

SANBAG Contract No. C09-020

by and between

San Bernardino County Transportation Authority

and

California Transportation Commission

for

Glen Helen Pkwy Grade Separation Project

FOR ACCOUNTING PURPOSES ONLY

<input type="checkbox"/> Payable	Vendor Contract # _____	Retention:	<input checked="" type="checkbox"/> Original
<input type="checkbox"/> Receivable	Vendor ID <u>CTC</u>	<input type="checkbox"/> Yes ____ % <input checked="" type="checkbox"/> No	<input type="checkbox"/> Amendment

Notes:

Original Contract: \$ <u>0</u>	Previous Amendments Total: \$ _____
Contingency Amount: \$ _____	Previous Amendments Contingency Total: \$ _____
	Current Amendment: \$ _____
	Current Amendment Contingency: \$ _____

Contingency Amount requires specific authorization by Task Manager prior to release.

Contract TOTAL → \$ 0

↓ Please include funding allocation for the original contract or the amendment.

Task	Cost Code	Funding Sources	Grant ID	Amounts
<u>NA</u>	<u>N/A</u>	<u>TCIF</u>	_____	\$ _____
_____	_____	_____	_____	\$ _____
_____	_____	_____	_____	\$ _____
_____	_____	_____	_____	\$ _____

Original Board Approved Contract Date: <u>9/3/08</u>	Contract Start: <u>9/2/08</u>	Contract End: <u>N/A</u>
New Amend. Approval (Board) Date: _____	Amend. Start: _____	Amend. End: _____

If this is a multi-year contract/amendment, please allocate budget authority among approved budget authority and future fiscal year(s)-unbudgeted obligations:

Approved Budget Authority →	Fiscal Year: _____ \$ _____	Future Fiscal Year(s) – Unbudgeted Obligation →	\$ _____
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Is this consistent with the adopted budget? Yes No
 If yes, which Task includes budget authority? _____
 If no, has the budget amendment been submitted? Yes No

CONTRACT MANAGEMENT

Please mark an "X" next to all that apply:

Intergovernmental Private Non-Local Local Partly Local

Disadvantaged Business Enterprise: No Yes ____%

Task Manager: Ty Schulling	Contract Manager: Phillip Chu
-----------------------------------	--------------------------------------

Task Manager Signature	Date	Contract Manager Signature	Date
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Chief Financial Officer Signature	Date
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SANBAG Agreement No. C09020
TRADE CORRIDORS IMPROVEMENT FUND
PROJECT BASELINE AGREEMENT

1. PARTIES AND DATE

- 1.1 This Project Baseline Agreement (Agreement) for the Glen Helen Pkwy Grade Separation, effective on September 1, 2008, is made by and between the California Transportation Commission (Commission), the California Department of Transportation (Caltrans), and the San Bernardino Associated Governments (SANBAG), and the County of San Bernardino (Project Sponsors), sometimes collectively referred to as the "Parties".

2. RECITAL

- 2.1 Whereas at its April 10, 2008 Meeting the California Transportation Commission programmed the Trade Corridors Improvement Fund and included in this program of projects the Glen Helen Pkwy Grade Separation, the parties are entering into this Project Baseline Agreement to document the project cost, schedule, scope and benefits, as detailed on the Project Programming Request Form attached hereto as Exhibit A, the Draft Project Study Report or Equivalent attached hereto as Exhibit B, and the Project Benefits Form attached hereto as Exhibit C, as the baseline for project monitoring by the California Transportation Commission and its Project Delivery Council. The undersigned Project Sponsor certifies that the funding sources cited are committed and expected to be available; the estimated costs represent full project funding; and the scope and description of benefits is the best estimate possible.

3. GENERAL PROVISIONS

The Project Sponsor and Caltrans agree to abide by the following provisions:

- 3.1 To meet the requirements of Government Code Section 8879.23(c)(1), as added by Proposition 1B, and of Government Code Section 8879.50, as enacted through implementing legislation in 2007 (Senate Bill 88 and Assembly Bill 193).
- 3.2 To adhere to the provisions of the California Transportation Commission Resolution TCIP-P-0708-01, "Adoption of Program of Projects for the Trade Corridors Improvement Fund (TCIF)," dated April 10, 2008.
- 3.3 To adhere to the California Transportation Commission's Trade Corridors Improvement Fund Guidelines.
- 3.4 To adhere to the California Transportation Commission's Accountability Implementation Plan and Policies, and program and baseline amendment processes.
- 3.5 The Sponsoring Agency agrees to secure funds for any additional costs of the project. Any change to the funding commitments outline in this agreement requires an amendment.

- 3.6 To report to the California Transportation Commission on a quarterly basis on the progress made toward the implementation of the project, including scope, cost and schedule.
- 3.7 To report to the California Transportation Commission on the progress, on a quarterly basis, and outcomes, at the end of the environmental phase, of the environmental process with regard to air quality impacts due to emissions from diesel or other particulates and related mitigation strategies. Whereas the Bond Act mandates that the Commission shall allocate TCIF for trade infrastructure improvements in a manner that places emphasis on projects that improve trade corridor mobility while reducing emissions of diesel particulate and other pollutant emissions, the Department of Transportation, the Sponsoring Agency, and the Corridor Coalition understand and agree that the California Transportation Commission will only allocate TCIF to projects that can demonstrate compliance with applicable environmental requirements. If environmental clearance is conditioned to the implementation of mitigation measures, the sponsoring agency must commit, in writing, to the implementation of those mitigation measures.
- 3.8 To maintain and make available to the California Transportation Commission and/or its designated representative, all work related documents, including engineering and financial data, during the course of the project and retain those records for four years from the date of the final closeout of the project. Financial records will be maintained in accordance with Generally Accepted Accounting Principles.
- 3.9 The California Transportation Commission and/or its designated representative, has the right to audit the project records, including technical and financial data, of the Department of Transportation, the Sponsoring Agency, and any subconsultants at any time during the course of the project and for four years from the date of the final closeout of the project. Audits will be conducted in accordance with Generally Accepted Government Auditing Standards.

4. SPECIFIC PROVISIONS AND CONDITIONS

4.1 Project Schedule and Cost

See Project Programming Request Form, attached as Exhibit A.

4.2 Project Scope

See Project Study Report/Project Study Report Equivalent, attached as Exhibit B.

4.3 Project Scope

See Project Benefits Form, Attached as Exhibit C.

4.4 Other Project Specific Provisions and Conditions

Deborah Barmack

**Deborah Barmack
Executive Director
San Bernardino Associated Governments**

8/13/08
DATE

Paul Biane

**Paul Biane
Chairman
County of San Bernardino**

SEP 09 2008
DATE

Will Kempton

**Will Kempton
Director
California Department of Transportation**

10/21/08
DATE

John F. Barna, Jr.

