	No Impact	Knock off fins and fill holes, but eliminate grinding and sacking.	May be feasible	$0.25
29	Changeable Message Signs	$0 to $0.5M	No Impact	Change some of the signs to static signs during the detour.	May be feasible	$0.25
30	Revise recycling requirements	$0 to $0.5M	No Impact	Limited cost benefit	Low feasibility	
					Items that are not eligible for HBP funding	**$2.72**
31	Remove stair to the ground on the west side of the LA River	$0 to $0.5M	< 1 month	West side stairs are HBP ineligible. City would be required to provide funding.	Very feasible	$0.30
32	Eliminate Type 80 and LED lighting and install Type 736 with Pole Mounted Lighting	$1.5M to $2M	2 to 3 months	Additional cost is likely not HBP eligible. City would be required to fund the difference	Very feasible	$1.75
33	Lighting of the Arches	$0.5M to $1M	No Impact	This scope is not HBP-eligible. City would be required to provide funding.	Very feasible	$0.67

Sixth Street Viaduct Cost Saving Measures

	Description of Change	Approximate Cost Savings	Potential Design Schedule Impact	Other Impacts for Consideration	Technical Feasibility	Potential Savings ($M)
				Items that should be funded in the Right-of-Way phase		**$2.25**
34	Storm Drain 12L relocation should not be part of the viaduct package.	$0.5M to $1M	No Impact	A Specific Authorization will be prepared to complete this relocation as a utility relocation under the ROW Phase. Requires Caltrans approval	May be feasible	$0.75
35	Mesquit Ave realignment is a required mitigation related to property acquisitions and should be part of ROW phase	$0.5M to $1M	No Impact	Construct Mesquit Ave realignment from ROW phase.	Very feasible	$1.50
				Items to be negotiated or evaluated		**$7.00**
36	Evaluate Indirect Costs	$2M to $3M	No Impact	Negotiations in progress	May be feasible	$3.00
37	Negotiate Cost Reduction with SSW	$3M to $4M	No Impact	Negotiations in progress	May be feasible	$4.00
38	If the lowest DBE subcontractor is at least 5% higher than the lowest bid, select non-DBE sub.	$2M to $3M	No Impact	Contractor would be required to comply with Good Faith Effort outreach. This decision would need to be justified.	Low feasibility	
39	Utilize savings from the Right-of-Way budget	$1.5M to $2M	No Impact	Would require Caltrans/FHWA approval	Low feasibility	
				Total Recommended Cost Reduction Measures (in Millions)		**$31.77**
				Additional project costs that are not included in the current estimate		**-$1.95**
40	Public Art	Additional cost	No Impact	Public Art is not included in the contractor's estimate and is likely not HBP eligible. The City would be required to provide funding.	Very feasible	
41	Bat Habitat mitigation, other potential environmental permit mitigations, and additional costs to work in the LA River during the wet season.	Additional cost		Costs are estimated. Final cost will be based on the Bat Habitat Mitigation Plan and the 401 Certification and USACE 404 and 408 Permits.		-$0.50
42	Contingency for Cost Reduction Measures that are determined to be infeasible or cannot achieve estimated reduction.	Additional cost		Assume 5% of the proposed cost savings cannot be achieved		-$1.45
				Total Recommended Modifications (in Millions)		**$29.82**