**John F. Barna, Jr.
Executive Director
California Transportation Commission**

21 Nov 2008
DATE

Jean Rene Basle

**Approved as to Form by:
Jean-Rene Basle
SANBAG County Counsel**

8/13/08
DATE

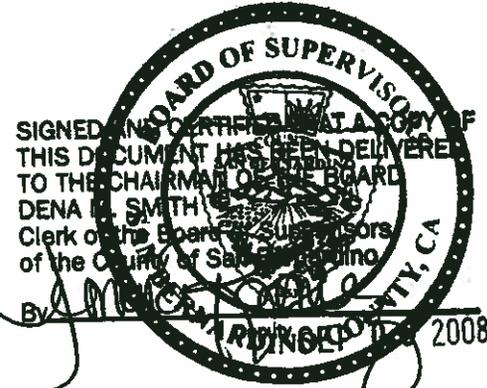


Exhibit A

2008 Project Programming Request
(Project Information)



General Instructions

<input checked="" type="checkbox"/> New Project		<input type="checkbox"/> Amendment (Existing Project)		Date: 03/10/08	
CDOT DISTRICT	EA	PROJ	TPOTB	TCRP No.	
08			200806	N/A	
County	ROUTE/CONTROL	Project Sponsor/Lead Agency	WPS	Status	
SBD		SANBAG	SCAG	MT	
Project Title					
Glen Helen Pkwy Railroad Grade Separation					
Project Manager	Project Mgr Contact	Phone	E-mail Address		
	Chris Saed	909-387-7877	csaed@dpw.sbcounty.gov		
Location, Project Limits, Description, Scope of Work, Technical Description					
In the County of San Bernardino, on Glen Helen Pkwy at UPRR and BNSF, construct grade separation (likely highway over rail).					
Component	Implementing Agency	APR	APR	Larger of AP Products	
PA&ED	County of San Bernardino	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PS&E	County of San Bernardino	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Right of Way	County of San Bernardino	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Construction	County of San Bernardino	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Legislative Districts					
Assembly: 63		Senate: 31, 32			
Congressional: 26, 43					
Project Description					
Glen Helen Pkwy connects I-15 and I-215 and carries approximately 5,600 vehicles per day, although that substantially increase during special events at Glen Helen Regional Park and Hyundai Pavillion, which holds 65,000 people. In addition, it is a detour alternative to the Devore Interchange during construction or emergencies. The estimated 94 freight and two passenger trains that cross Glen Helen Pkwy every day create substantial traffic delays and and provide a physical impediment to passenger and truck mobility in this developing area. Separating the railroad crossing from Glen Helen Pkwy will mitigate community impacts of goods movement.					
Project Benefits					
Railroad grade separations increase travel reliability on major roadways for both the community and truck traffic, improve air quality, and eliminate potential conflicts between vehicular and train traffic, which all act to mitigate the impact of freight movement on communities. This grade separation will eliminate gate down time totaling 6.6 hours per day in 2030 and is estimated to reduce 371 daily vehicle hours of delay in 2030.					
Project Milestones					Date
Project Study Report Approved					N/A
Begin Environmental (PA&ED) Phase					06/01/06
Circulate Draft Environmental Document					Assessment Type: N/A CEQA SE
Draft Project Report					06/30/08
End Environmental Phase (PA&ED Milestone)					06/30/08
Begin Design (PS&E) Phase					08/01/08
End Design Phase (Ready to List for Advertisement Milestone)					09/30/10
Begin Right of Way Phase					11/01/08
End Right of Way Phase (Right of Way Certification Milestone)					09/01/09
Begin Construction Phase (Contract Award Milestone)					11/01/10
End Construction Phase (Construction Contract Acceptance Milestone)					11/01/12
Begin Closeout Phase					11/01/12
End Closeout Phase (Closeout Report)					06/01/13



2008 Project Programming Request (Funding Information)

(dollars in thousands and escalated to the programmed year)

Date: 03/10/08

County	CT District	PRNO	TCRP Project No.	EA
SBD	08	0	N/A	0
Project Title: Glen Helen Pkwy Railroad Grade Separation				

Existing Total Project Cost									Implementing Agency
Component	Prior	08/09	09/10	10/11	11/12	12/13	13/14+	Total	
E&P (PA&ED)	0	0	0	0	0	0	0	0	
PS&E	0	0	0	0	0	0	0	0	
R/W SUP (CT)	0	0	0	0	0	0	0	0	
CON SUP (CT)	0	0	0	0	0	0	0	0	
R/W	0	0	0	0	0	0	0	0	
CON	0	0	0	0	0	0	0	0	
TOTAL	0	0	0	0	0	0	0	0	
Proposed Total Project Cost									5,898,604 local (15,319,396 left) (8,147,396 net)
E&P (PA&ED)	0	0	0	0	0	0	0	0	
PS&E	2,650	0	0	0	0	0	0	2,650	
R/W SUP (CT)	0	0	0	0	0	0	0	0	
CON SUP (CT)	0	0	0	0	0	0	0	0	
R/W	0	3,000	0	0	0	0	0	3,000	
CON	0	0	21,218	0	0	0	0	21,218	
TOTAL	2,650	3,000	21,218	0	0	0	0	26,868	

Fund No. 1:									Program Code
Existing Funding									Funding Agency
Component	Prior	08/09	09/10	10/11	11/12	12/13	13/14+	Total	
E&P (PA&ED)	0	0	0	0	0	0	0	0	
PS&E	0	0	0	0	0	0	0	0	
R/W SUP (CT)	0	0	0	0	0	0	0	0	
CON SUP (CT)	0	0	0	0	0	0	0	0	
R/W	0	0	0	0	0	0	0	0	
CON	0	0	0	0	0	0	0	0	
TOTAL	0	0	0	0	0	0	0	0	
Proposed Funding									Notes Proposed TCIF
E&P (PA&ED)								0	
PS&E								0	
R/W SUP (CT)								0	
CON SUP (CT)								0	
R/W								0	
CON			7,172					7,172	
TOTAL	0	0	7,172	0	0	0	0	7,172	

Fund No. 2:									Program Code
Existing Funding									Funding Agency
Component	Prior	08/09	09/10	10/11	11/12	12/13	13/14+	Total	
E&P (PA&ED)	0	0	0	0	0	0	0	0	
PS&E	0	0	0	0	0	0	0	0	
R/W SUP (CT)	0	0	0	0	0	0	0	0	
CON SUP (CT)	0	0	0	0	0	0	0	0	
R/W	0	0	0	0	0	0	0	0	
CON	0	0	0	0	0	0	0	0	
TOTAL	0	0	0	0	0	0	0	0	
Proposed Funding									Notes Developer Impact Fee
E&P (PA&ED)								0	
PS&E								0	
R/W SUP (CT)								0	
CON SUP (CT)								0	
R/W								0	
CON			7,469					7,469	
TOTAL	0	0	7,469	0	0	0	0	7,469	

27.8% local



2008 Project Programming Request (Funding Information)

(dollars in thousands and escalated to the programmed year)

Date: 03/10/08

County	CT District	RPNO	TCRP/Project No.	EA
SBD	08	0	N/A	0
Project Title: Glen Helen Pkwy Railroad Grade Separation				

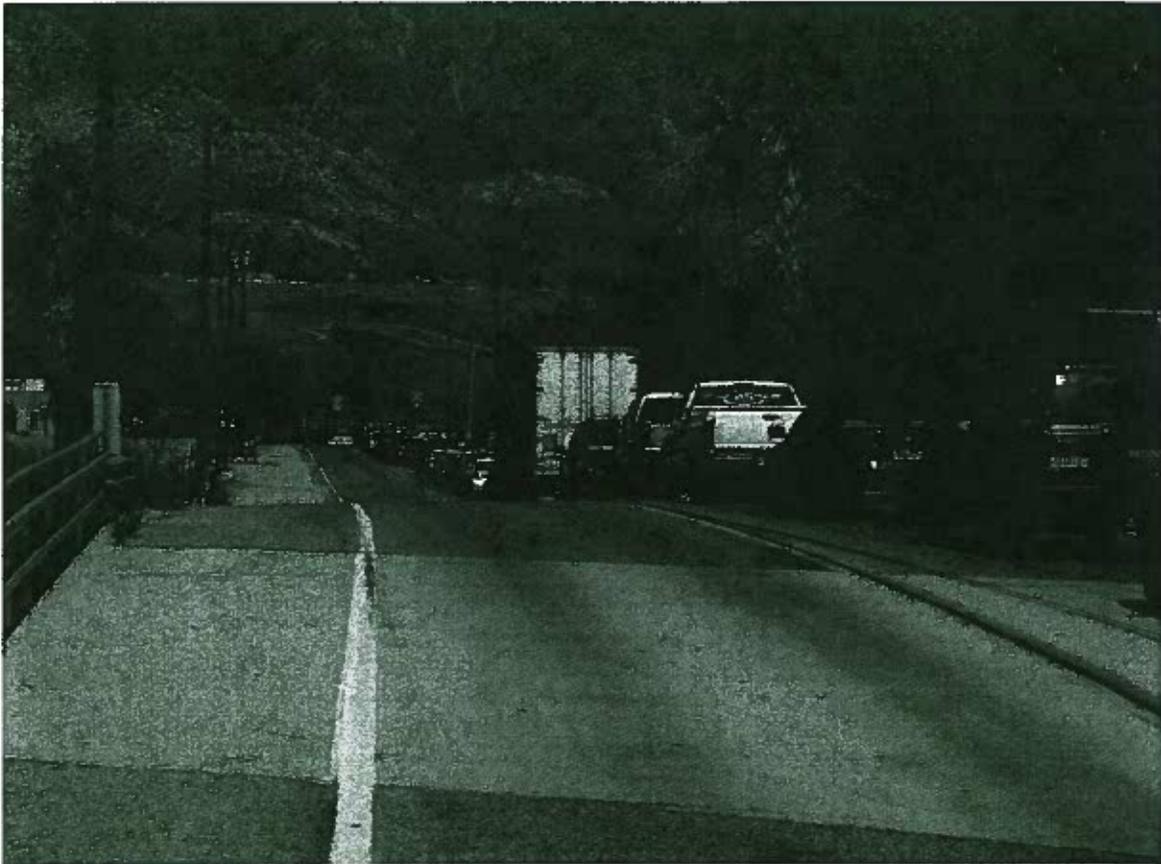
Fund No. 3:										Program Code
Existing Funding										
Component	Prior	08/09	09/10	10/11	11/12	12/13	13/14+	Total		Funding Agency
E&P (PA&ED)	0	0	0	0	0	0	0	0		
PS&E	0	0	0	0	0	0	0	0		
R/W SUP (CT)	0	0	0	0	0	0	0	0		
CON SUP (CT)	0	0	0	0	0	0	0	0		
R/W	0	0	0	0	0	0	0	0		
CON	0	0	0	0	0	0	0	0		
TOTAL	0	0	0	0	0	0	0	0		
Proposed Funding										Notes
E&P (PA&ED)								0		San Bernardino County Measure I
PS&E	2,650							2,650		
R/W SUP (CT)								0		
CON SUP (CT)								0		
R/W		3,000						3,000		
CON			6,577					6,577		
TOTAL	2,650	3,000	6,577	0	0	0	0	12,227		

Fund No. 4:										Program Code
Existing Funding										
Component	Prior	08/09	09/10	10/11	11/12	12/13	13/14+	Total		Funding Agency
E&P (PA&ED)	0	0	0	0	0	0	0	0		
PS&E	0	0	0	0	0	0	0	0		
R/W SUP (CT)	0	0	0	0	0	0	0	0		
CON SUP (CT)	0	0	0	0	0	0	0	0		
R/W	0	0	0	0	0	0	0	0		
CON	0	0	0	0	0	0	0	0		
TOTAL	0									
Proposed Funding										Notes
E&P (PA&ED)								0		
PS&E								0		
R/W SUP (CT)								0		
CON SUP (CT)								0		
R/W								0		
CON								0		
TOTAL	0									

Fund No. 5:										Program Code
Existing Funding										
Component	Prior	08/09	09/10	10/11	11/12	12/13	13/14+	Total		Funding Agency
E&P (PA&ED)	0	0	0	0	0	0	0	0		
PS&E	0	0	0	0	0	0	0	0		
R/W SUP (CT)	0	0	0	0	0	0	0	0		
CON SUP (CT)	0	0	0	0	0	0	0	0		
R/W	0	0	0	0	0	0	0	0		
CON	0	0	0	0	0	0	0	0		
TOTAL	0									
Proposed Funding										Notes
E&P (PA&ED)								0		
PS&E								0		
R/W SUP (CT)								0		
CON SUP (CT)								0		
R/W								0		
CON								0		
TOTAL	0									

Glen Helen Parkway Grade Separation
08-Sbd-Local
EA 08-925051L
BRLS-5954(108)

PROJECT REPORT EQUIVALENT (PRE)



On Glen Helen Parkway between Glen Helen Road and Cajon Blvd.

APPROVAL:

Richard Bronstrup, P.E.
Chief of Design Division
San Bernardino County

DATE

Glen Helen Parkway Grade Separation

This Project Report Equivalent has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

REGISTERED CIVIL ENGINEER

07/07/08
DATE



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1 INTRODUCTION

The County of San Bernardino (County), in cooperation with The State Department of Transportation (Caltrans), proposes to grade separate the current at-grade crossing of Glen Helen Parkway with the Burlington Northern Santa Fe Railway (BNSF) and the Union Pacific Railroad (UPRR). To accomplish this most efficiently, Glen Helen Parkway is proposed to be realigned northeasterly of its existing alignment, beginning just north of the intersection with Glen Helen Road. It would then continue northeasterly, crossing the Cajon Wash, then turn northerly to cross the UPRR and the BNSF, and then turn northeasterly, connecting with Cajon Boulevard with a new intersection, where the project limits terminate. **This report is written for the portion of the improvements that cross the UPRR and the BNSF and then connect with Cajon Blvd., and these are described further in the following paragraph.**

The proposed project would construct the Glen Helen Parkway Overcrossing Structure, which would span both UPRR and the BNSF mainline rights of way; embankments for the southern approaches and the northeast approach to the structure, with a short retaining wall on the northeast approach, and a longer wall on the northwest approach; a new, signalized intersection with Cajon Blvd.; and other miscellaneous drainage, civil, and utility improvements. These improvements will be hereafter referred to as "the Project".

The objective of the Project is to:

- 1) Implement improvements to eliminate the intersection of the railroad traffic and the vehicular traffic; improve safety at the crossing; provide unimpeded access for emergency, and other vehicles to the south side of the at-grade highway-rail crossings, resulting in the enhancement of traffic operations; the reduction of the existing traffic congestion; and improvement of the Level of Service (LOS) within the project area.

2 RECOMMENDATION

This Report also recommends the approval of the Preferred Alternative, Alternative 2, which is discussed in greater detail in Section 5, ALTERNATIVES, of this Report.

The affected local agencies (some of which were participants in the selection of the Preferred Alternative) have been consulted and their views have been considered in preparing this report, and they are supportive with regard to the selected Preferred Alternative.

3 BACKGROUND

3.1 Project History

Due to increased development, and accompanying traffic, and due to the increase in train movements, resulting from the expansion of the Ports of Los Angeles and Long Beach, delays at the existing at-grade crossing of Glen Helen Parkway and the UPRR and BNSF have been increasing yearly. The County of San Bernardino has been concerned about grade separating this crossing, and therefore initiated this project in the fall of 2005. The County has nominated this project for the California Public Utilities Commission (PUC) for the 2008-2009 Grade Separation Priority List, and is awaiting notification of the ranking for this project.

This project has also received the following approvals, and is planned to be funded as follows :

Glen Helen Parkway Grade Separation

- California Transportation Commission (CTC): April 2008: Awarded \$7.2 Million from TCIF Funding.
- CPUC: \$5 Million (Pending).
- BNSF and UPRR: \$2.5 Million (Approximate and is pending)

3.2 Community Interaction

The Project Development Team (PDT) for the Project included representatives from the City of San Bernardino, Caltrans, the BNSF, the UPRR, and representatives of several utility agencies. These representatives have been active participants with regard to the engineering and environmental studies leading to the development of this Report.

The PDT has also met with a local business owner, with meetings occurring between May of 2007 to January 2008, to discuss the project alternatives; to gather feedback from them with regard to the Project's effect on their access, to and from their businesses; and to solicit approval for the Preferred Alternative for the Project. The PDT met with Hillwood Company, which supported the project.

3.3 Existing Facility

Glen Helen Parkway is one of the principal north/south arterials within this part of the County of San Bernardino, connecting I-215 to I-15, and the Glen Helen Park to each of these freeways.

Within the Project limits, Glen Helen Parkway is currently a four-lane roadway as it approaches an existing structure over the Cajon Wash from the south, then transitions to a two lane roadway across this bridge and both the railroad rights of way, continuing to the existing Cajon Blvd. Intersection.

As mentioned in the previous paragraph , there is an existing, two-lane bridge over the Cajon Wash within the Project. And, there are existing at-grade crossings with the UPRR single track, and BNSF triple-track mainline.

4 NEED AND PURPOSE

4.1 Problem, Deficiencies, Justification

Glen Helen Parkway is one of the principal north/south arterials within this part of the County of San Bernardino, connecting I-215 to I-15, and the Glen Helen Park to each of these freeways. Also, as mentioned early in this report, increased traffic, and increased train movements, have resulted in the increase of delays at the existing at-grade crossings of Glen Helen Parkway and the UPRR single track and BNSF mainline triple-track. These delays have not only affected the traveling public, but also have impacted the access by emergency vehicles to the areas south of the tracks.

Consequently, the primary project objective is to alleviate this traffic congestion, and to improve the operation and safety by constructing a grade separation structure, and retiring the two existing at-grade crossings.

4.2 Regional & System Planning

The Regional Transportation Improvement Plan (RTIP), a 20-year transportation blueprint adopted by the Southern California Association of Governments (SCAG), outlines a long-range strategy to meet mobility, financial, and air quality requirements for the region. The RTIP was updated by SCAG in 2006, and this update included the Glen Helen Parkway Grade Separation, with 20040826 as its project identification number.

Glen Helen Parkway is listed in the County of San Bernardino's General Plan as Major Highway, which is defined as a roadway with 110 feet of right of way, to include within this right of way on both sides of the roadway center line: a seven (7) feet median; one 14 feet inside lanes and one 12 feet outside lane; a ten feet shoulder; and 12 feet parkway. The proposed roadway typical section for the Project is consistent with the ultimate plan for Glen Helen Parkway.

4.3 Current and Forecasted Traffic

The purpose of the Project is to provide improvements to alleviate existing traffic congestion and delays at the existing at-grade crossings of Glen Helen Parkway and the UPRR and BNSF tracks, and to improve local traffic circulation, enhance safety, and accommodate projected future traffic, and train, volumes. This is accomplished by, as previously mentioned, constructing a grade separation structure, and retiring the two existing at-grade crossings.

Existing and Proposed Project Traffic Volumes

The AM peak hour traffic volumes were determined by counting the two hour period between 7 - 9 am in the morning. Similarly, the PM peak hour traffic volumes were identified by counting the two hour period from 4 - 6 pm in the evening. The count includes the vehicle classification as shown below:

- >passenger cars (1 PCE)
- >buses/recreational vehicles (1.5 PCE)
- >3 axles (2 PCE)
- >4 or more axles (3 PCE)

The overall, existing count volumes are illustrated on the figures as passenger car equivalent (PCE) volumes. The PCE factor for each classification is shown on the list above.

Existing traffic counts were used for the traffic volumes forecast process. Table 1 and Table 2 illustrate the existing AM and PM peak hour intersection traffic volumes for the Glen Helen Parkway/Cajon Blvd. Intersection, respectively. Both AM and PM peak hours show a Level of Service (LOS) A for this intersection, but this deteriorates to LOS of F for the existing conditions in the year 2030. With the project proposed alternative, this 2030 LOS is raised to a LOS of C. Please refer to Tables 3 and 4 for this 2030 analyses.

Glen Helen Parkway Grade Separation

TABLE 1: EXISTING AM PEAK HOUR TRAFFIC VOLUME

Glen Helen Grade Separation
5: Glen Helen Pkwy. & Cajon Blvd.

Table 1 : Existing AM

	↖	↑	↗	↓	↘	↙	↖	↑	↗	↓	↘	↙
Lane Configurations	↖		↗		↘		↖		↗		↘	
Turning Speed (mph)	15		9		15		9		15		9	
Frt	0.850		0.888		0.998		0.902					
Satd. Flow (prot)	0	1830	1615	1805	1683	0	0	3581	0	0	3207	0
Satd. Flow (perm)	0	1830	1615	1805	1683	0	0	3581	0	0	3207	0
Link Speed (mph)	30				30				30			
Travel Time (s)	29.1				25.7				17.2			
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	14	4	21	79	24	76	33	242	4	61	8	129
Sign Control	Stop				Stop				Stop			
Area Type:	Other											
Intersection Capacity Utilization	32.2%						ICU Level of Service A					

Glen Helen Parkway Grade Separation

TABLE 1: EXISTING AM PEAK HOUR TRAFFIC VOLUME (cont.)

Glen Helen Grade Separation
5: Glen Helen Pkwy. & Cajon Blvd.

Table 1 : Existing AM

												
Lane Configurations	←		↑		→		↓		←		→	
Turning Speed (mph)	15		9		15		9		15		9	15
Frt			0.850		0.888		0.998		0.902			
Satd. Flow (prot)	0	1830	1615	1805	1683	0	0	3581	0	0	3207	0
Satd. Flow (perm)	0	1830	1615	1805	1683	0	0	3581	0	0	3207	0
Link Speed (mph)	30		30		30		30		30		30	
Travel Time (s)	29.1		25.7		17.2		23.4					
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	14	4	21	79	24	76	33	242	4	61	8	129
Sign Control	Stop		Stop		Stop		Stop					
Area Type:	Other											
Intersection Capacity Utilization	32.2%						ICU Level of Service A					

Glen Helen Parkway Grade Separation

Table 2: EXISTING PM PEAK HOUR TRAFFIC VOLUME

Glen Helen Grade Separation
5: Glen Helen Pkwy. & Cajon Blvd.

Table 2 : Existing PM

	1	2	3	4	5	6	7	8	9	10	11	12
Lane Configurations	←		↑		↓		←		←		←	
Turning Speed (mph)	15		9	15			9	15		9	15	9
Frt			0.850		0.880			0.988			0.875	
Satd. Flow (prot)	0	1866	1615	1805	1672	0	0	3499	0	0	3140	0
Satd. Flow (perm)	0	1866	1615	1805	1672	0	0	3499	0	0	3140	0
Link Speed (mph)	30		30		30		30		30		30	
Travel Time (s)	29.1		25.7		17.2		23.4					
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	64	109	164	73	15	61	72	98	15	41	14	274
Sign Control	Stop		Stop		Stop		Stop		Stop		Stop	
Area Type:	Other											
Intersection Capacity Utilization	37.9%						ICU Level of Service A					

Glen Helen Parkway Grade Separation

Table 2: EXISTING PM PEAK HOUR TRAFFIC VOLUME (cont.)

Glen Helen Grade Separation
5: Glen Helen Pkwy. & Cajon Blvd.

Table 2 : Existing PM

												
Lane Configurations												
Volume (vph)	54	93	139	62	13	52	61	83	13	35	12	233
Hourly flow rate (vph)	64	109	164	73	15	61	72	98	15	41	14	274
Volume Total (vph)	173	164	73	76	121	64	48	281				
Volume Right (vph)	0	164	0	61	0	15	0	274				
Departure Headway (s)	6.3	5.4	6.8	6.8	6.5	6.1	6.5	5.4				
Capacity (veh/h)	545	629	490	575	517	554	524	636				
Approach Delay (s)	9.9		9.0		9.6		10.7					
HCM Level of Service	A											
Analysis Period (min)	15											

Glen Helen Parkway Grade Separation

Table 3: 2030 Volumes With Existing Geometry

Table 3 : 2030 Volumes

Glen Helen Grade Separation GP
5: Glen Helen Pkwy. & Cajon Blvd.

With Existing Geometry

												
Lane Configurations												
Turning Speed (mph)	15	9	15	9	15	9	15	9	15	9	15	9
Frt		0.850		0.985		0.957		0.968				
Satd. Flow (prot)	0	1877	1615	1805	1872	0	0	3406	0	0	3365	0
Satd. Flow (perm)	0	1877	1615	1805	1872	0	0	3406	0	0	3365	0
Link Speed (mph)		30		30		30		30			30	
Travel Time (s)		29.1		25.7		17.2		23.4				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	75	231	283	458	623	68	545	823	544	420	8	116
Sign Control		Stop		Stop		Stop		Stop			Stop	
Area Type:	Other											
Intersection Capacity Utilization	139.2%						ICU Level of Service H					

Glen Helen Parkway Grade Separation

Table 3: 2030 Volumes With Existing Geometry (cont.)

Table 3: 2030 Volumes

Glen Helen Grade Separation GP
5: Glen Helen Pkwy. & Cajon Blvd.

With Existing Geometry

	←		↑		↖		↓		↗		→	
Lane Configurations	4	2	2	2	2	2	2	2	2	2	2	2
Sign Control	Stop		Stop		Stop		Stop		Stop		Stop	
Volume (vph)	71	219	269	435	592	65	518	632	67	399	8	110
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	75	231	283	458	623	68	545	665	71	420	8	116
Volume Total (vph)	305	283	458	692	878	403	424	120				
Volume Left (vph)	71	0	458	0	545	0	420	0				
Volume Right (vph)	0	283	0	68	0	71	0	116				
Delay (s)	0.12	0.79	0.50	0.67	0.51	0.72	0.69	0.68				
Departure Headway (s)	10.6	9.7	10.5	10.0	10.3	9.9	11.4	10.2				
Degree Utilization (%)	0.39	0.77	1.34	1.91	2.59	1.11	1.34	0.34				
Capacity (veh/h)	332	364	348	367	357	373	323	333				
Approach Delay (s)	58.0	321.1	168.6	443.1	713.2	111.1	872.9	172.2				
Approach LOS	F	F	F	F	F	F	F	F				
Delay		332.5										
HCM Level of Service		F										
Percent of Capacity Utilization		120.6%										
Analysis Period (min)		15										

Glen Helen Parkway Grade Separation

Table 4: 2030 Volumes With Proposed Project (Alternative 2)

Table 4: 2030 Volumes

Glen Helen Grade Separation GP Geometry Improvements Conceptual Design Alternative 2
6: Cajon Blvd. & Glen Helen Pkwy.

Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑
Ideal Flow (vph)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	0.97	1.00	0.97	0.91
Friction Factor	1.00	0.85	1.00	1.00	0.97	0.85
Flow Protection	1.00	1.00	0.95	1.00	0.96	1.00
Satd. Flow (prot)	3610	1615	3502	1900	3441	1470
Satd. Flow (perm)	3610	1615	3502	1900	3441	1470
Volume (vph)	1577	629	389	1287	280	259
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
RTOR Reduction (vph)	0	250	0	0	23	179
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Protected Phases	4		3	8	2	
Actuated Green, G (s)	57.7	57.7	16.4	78.1	13.9	13.9
Actuated g/C Ratio	0.58	0.58	0.16	0.78	0.14	0.14
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
v/s Ratio Prot	c0.31		c0.12	0.07	c0.09	
v/c Ratio	0.54	0.44	0.71	0.09	0.68	0.14
Progression Factor	0.54	1.48	1.00	1.00	1.01	1.05
Delay (s)	7.5	18.5	43.7	2.7	44.4	40.1
Approach Delay (s)	11.5			33.6	42.8	
HCM Volume to Capacity ratio			0.59			
Intersection Capacity Utilization			61.0%			
ICU Level of Service					B	

c Critical Lane Group

5 ALTERNATIVES

5.1 Preferred Alternative: Alternative 2

As mentioned previously, Glen Helen Parkway is proposed to be realigned southeasterly of its existing alignment, beginning just north of the intersection with Glen Helen Road. It would then continue southeasterly, crossing Cajon Wash, and then turn northwesterly, crossing over both the UPRR and the BNSF, finally turning northeasterly to Cajon Boulevard, where the project limits terminate. The proposed bridge span is to be approximately 300 feet in length, and 5'-3" structural depth. The bridge width is proposed be 98 feet, included two 6 feet sidewalks on both sides of the bridge, which will accommodate the four lanes, two lanes in each direction. Please see Attachment B for the Bridge General Plan Sheet.

The project design speed for proposed Glen Helen Parkway is 45 mph throughout the curve from Glen Helen Parkway to Cajon Boulevard. The profile is designed to provide a minimum of 24 feet clearance across the entire BNSF right of way. During construction, the minimum vertical clearance for false work placement will be 21.5 feet to the top of the rails.

5.1.1 Drainage

5.1.1.1 On-site Drainage

The existing topography at the project site is considered fairly flat, with the drainage finding its way to the Cajon Wash, mostly by sheet flow.

The proposed improvements will shift Glen Helen Parkway to the northeast of the existing road, and also raise the profile of the roadway, hence affecting the existing drainage patterns.

The Project also will require the construction of drainage inlets at either end of the proposed bridge structure, and catch basins to intercept the flow and prevent it from running across the intersections. The runoff will be calculated, and the proposed shoulder capacity will be analyzed, to conform to the County design criteria, for a maximum flooded shoulder width and placement of drainage inlets. Finally, some pipe-crossings may need to be constructed at the toe of slope of roadside grading to mitigate the surface flow, which may become trapped due to the roadway embankment.

A more detailed analysis will be performed during the design phase, and recommendations for the construction of drainage systems will be made within the pending Hydraulics and Hydrology Report.

5.1.2 Utilities

Preliminary utility verification research and mapping is still being compiled and will be addressed during the design phase of the project. However, since the roadway is proposed to be shifted northeasterly of the existing roadway, it is anticipated the affected utilities will be minimal, with the exception of those within the railroad rights of way, and a Devore Water Company Well. The utilities in the railroad rights of way will need to be protected, or relocated, and the water well will be protected in place. This water well was instrumental in the shifting of the roadway alignment in order to eliminate a conflict with said well.

5.1.3 Railroad Involvement

There are three BNSF mainline tracks and one UPRR track located within the project limits. The proposed grade separation bridge will span across these tracks, with the both bridge abutments proposed to be constructed outside the railroad rights-of-way, but the interior bent is proposed to be constructed within the UPRR right of way. The minimum, permanent vertical clearance over the whole width of the railroads right of way is proposed to be 24 feet, with a minimum of 21.5 feet during construction.

During the bridge construction, the BNSF existing at-grade crossing will be functioning as it does currently, but it will be relocated, using a detour road, northwesterly of the existing crossing. The existing UPRR at-grade crossing will not be affected. Upon completion of the construction, and as soon as the new bridge is opened to traffic, the two existing at-grade crossings will be retired by UPRR and BNSF forces, and access to the crossings will be eliminated in accordance with UPRR and BNSF direction and requirements, which could include temporary barrier. As mentioned previously, UPRR and BNSF will be responsible for all work, within their right of way, associated with retiring these at-grade crossings, including modifying railroad signalization.

5.1.4 Erosion Control

Erosion control will need to be implemented during, and after, construction, where required to meet water quality discharge requirements set forth by the Regional Water Quality Control Board. An Erosion Control Plan, and applicable specifications, will be incorporated as part of the PS&E package.

5.1.5 Noise Barriers

Caltrans' noise policy requires the determination as to whether or not the Project will substantially increase the ambient noise levels in the adjacent areas, if there are residential receivers within the Project's general vicinity. This is discussed further within this report.

5.1.6 Cost Estimates

Please refer to Attachment B for a detailed preliminary cost estimate.

5.1.7 Right of way Data

See Section 6.4, entitled "Right of Way Issues" of this report for a discussion concerning Right of Way Issues.

5.2 Rejected Alternatives

During the initial phases of the development of this report, three alternatives were reviewed by the Project Development Team (PDT). Based upon comparing the alternatives, the PDT based the selection of the preferred alternative:

- Geometric Factors;
- Environmental Factors;
- Traffic Factors;
- Right of Way Factors; and
- Other Factors (including cost, schedule, railroad operations, traffic detours, utilities, and bridge structure).

The following paragraphs give a brief description of the two alternatives studied, but not selected.

Alternative 1: Centerline Alignment

This alternative proposed to construct a new bridge structure spanning across the BNSF tracks at the location of existing at-grade crossing, and then continue Glen Helen Parkway northeasterly to Cajon Boulevard along the same bearing as the existing alignment, southwesterly of the UPRR track.

This alternative was eliminated since it would require a detour road and a significant amount of additional right of way for said detour road, affecting several, developed parcels, adding additional costs to the project.

North Alignment

This alternative would construct the new bridge structure several hundred feet to the northwest of the existing crossings.

This alternative was eliminated, basically, even before the other alignments were studied, since it would require a longer bridge structure, and would create more environmental impacts than Alternatives 1 and 2, since the areas north of the existing Glen Helen Parkway alignment have numerous environmental issues, according to the State Department of Fish and Game.

6 CONSIDERATIONS REQUIRING DISCUSSION

6.1 Hazardous Waste

A Hazardous Waste Initial Site Assessment (ISA) is being prepared for this project. It is anticipated the following recommendations will result from this ISA:

- the soils adjacent to the paved areas will be tested for Aerially Deposited Lead (ADL) during either the design, or construction, phase of the project.
- the soils adjacent to the railroad right of way will be tested for hazardous materials from the use of weed control during either the design, or construction, phase of the project.
- lead or other heavy materials may be present in the yellow thermoplastic paint materials. Caltrans guidelines for the removal and disposal of this paint material will be included in the project specifications.

6.2 Value Analysis

The estimated project cost, including Right of Way acquisition, is over \$25 million; therefore, a formal Value Analysis (VA) will need to be performed, and this will be schedule for the late summer/early fall of 2008.

6.3 Resource Conservation

This project will not affect items, which can be recycled, with the exception of pavement from vacated Glen Helen Parkway, both north and south of the two current at-grade crossings. Some of this pavement will be removed, and this pavement can be crushed and used as fill material in the construction of the approach embankments. Also, the existing bridge across Cajon Wash will need to be demolished, but this will need to be deposited in the appropriate, local landfill.

6.4 Right of Way Issues

Right of Way Requirements

Right of way, slope easements, and temporary construction easements will be required for this project. The total cost of this right of way is anticipated to be approximately \$4 million. These property needs are shown in Attachment C.

Glen Helen Parkway Grade Separation

Relocation Impact Studies

The right of way needed for this project will not involve the relocation of any residents or businesses, since the required properties are unimproved.

6.5 Environmental Issues

Biological Assessment

A Biological Assessment is being prepared for this project, and it is anticipated this study will recommend habitat mitigation for the San Bernardino Kangaroo Rat. The PDT will work with the Federal Department of Fish and Wildlife to determine the mitigation requirements. It also anticipated this report will not recommend any other biological species requiring mitigation.

Cultural Impacts:

A Historical Property Survey Report is being prepared for this project, and it is anticipated this report will find no properties requiring evaluation present within the project area, and that there are no other cultural impacts created by the project needing further cultural studies.

Air Quality Conformity

An Air Quality Study was not necessary for this project, since the project does not add capacity to the roadway.

Noise Analysis

A Noise Analysis Study is being prepared for this project; however it is anticipated no mitigation will be proposed, since there are very few residential properties, therefore a negative finding of whether or not a soundwall is reasonable and feasible is expected.

Title VI Considerations

The Project does not have any Title VI Considerations, since all the sidewalks at intersections shall be constructed with ramps for access to the sidewalk, and these will all comply with ADA requirements.

7 OTHER CONSIDERATIONS AS APPROPRIATE

7.1 Route Matters

Refer to subsection 4.2 – Regional & System Planning.

7.2 Permits

The potential permits are:

- Rider to San Bernardino County Blanket (NPDES) Permit

7.3 Cooperative Agreements and Other Agreements

- BNSF Construction and Maintenance Agreement.
- California Public Utilities Commission (CPUC) Construction Agreement.

Glen Helen Parkway Grade Separation

7.4 Involvement with a Navigable Waterway

There is no involvement with a Navigable Waterway within the limits of this project.

7.5 Stage Construction

Since the preferred alternative realigns Glen Helen Parkway away from existing traffic, the stage construction of the project is not critical. It is anticipated the work can be completed in a single stage; however a detour road, with new BNSF signals, will need to be constructed for traffic to cross the tracks during construction. This relocated at-grade crossing shall be maintained until the proposed bridge is fully completed, and opened to traffic.

7.6 Graffiti Control

The bridge and retaining design will include a fractured-rib finish treatment for the abutments, retaining walls, and other vertical surfaces, and this shall be constructed from the finish surface to six (6) feet above the finish surface.

In addition, the columns shall be sprayed with graffiti protection, in accordance with Caltrans specifications.

7.7 Geotechnical Investigation

A Geotechnical Design Report is being prepared for this project; however it has not been completed at the time of the completion of this report.

8 PROGRAMMING

The Project has procured funding from several sources, these being: STIP funding through SANBAG; TCIP funding from the State of California, the CPUC; the BNSF and UPRR; and the County of San Bernardino

9 REVIEWS

The design shall be reviewed by the County during the 65%, 95%, and 100% Submittals, currently scheduled for winter to fall of 2009.

Glen Helen Parkway Grade Separation

10 PROJECT PERSONNEL

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Project Manager

Glen Helen Parkway Grade Separation

11 ATTACHMENTS

- Attachment A - Project Alternatives
- Attachment B - Cost Estimate
- Attachment C - Right of Way Requirement

Attachment A: Project Alternatives

Attachment B: Cost Estimate

Attachment C: Right-of Way Requirements

COUNTY OF SAN BERNARDINO
Glen Helen Parkway Grade Separation ONLY

7/14/2008
Preliminary Engineer's Estimate

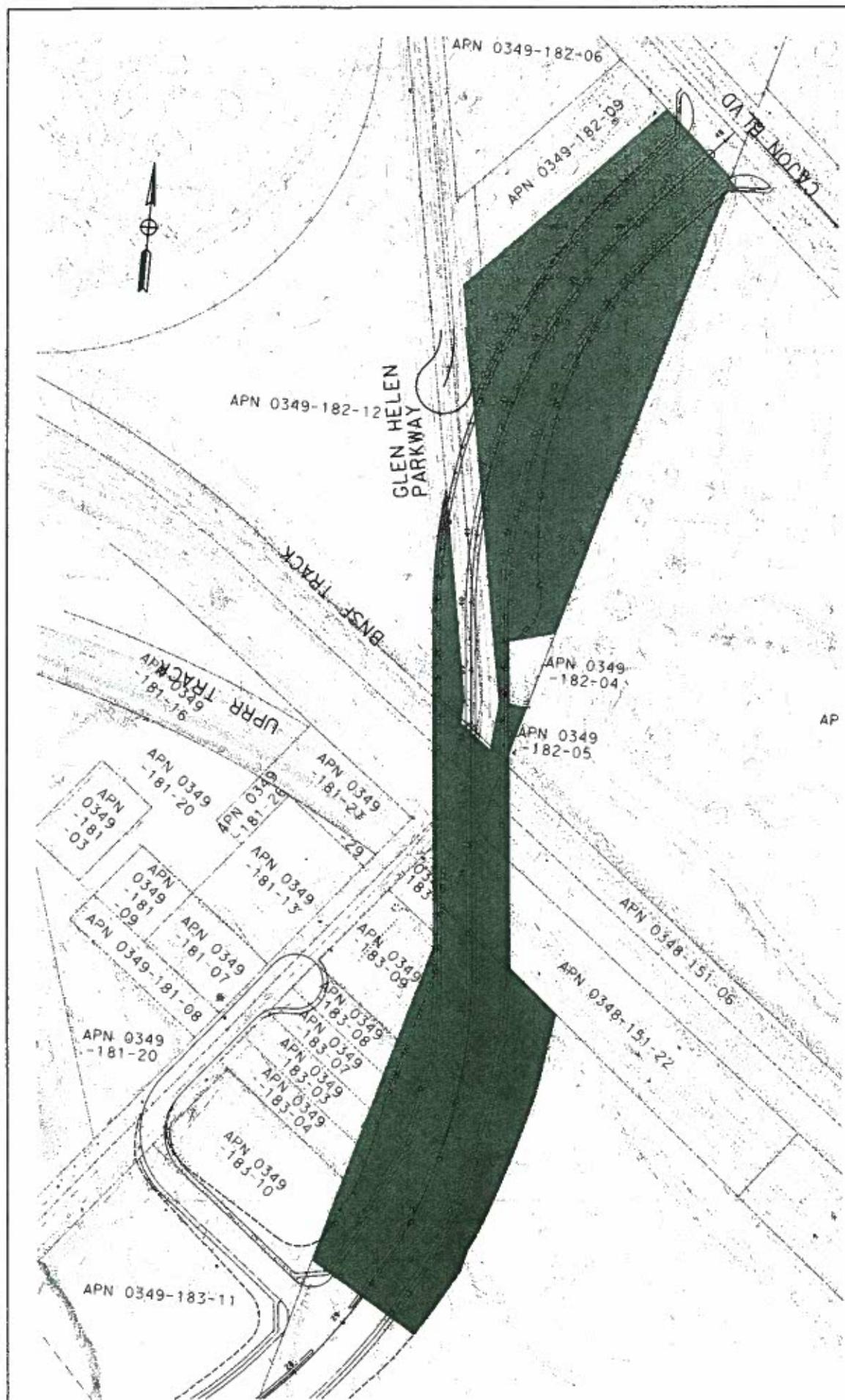
* Note: This cost estimate is base on preliminary engineering study only. The number is subjected to change.

Item	Description	Quantity	Unit	Unit Price	Price
STREET IMPROVEMENTS					\$13,033,220
1	Clearing and Grubbing	1	LS	\$250,000	\$250,000
2	Mobilization (10%)	1	LS	\$1,153,020	\$1,153,020
3	Unclassified Excavation	660	CY	\$10	\$6,600
4	Imported Borrow	223,000	CY	\$10	\$2,230,000
5	Construct Asphalt Concrete Pavement	5,800	Tons	\$85	\$493,000
7	Construct Crushed Aggregate Base	2,900	CY	\$30	\$87,000
8	Construct 8" Curb & Gutter	7,200	LF	\$15	\$108,000
9	Construct PCC Sidewalk	21,600	SF	\$6	\$129,600
10	Drainage System	1	LS	\$50,000	\$50,000
11	Traffic Signals	1	LS	\$200,000	\$200,000
12	Signing and Striping	1	LS	\$100,000	\$100,000
13	Street Lighting	1	LS	\$100,000	\$100,000
14	Bridge Structure over Railroad	31,200	SF	\$230	\$7,176,000
15	Lighting	1	LS	\$100,000	\$100,000
16	Utility Relocation	1	LS	\$750,000	\$750,000
17	Traffic Control	1	LS	\$100,000	\$100,000
PROJECT SUBTOTAL					\$13,033,220
CONTINGENCY (20%)					\$2,606,644
PROJECT TOTAL CONSTRUCTION					\$15,639,864

18	Right of Way Acquisition	272,000	SF	\$15	\$4,080,000
19	Easement	48,350	SF	\$5	\$231,750
RIGHT OF WAY TOTAL					\$4,311,750

20	PS&E Design	1	LS	\$1,000,000	\$1,000,000
21	Construction Management (10%)	1	LS	\$1,563,986	\$1,563,986
ENGINEERING TOTAL					\$2,563,986

PROJECT TOTAL WITH R/W AND ENGINEERING COST					\$22,515,500
--	--	--	--	--	---------------------



DATE: AS SHOWN
 SHEET NO. ST 88-88
 OF X OF X

SAN BERNARDINO COUNTY
GLEN HELEN PARKWAY
GRADE SEPARATION PROJECT
ATTACHMENT C: RIGHT OF WAY



DESIGNED BY
IN
 CIVIL ENGINEERING
 1000 W. GARDEN AVENUE
 SUITE 100
 ANAHEIM, CA 92810
 (714) 771-1111

- RIGHT OF WAY ACQUISITION AREA
- SLOPE EASEMENT AREA
- EXIST CENTER LINE
- CITY / COUNTY LINE
- RETAINING WALL
- RIGHT OF WAY ACQUISITION AREA
- SLOPE EASEMENT AREA

- LEGEND**
- PROP ROW
 - PROP TOE OF SLOPE
 - EXIST RAILROAD ROW
 - EXIST ROW
 - EXIST PROPERTY LINE



Trade Corridor Improvement Fund
Project Benefits Form
EXHIBIT C

Project Title: Gain Helen Parkway Grade Separation

Project Category: Grade Separation project (rail)

Project Type: Removal of at grade crossing

Outputs: Removal of one at grade crossing

Outcomes:

Outcome

Safety Eliminate potential accidents with at grade crossings of rial lines

Velocity Reduction of 24 existing daily vehicle hours
Reduction of 371 daily vehicle hours in 2030

Throughput Elimination of current gate down time of 3.3 hours per day
Elimination of gate down time of 6.6 hours per day in 2030

Reliability Eliminate emergency vehicle delay time up to 5 minutes

Congestion Reduction Eliminate current at grade vehicle queue rate of 175 vehicles per hour per lane
Eliminate at grade vehicle queue rate of 368 vehicles per hour per lane in 2030

Emissions Reduction Estimate emission reductions in tons per day
CO2- 0.061
Nox- 0.00054
PM2.5- 0.00008
ROG- 0.00025

CORRIDOR DELIVERY PLAN PROJECT DATA SHEET

Railroad Corridor: BNSF

Location: Glen Helen Parkway
County of San Bernardino

Project Manager: County of San Bernardino

Project Definition:

- Construction of Glen Helen Overcrossing between I-15 on the north and Cajon Wash on the south (approximate limits).
- There are three BNSF mainline tracks and one UPRR track located within the project limits. The proposed grade separation bridge will span across these tracks, with the both bridge abutments proposed to be constructed outside the railroad rights-of-way, but the interior bent is proposed to be constructed within the UPRR right of way. The minimum, permanent vertical clearance over the whole width of the railroads right of way is proposed to be 24 feet, with a minimum of 21.5 feet during construction.
- During the bridge construction, the BNSF existing at-grade crossing will be functioning as it does currently, but it will be relocated, using a detour road, northwesterly of the existing crossing. The existing UPRR at-grade crossing will not be affected.

Project Schedule (begin – end):

- Design/Environmental: January 2006 – September 2010
- ROW: August 2008 – September 2010
- Construction: November 2010 – May 2012

Railroad Force Account Work

Activity

Duration

Flagging

February 2011-February 2012 (assumed to start
3mos after const. and end mos. before const.)

Construct Temporary Crossing February 2011

Shoofly construction and cutover n/a

Return to main line; remove shoofly n/a

Project Sponsor's Estimated Cost of Railroad Force Account:

Flagging: \$ 750,000

Track and Signal: \$ 850,000

\$2,600,000

Federal Funding Expected: No

Railroad Contribution in Project Sponsor's Funding Plan: 10% of eligible project costs, estimated by the Project Sponsor to be \$2,500,000; actual contribution will be stated in the Construction and Maintenance Agreement.

Comments: