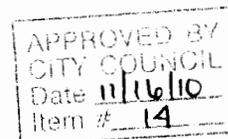


# 81

**SANBAG Agreement No. C11022**  
**TRADE CORRIDORS IMPROVEMENT FUND**  
**PROJECT BASELINE AGREEMENT**



**1. PARTIES AND DATE**

1.1 This Project Baseline Agreement (Agreement) for the Laurel Street Grade Separation, effective on December 1, 2010, 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 City of Colton (Project Sponsors), sometimes collectively referred to as the "Parties".

**2. RECITAL**

2.1 Whereas at its November 4, 2010 Meeting the California Transportation Commission programmed the Trade Corridors Improvement Fund and included in this program of projects the Laurel Street 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, (Exhibit A.)
- 4.2 **Project Scope**  
See Project Study Report/Project Study Report Equivalent
- 4.3 **Project Scope**  
See Project Benefits Form
- 4.4 **Other Project Specific Provisions and Conditions**

*Deborah Robinson Barmack*

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

*12/15/10*  
**DATE**

*Kelly Chastain*

**Kelly Chastain, Mayor  
City of Colton**

*11-24-10*  
**DATE**

*Cindy McKim*

**Cindy McKim, Director  
California Department of Transportation**

**DATE**

*Bimla Rhinehart*

**Bimla Rhinehart  
Executive Director  
California Transportation Commission**

*11/8/11*  
**DATE**

*JR Basle*

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

*7-23-10*  
**DATE**

**PROJECT PROGRAMMING REQUEST**

DTP-0001 (REV. 2/10)

Date: 11/10/10

<b>County</b>	<b>CT District</b>	<b>PPNO</b>	<b>TCRP Project No.</b>	<b>EA</b>
SBD	08			
<b>Project Title:</b> BNSF/Laurel Street Grade Separation				

Proposed Total Project Cost									Notes
Component	Prior	10/11	11/12	12/13	13/14	14/15	15/16+	Total	
E&P (PA&ED)		1,449						1,449	
PS&E		3,379						3,379	
R/W SUP (CT)									
CON SUP (CT)									
R/W			7,800					7,800	
CON				41,367				41,367	
<b>TOTAL</b>		<b>4,828</b>	<b>7,800</b>	<b>41,367</b>				<b>53,995</b>	

<b>Fund No. 1:</b>	<b>Trade Corridor Improvement Fund (TCIF)</b>								<b>Program Code</b>
Proposed Funding									
Component	Prior	10/11	11/12	12/13	13/14	14/15	15/16+	Total	Funding Agency
E&P (PA&ED)									SANBAG
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON				11,917				11,917	
<b>TOTAL</b>				<b>11,917</b>				<b>11,917</b>	

<b>Fund No. 2:</b>	<b>Railroad Funds (BNSF)</b>								<b>Program Code</b>
Proposed Funding									LOCAL FUNDS
Component	Prior	10/11	11/12	12/13	13/14	14/15	15/16+	Total	Funding Agency
E&P (PA&ED)									BNSF
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON				5,397				5,397	
<b>TOTAL</b>				<b>5,397</b>				<b>5,397</b>	

<b>Fund No. 3:</b>	<b>Loc Funds</b>								<b>Program Code</b>
Proposed Funding									LOCAL FUNDS
Component	Prior	10/11	11/12	12/13	13/14	14/15	15/16+	Total	Funding Agency
E&P (PA&ED)		483						483	City of Colton
PS&E		174						174	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON				5,162				5,162	
<b>TOTAL</b>		<b>657</b>		<b>5,162</b>				<b>5,819</b>	

**PROJECT PROGRAMMING REQUEST**

DTP-0001 (REV. 2/10)

Date: 11/10/10

<b>County</b>	<b>CT District</b>	<b>PPNO</b>	<b>TCRP Project No.</b>	<b>EA</b>
SBD	08			
<b>Project Title:</b> BNSF/Laurel Street Grade Separation				

<b>Fund No. 4:</b>	<b>Railroad Runds (UPRR)</b>								<b>Program Code</b>
<b>Proposed Funding</b>									LOCAL FUNDS
<b>Component</b>	<b>Prior</b>	<b>10/11</b>	<b>11/12</b>	<b>12/13</b>	<b>13/14</b>	<b>14/15</b>	<b>15/16+</b>	<b>Total</b>	<b>Funding Agency</b>
E&P (PA&ED)		482						482	UPRR
PS&E		174						174	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON				3,084				3,084	
<b>TOTAL</b>		<b>656</b>		<b>3,084</b>				<b>3,740</b>	

<b>Fund No. 5:</b>	<b>Traffic Congestion Relief Program (TCRP)</b>								<b>Program Code</b>
<b>Proposed Funding</b>									
<b>Component</b>	<b>Prior</b>	<b>10/11</b>	<b>11/12</b>	<b>12/13</b>	<b>13/14</b>	<b>14/15</b>	<b>15/16+</b>	<b>Total</b>	<b>Funding Agency</b>
E&P (PA&ED)		484						484	
PS&E		3,031						3,031	
R/W SUP (CT)									
CON SUP (CT)									
R/W			7,800					7,800	
CON				15,807				15,807	
<b>TOTAL</b>		<b>3,515</b>	<b>7,800</b>	<b>15,807</b>				<b>27,122</b>	

<b>Fund No. 6:</b>									<b>Program Code</b>
<b>Proposed Funding</b>									
<b>Component</b>	<b>Prior</b>	<b>10/11</b>	<b>11/12</b>	<b>12/13</b>	<b>13/14</b>	<b>14/15</b>	<b>15/16+</b>	<b>Total</b>	<b>Funding Agency</b>
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
<b>TOTAL</b>									

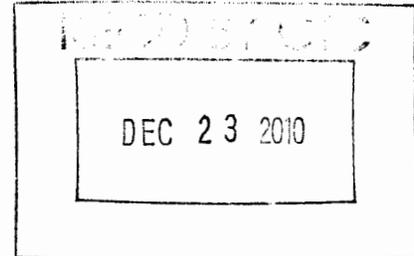
<b>Fund No. 7:</b>									<b>Program Code</b>
<b>Proposed Funding</b>									
<b>Component</b>	<b>Prior</b>	<b>10/11</b>	<b>11/12</b>	<b>12/13</b>	<b>13/14</b>	<b>14/15</b>	<b>15/16+</b>	<b>Total</b>	<b>Funding Agency</b>
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
<b>TOTAL</b>									



- San Bernardino County Transportation Commission
- San Bernardino County Transportation Authority
- San Bernardino County Congestion Management Agency
- Service Authority for Freeway Emergencies

*Minute Action*

AGENDA ITEM: 14



**Date:** December 1, 2010

**Subject:** Laurel Street Grade Separation Project Trade Corridor Improvement Fund (TCIF) Baseline Agreement

- Recommendation:**
1. Approve Trade Corridor Improvement Fund (TCIF) Baseline Agreement (C11022) with the California Transportation Commission (CTC) for the Laurel Street Grade Separation Project.
  2. Authorize the Executive Director to execute the final TCIF Baseline Agreement.

**Background:** On August 4, 2010, the SANBAG Board of Directors approved the nomination of the Laurel Street Grade Separation project to receive TCIF funding; the Board also approved to reprogram \$4,259,000 of TCIF savings from I-10 Riverside Avenue Interchange project (TN 841) and \$7,658,000 of TCIF funds from South Archibald Avenue Grade Separation project (TN 878) to the Laurel Street Grade Separation project.

On November 4, 2010, with the recommendation of the Southern California Consensus Group, the CTC approved the addition of the Laurel Street Grade Separation project as a new TCIF project (TCIF Project 84) and approved the programming of \$11,917,000 for the construction phase of the project. In order to move forward, the TCIF program requires the execution of a project baseline

Approved Consent

Approved  
Board of Directors

Date: December 1, 2010

Moved: Eaton Second: Jahn

In Favor: 25 Opposed: 0 Abstained: 0

Witnessed: Anna Alderman

COG	<input type="checkbox"/>	CTC	<input type="checkbox"/>	CTA	<input checked="" type="checkbox"/>	SAFE	<input type="checkbox"/>	CMA	<input type="checkbox"/>
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agreement in which the funding arrangements, delivery schedule, scope, and expected performance benefits of the project are provided.

Staff would like to note that the schedule and funding information in the draft Project Program Request (PPR) form that was presented to the Board on August 4, 2010 remains the same. The Laurel Street Grade Separation Project is estimated to cost approximately \$54 million and funding sources for the project include TCIF, contributions from the City of Colton, the Burlington Northern Santa Fe (BNSF) Railroad, and the Union Pacific Railroad (UPRR), and Measure I funds, which will be reimbursed with Traffic Congestion Relief Program (TCRP) funds when it becomes available. Funding commitments from SANBAG, the City of Colton, BNSF, and UPRR for the project are described in a Memorandum of Understanding between the agencies (C10201). A funding agreement for the engineering and environmental phase of the project is also being presented to the Board for approval concurrently with this item. Award of the construction contract for this project is planned for December 2012.

- Financial Impact:*** This item is consistent with the approved Fiscal Year 2010/2011 Budget, Task No. 88411000 Laurel Street Grade Separation Project.
- Reviewed By:*** This item was reviewed and unanimously recommended for approval by the Major Projects Committee on November 18, 2010. SANBAG Legal Counsel has approved the agreement as to form.
- Responsible Staff:*** Garry Cohoe, Director of Project Delivery

Trade Corridor Improvement Fund  
Project Benefits Form  
Exhibit C

Project Title: Laurel Street Grade Separation Project

**Project Category:** Grade Separation Project

**Project Type:** Removal of at-grade crossing

**Output:** Removal of one at grade crossing

**Outcomes:**

<b>Safety</b>	Eliminate potential accidents with at grade crossings
<b>Velocity</b>	Reduction of 10 daily vehicle hours (current year) Reduction of 38 daily vehicle hours (2030)
<b>Throughput</b>	Elimination of 2.5 hours of gate down time (current year) Elimination of 3.8 hours of gate down time (2030)
<b>Reliability</b>	Eliminate emergency vehicle delay time up to 5 min
<b>Congestion Reduction</b>	Eliminate current at-grade queue rate of 100 vehicles/hour Eliminate 2030 at-grade queue rate of 625 vehicles/hour
<b>Emissions Reduction</b>	Estimated emissions reductions in tons per day CO2 – 0.06783 NOx – 0.00002 PM2.5 – 0.00001 ROG – 0.00001

# **CORRIDOR DELIVERY PLAN**

## **PROJECT DATA SHEET**

### **LAUREL AVENUE/BNSF GRADE SEPARATION**

**October 2010**

Railroad Corridor: BNSF/Alameda Corridor East

Location: Laurel Street in the City of Colton. Project begins approximately 420 feet east of Pennsylvania Avenue and 125 feet west of 9th Street along Laurel Avenue.

Project Manager: San Bernardino Associated Governments (SANBAG)

Project Definition:

- Project proposes to construct a grade separation underpass structure between Laurel Street and the BNSF Railroad.
- Laurel Street is a two-lane arterial collector with a 70' right of way (ROW) and would be grade separated over six E-80 loading railroad tracks in a 100' railroad ROW section.
- Preservation of the BNSF ROW will be accomplished by providing 93' clear precast/prestressed concrete I girders with closely spaced 3' CIDH piles and secant piles.
- The proposed undercrossing will provide 17'-6" minimum horizontal clearance.
- A shoofly track and structure would be required. The proposed shoofly would provide up to four tracks during construction.
- Laurel Street may be closed during construction in order to accelerate the completion of the railroad bridge structure; detours will be provided to minimize disruption to local traffic during construction.

Project Schedule:

- Design/Environmental – December 2010 to June 2011
- ROW – November 2011 to June 2012
- Construction – November 2012 to May 2014

**Railroad Force Account Work**

Activities and Schedule:

- Flagging – January 2013 to May 2014
- Maintain Temporary Crossing – N/A
- Shoofly Construction and cutover – February 2013 to April 2013
- Return to mainline and remove shoofly – April 2014

Project Sponsor's Estimated Cost of Railroad Force Account:

- Flagging (approx 1.5 years) - \$374,000
- Railroad Furnished (Tracks, Turnouts, Signals) - \$4,593,000
- Shift, Remove, Install Tracks - \$2,397,000

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Total - \$7,364,000

Federal Funds:      No Federal Funds

Railroad Contribution:

- BNSF – 10% of total project costs
- UPRR – 7.7% of total project costs

Actual contributions will be stated in the funding agreement and Construction and Maintenance Agreement



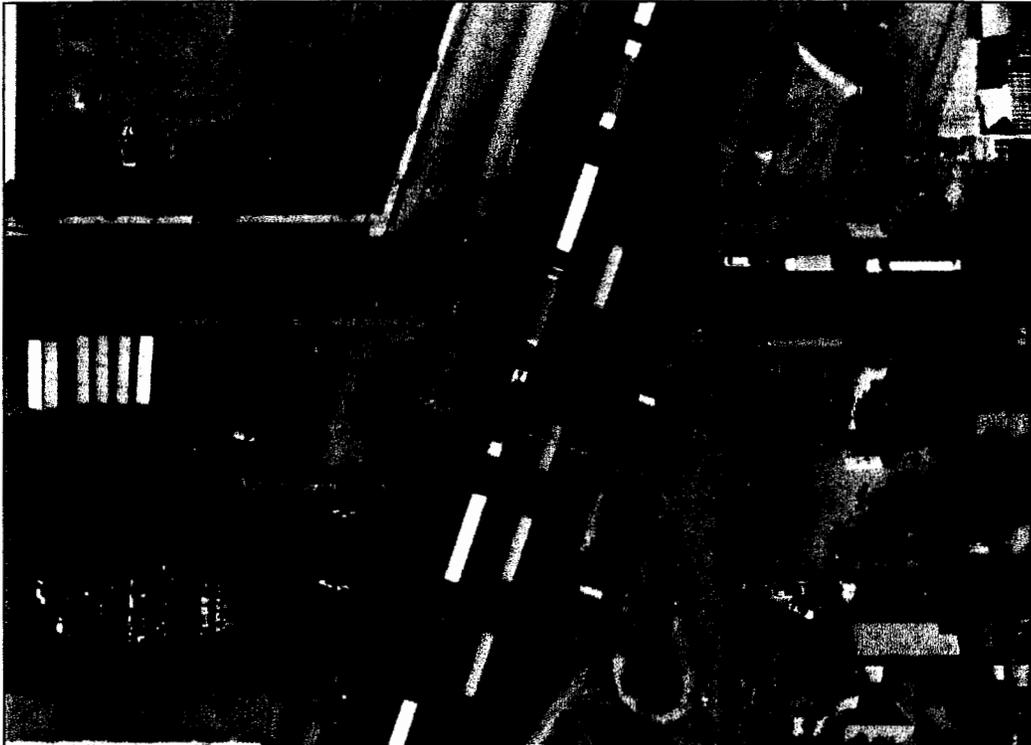
# PROJECT STUDY REPORT



## Laurel Street Grade Separation Project

Proposed Grade Separation between Laurel Street  
And the Burlington Northern Santa Fe (BNSF) Railroad  
In the City of Colton

*Aerial View of the Existing Railroad Crossing*



APPROVAL RECOMMENDED:

PROJECT MANAGER

APPROVED:

DIRECTOR OF PROJECT DELIVERY

11/12/10  
DATE

Laurel Street / BNSF Grade Separation Project  
Project Study Report

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ATTACHMENT A	MOU Related to the Colton Crossing Railgrade Separation Project
ATTACHMENT B	Build Alternative 1 – Conceptual Layout and Cross Sections
ATTACHMENT C	Project Cost Estimate
ATTACHMENT D	Preliminary Project Delivery Schedule

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## **PROJECT STUDY REPORT**

### **I. INTRODUCTION**

The San Bernardino Associated Governments (SANBAG) and the City of Colton (City), in cooperation with the Burlington Northern Santa Fe (BNSF) Railroad, are proposing to construct a grade separation between Laurel Street and the BNSF railroad in the City of Colton, California. The proposed improvements will result in improved traffic operations, enhanced safety, reduction of train related noise impacts on nearby residents, and reduction of air pollutant emissions. The Laurel Street and BNSF crossing is located in the City of Colton approximately 1.2 miles north of Interstate 10 (I-10) and 1.4 miles west of Interstate 215 (I-215); the project regional and vicinity maps are provided in Figures 1 and 2. This project is included in the Railroad Improvements Memorandum of Understanding (MOU) that was entered into by SANBAG, the City, BNSF, and the Union Pacific Railroad (UPRR) to address the Colton Crossing project, a separate grade separation project located approximately just over one mile south of the proposed Laurel Street Grade Separation.

### **II. BACKGROUND**

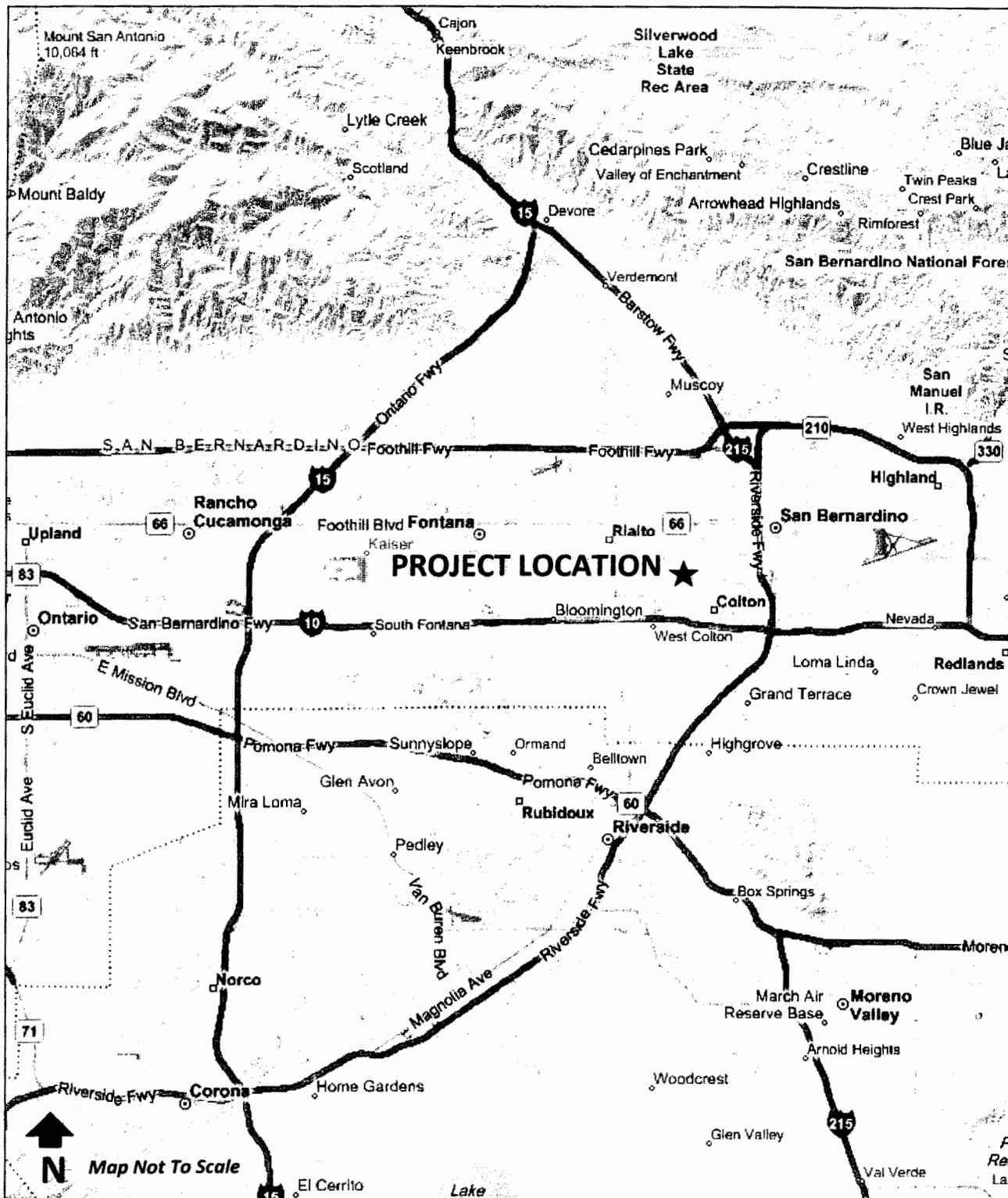
During the project development phase of the Colton Crossing Project, City residents expressed concerns about the adverse effects of train related noise along BNSF railroad. According to federal and state requirements, trains must blow their horns when passing through at-grade road crossings that do not meet Federal Rail Administration (FRA) standards for quiet zone crossings. City residents also expressed the desire to improve local traffic operations by minimizing traffic disruptions from passing trains at the existing at-grade crossings. Based on this public feedback, City and SANBAG staff began to look into ways to address train related noise impacts through currently proposed transportation improvement projects. The BNSF railroad corridor is traversing through the City's limits in a north-south orientation and currently has five at-grade railroad crossings with local streets (See Figure 3). In order to establish a quiet zone corridor, at-grade crossings must either be eliminated, grade-separated, or improved by constructing railroad crossing gates that meet the CPUC quiet zone crossing criteria.

The SANBAG 2009 Congestion Management Program (CMP) initially referenced two proposed grade separation projects along the BNSF railroad corridor traversing the City's limits. These projects consisted of a proposed grade separation at Valley Boulevard and proposed grade separation at Olive Street. Based on a preliminary analysis of potential Right-of-Way impacts to surrounding businesses and properties and the design constraints related to the adjacent Interstate 10 freeway, the City preferred to instead improve the existing at-grade crossing at Valley Boulevard by constructing quiet zone crossing gates rather than construct a grade separation.

Because, the existing at-grade Laurel Street crossing crosses six railroad tracks, it was not possible to simply improve the at-grade crossing gates to establish a quiet zone; as such, the City, in coordination with SANBAG, proposed to construct quiet zone gates at Olive Street and construct a grade separation at Laurel Street instead. The remaining two at-grade crossings at

Laurel Street / BNSF Grade Separation Project  
Project Study Report

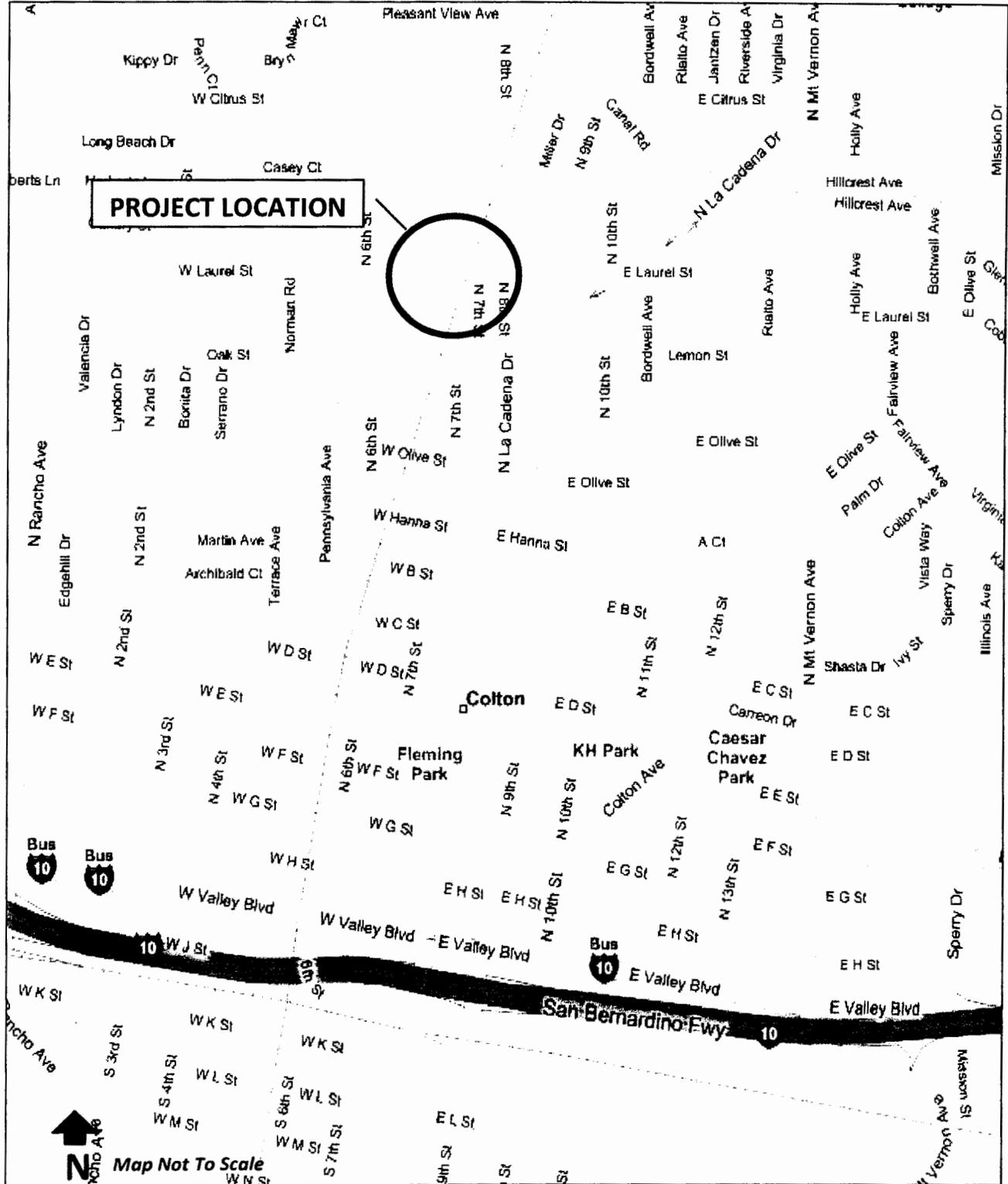
FIGURE 1  
PROJECT REGIONAL MAP



Map source: Microsoft Corporation 2010

Laurel Street / BNSF Grade Separation Project  
Project Study Report

FIGURE 2  
PROJECT VICINITY MAP



Map source: Microsoft Corporation 2010



**Laurel Street / BNSF Grade Separation Project  
Project Study Report**

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“H” Street and “E” Street will be eliminated by constructing cul-de-sacs where the roadway and the railroad intersects. With the construction of these five proposed rail improvements, a quiet zone corridor along the BNSF railroad line can be established (See Figure 3).

Railroad Improvements MOU (See Attachment A) references these rail improvements and their timing for construction. According to this agreement, construction of the Laurel Street Grade Separation should occur 18 months after construction of the Colton Crossing Grade Separation begins, which is scheduled for September 2011.

### **III. PURPOSE AND NEED**

The purpose of the Laurel Street Grade Separation project is to:

- Improve traffic operations
- Enhance Safety
- Reduce train related noise impacts

The proposed project would separate vehicular traffic along Laurel Street, a collector arterial roadway, from six tracks along the BNSF railroad. This proposed grade separation would address several deficiencies, or needs, which are summarized below:

#### **Traffic Operations**

Year 2010 daily traffic volumes on Laurel Street at the project area is estimated<sup>1</sup> at 4,100 vehicles. Coupled with an estimated 80 trains<sup>2</sup> crossing Laurel Street daily on six railroad tracks, usually at a very low speed, vehicles along Laurel Street experience substantial traffic delays at this crossing. The current “gate down time” is estimated at 2.5 hours per day and is expected to worsen to 3.8 hours by 2030. Based on preliminary traffic analyses, the proposed project is expected to result in a reduction of 10 hours of delay per day in year 2010 and 35 hours of delay per day in year 2030. The proposed grade separation would eliminate a vehicle queue rate of 83 vehicles per hour estimated for the no build condition.

In addition, the elimination of the at-grade crossing at Laurel Street would improve access for emergency and essential services vehicles. There is currently only one other grade-separated rail crossing, within the City limits north of I-10; the Laurel Street Grade Separation would serve as a logistical alternative crossing for emergency access and other essential services over the railroad.

#### **Safety**

Although there have been no train related collisions recorded at the existing crossing since 1975, the project would significantly enhance safety at the crossing by eliminating conflicts between trains and vehicular traffic. The proposed grade separation bridge will also accommodate pedestrian and non-motorized vehicular traffic, such as bicycles, crossing the railroad.

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<sup>1</sup> Based on City of Colton 2006 daily traffic count factored at a 2% annual growth rate

<sup>2</sup> Historic average daily train counts data provided by BNSF for the Colton Crossing Project

**Laurel Street / BNSF Grade Separation Project  
Project Study Report**

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**Train Related Noise**

Currently, trains passing Laurel Street are required to blast their horns; according to the Federal Rail Administration (FRA) Train Horn Rule<sup>3</sup>, the minimum duration of the train horn blast is 15 seconds. This noise is adversely affecting the residential areas in the vicinity of the crossing. The loudness of a train horn blast at 500 feet is typically between 96 and 110 decibels (db) which exceeds the noise level threshold of 90 db at which a sustained exposure can result in hearing loss<sup>4</sup>. There are residential properties directly adjacent to the railroad crossing approximately 150 feet away from the nearest railroad track. The project would eliminate the need for trains to blast their horns as they cross the crossing and would significantly reduce train related noise impacts to these sensitive land uses.

**Air Quality Benefits**

Although the project is not primarily intended to improve air quality, by improving traffic operations and reducing congestion along local streets, the project will have some air quality benefits. Based on a preliminary air quality benefits calculation, the project is expected to result in a reduction of air pollutant emissions:

*Estimated Daily Emissions Reduction (Opening Year Build Condition)*

Carbon Dioxide (CO <sub>2</sub> )	0.06783 tons
Nitrogen Oxide (NO <sub>x</sub> )	0.00003 tons
Particulate Matter (PM2.5)	0.00002 tons
Reactive Organic Gasses (ROG)	0.00004 tons

**IV. CORRIDOR AND SYSTEM COORDINATION**

**Local Traffic Circulation**

According to the City of Colton General Plan Traffic Circulation Element, Laurel Street is classified as a collector arterial which has an ultimate ROW width of 88 feet and roadway configuration of two to four lanes with a single lane raised or painted median. Collector arterials have designated speed limits of 25 to 35 miles per hour (mph). The crossing is located within the City's Central Business District zone; based on current land uses adjacent to the project area, traffic along Laurel Street would serve business/commercial, industrial, and residential traffic. The project portion of Laurel Street is also designated as a future Class 2 bicycle route in the City's Traffic Circulation Element which would require accommodation for a bicycle lane.

The project is consistent with the following City of Colton Traffic Circulation Element Goals and Objectives:

- Goal 1 – Develop a transportation system that is safe, convenient, efficient, and provides adequate capacity to meet local and regional demands.

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<sup>3</sup> FRA Train Horn Rule Fact Sheet (<http://www.fra.dot.gov/Pages/1773.shtml>)

<sup>4</sup> Decibel Scale of Common Sounds (<http://www.dangerousdecibels.org>)

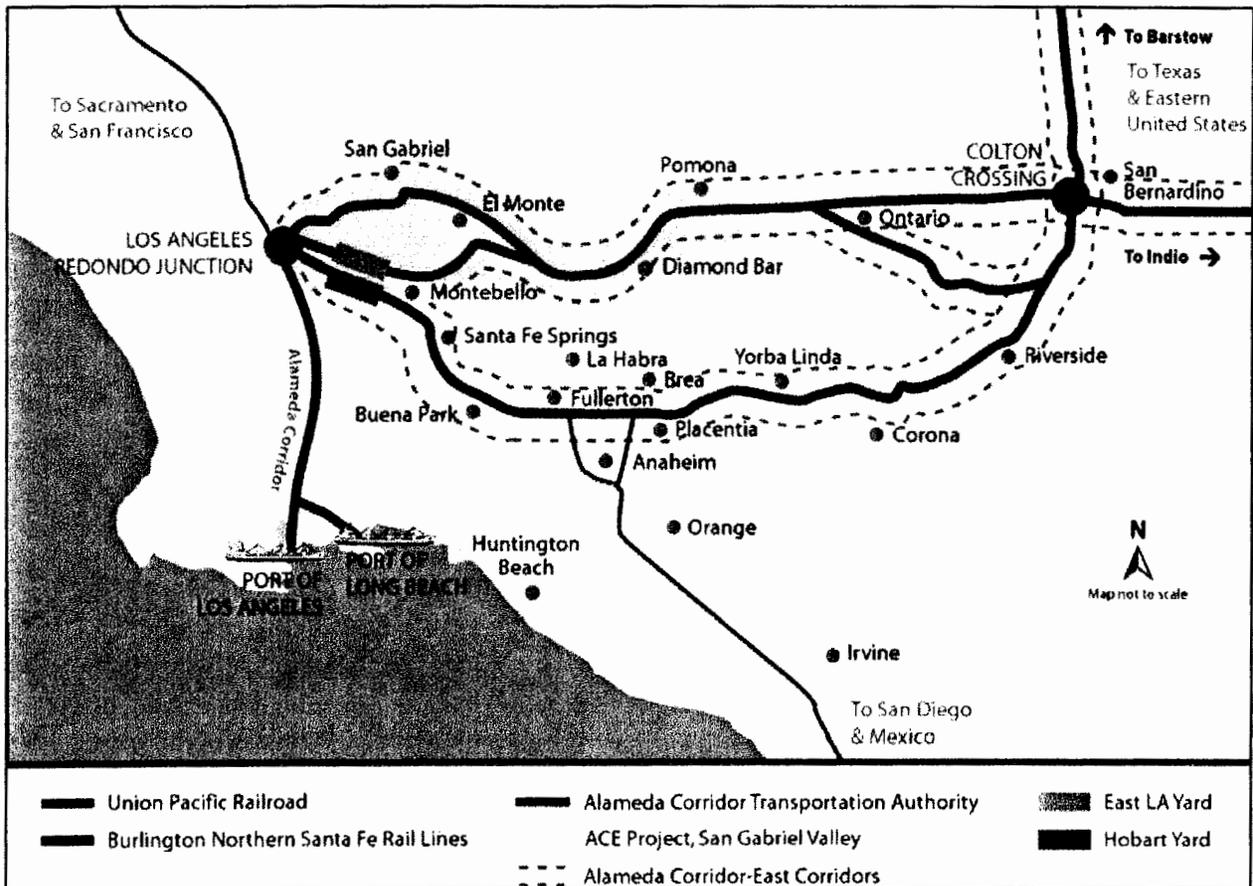
**Laurel Street / BNSF Grade Separation Project  
Project Study Report**

- Policy 1.1 – Develop a circulation system of City streets, excluding freeways, that is capable of serving existing traffic and future increases in traffic.

**BNSF Railroad Corridor**

The BNSF railroad corridor that is traversing the City of Colton is considered to be a part of the Alameda Corridor East (ACE). The BNSF serves as a commercial freight corridor carrying commercial goods from the Ports of Long Beach and Los Angeles. The BNSF corridor originates at the Los Angeles Redondo Junction, continues east to the City of Riverside, north through the City of Colton to the City of Barstow, and ultimately continues east through to the State of Texas and the eastern United States (See Figure 4). This critical BNSF corridor is also expected to serve the Southern California Logistics Airport located in the City of Victorville.

**FIGURE 4  
ALAMEDA CORRIDOR EAST  
UPRR AND BNSF CORRIDOR MAP**



## **V. ALTERNATIVES**

### **Build Alternative - Laurel Street Undercrossing**

A conceptual alternative, Build Alternative 1, was developed to determine the feasibility of a proposed grade separation at Laurel Street. Build Alternative 1 proposes to depress Laurel Street as a railroad undercrossing while the BNSF line remains at grade level on a new bridge structure. The proposed railroad bridge would accommodate six railroad tracks in addition to an access road and additional width to accommodate one future Metrolink track. The design alignment and cross section of this conceptual alternative is shown in Attachment B. Presently, under this alternative, the current number of lanes along Laurel Street (2 lanes) will be maintained. Due to a change in the Laurel Street elevation, the existing access to Laurel Street from intersecting 7<sup>th</sup> and 8<sup>th</sup> Streets may be modified and cul-de-sacs could be constructed.

In order to construct the railroad bridge while avoiding interruption of rail service during construction, a temporary railroad shoofly will be required. Based on the conceptual design of Build Alternative 1, it is possible to construct a temporary four-lane shoofly to the east of the railroad line with minimal right-of-way impacts (See Attachment B). According to the Railroad Improvements MOU between SANBAG, the City, and both railroads, BNSF agreed to consider reducing the number of railroad tracks for the shoofly from six tracks to four, which would result in potential cost savings during construction.

### **Build Alternative 2 – Elevate or Depress BNSF Railroad (Not Feasible)**

Build Alternative 2 would either elevate or depress the BSNF railroad over or under Laurel Street. Based on preliminary calculations, because the maximum profile grade allowed by BNSF on an industrial track is 1.5%, if the BNSF railroad were to be elevated over or depressed under Laurel Street, project improvements would have to begin approximately 1500 feet along the railroad line to the north and south of Laurel Street. As such, an approximately ½ mile temporary railroad shoofly would also be required; this shoofly would result in substantially greater right-of-way impacts on adjacent properties and higher construction costs.

Based on this preliminary alternatives comparison, there were no benefits identified as part of this alternative over the Laurel Street undercrossing alternative. In addition, it is not desired by BNSF to change the vertical profile of the railroad if other options are feasible. Based on the analysis of conceptual alternatives, this alternative was found to be not feasible and did not warrant any additional consideration.

A professional services contract for preliminary design is planned to be awarded in November 2010. It is expected that other alternatives could be developed for consideration and a more detailed alternative analysis would be performed at that time.

### **No-Build Alternative**

A no-build alternative would not result in a grade separation at Laurel Street and traffic operational deficiencies, traffic congestion, and train noise related impacts would not be addressed. In addition, an at-grade railroad have increased risk for train collisions with

**Laurel Street / BNSF Grade Separation Project  
Project Study Report**

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vehicles, pedestrians, and non-motorized vehicles. The no-build alternative does not meet the purpose and need of the project and is not considered to be a feasible alternative at this time.

**VI. ENVIRONMENTAL STATUS**

The proposed project is subject to compliance with the California Environmental Quality Act (CEQA). The proposed action is presently found to be statutorily exempt from CEQA according to Title 14 California Code of Regulations, Section 15260 et seq. (Statutory Exemptions). Because there is no federal nexus identified, the project will not be subject to the National Environmental Policy Act (NEPA). The City will act as the CEQA lead agency and SANBAG as a responsible agency.

A professional services contract for environmental studies is planned to be awarded in November 2010. It is expected that the environmental studies performed during the environmental phase of the project will indicate whether the proposed action will require compliance with other applicable environmental laws, regulations and policies and whether any environmental permits will be required prior to construction.

**VII. COST ESTIMATES/FUNDING**

The estimated project cost of Build Alternative 1 is \$54 million. The cost per project phase is provided below. Please refer to Attachment C for a detailed cost estimate.

Project Cost per Phase

PA/ED	<b>\$1,448,347</b>
PS&E	<b>\$3,379,476</b>
ROW Capital	<b>\$7,020,000</b>
ROW Support	<b>\$780,000</b>
Construction Capital	<b>\$37,652,961</b>
Construction Support	<b>\$3,713,710</b>

*Total Cost - \$53,994,494*

Project Funding Sources<sup>A</sup>

BNSF Funds	10.0% to buy down project cost
City Funds	19.6% <sup>B,C</sup>
SANBAG <sup>D</sup>	80.4%

<sup>A</sup> Subject to a future Capital Agreement by SANBAG, the City, UPRR, and BNSF

<sup>B</sup> Percentage applied after BNSF buy down

<sup>C</sup> UPRR contribution of 7.7% to buy down City share

<sup>D</sup> Proposed TCRP and TCIF funds

Funding percentages between SANBAG, the City, BNSF, and UPRR are according to the Railroad Improvements MOU (See Attachment A). The final project concept, scope, design, and cost are subject to change as part of project development. A construction and maintenance agreement between the City and BNSF will be implemented prior to construction to delineate maintenance responsibilities of the proposed new grade separation facility.

**Laurel Street / BNSF Grade Separation Project  
Project Study Report**

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**VIII. SCHEDULE**

SANBAG plans to award a construction contract in November 2012; construction is estimated to last approximately 18 months and project opening date is planned for May of 2014. A detailed schedule is provided in Attachment D.

**Project Milestones Schedule**

Begin Preliminary Design and Environmental Studies	December 2010
Approve Project Report	June 2011
File Environmental Notice of Exemption	June 2011
Complete 65% PS&E	November 2011
Approve Final Design/PS&E Certification	June 2012
Begin Right of Way	November 2011
Right of Way Certification	June 2012
Award Construction Contract	November 2012
Project Completion	May 2014

**IX. PROJECT REVIEWS**

The final project design will be subject to approval by SANBAG, the City, BNSF, and CPUC. SANBAG will serve as the agency responsible for PS&E certification and the final plans and specifications will be reviewed and stamped by the SANBAG Agency Engineer or designee.

The project is subject to CEQA requirements, and the City will serve as the lead agency under CEQA responsible for environmental compliance. SANBAG will serve as a responsible agency under CEQA.

# ATTACHMENT A

Memorandum of Understanding Related to  
The Colton Crossing Railgrade Separation Project

## MEMORANDUM OF UNDERSTANDING

### RELATED TO THE COLTON CROSSING RAILGRADE SEPARATION PROJECT

THIS MEMORANDUM OF UNDERSTANDING (this "MOU") dated as of May 4, 2010 is entered into by and among UNION PACIFIC RAILROAD CORPORATION, a Delaware corporation ("UPRR"), BNSF RAILWAY COMPANY, a Delaware corporation ("BNSF"), CITY OF COLTON, a public body, corporate and politic ("CITY") and SAN BERNARDINO ASSOCIATED GOVERNMENTS, a California joint powers agency ("SANBAG"). UPRR, BNSF, CITY and SANBAG are hereinafter individually referred to as a "Party" and collectively referred to as the "Parties."

#### RECITALS:

A. The intersection of the UPRR rail line and the BNSF rail line immediately south of Interstate 10, east of South Rancho Avenue and west of South La Cadena Drive in the City of Colton, is generally referred to as the Colton Crossing (the "Colton Crossing"). The Parties are evaluating a project to grade-separate the Colton Crossing to improve freight and passenger rail mobility and efficiency by eliminating conflicting train movements (the "Colton Crossing Project").

B. Residents adjacent and near to the rail lines in the general vicinity of the Colton Crossing, specifically those adjacent to the BNSF rail line north of I-10, are seeking relief from railroad train horn noise.

C. CITY's local traffic circulation is affected by the numerous trains passing through at-grade crossings within the CITY's limits.

D. In relation to but separate from the Colton Crossing Project, the improvements that are the subject of this MOU consist of the following (collectively referred to herein as the "Improvements"):

- 1) A new railroad/street grade separation (Undercrossing) at Laurel Avenue (the "Laurel Avenue Grade Separation Project"). SANBAG has included the Laurel Avenue Grade Separation Project in the Measure I County sales tax funded transportation capital improvement program. Conceptual design has shown that depressing the street below the existing rail lines (Undercrossing) appears to be feasible by reducing the number of rail lines crossing Laurel Street from six to four during the construction of the Undercrossing. The rough order of magnitude cost estimate is \$54.8 million.
- 2) Establishment of a Quiet Zone in the City, including quiet zone improvements at Valley Boulevard and Olive Street, the removal of the existing grade crossings at "H" Street and "E" Street, and installation of a cul-de-sac, including street improvements such as sidewalk, curb and

gutter within the existing right-of-way, adjacent to the rail line at "H" Street and "E" Street (the "BNSF Quiet Zone Improvement Project") and the installation of quiet zone improvements on "M" Street at the realigned rail line for the 9<sup>th</sup> Street Improvement Project (the "'M" Street Quiet Zone Improvement Project");

- 3) Realignment of the UPRR Riverside Industrial Lead rail line out of the center of 9<sup>th</sup> Street, as described in UPRR's Ninth Street Track Relocation Project Conceptual Design Report, dated March 2009 (the "9<sup>th</sup> Street Improvement Project"); and
- 4) In connection with UPRR's consideration to abandon the segment of the Riverside Industrial Lead rail line that crosses the I-215 freeway, a new connection from the BNSF San Jacinto line and the southern portion of the Riverside Industrial Lead line would be needed to serve UPRR's freight customers located along the portion of the Riverside Industrial Lead located south of the San Jacinto Line (the "New Connection Project").

E. CITY believes that the Improvements are needed to address the noise and circulation issues described in Paragraphs B and C above.

F. SANBAG is considering widening the I-215 freeway from the Riverside County Line to the Interstate-10 freeway, in order to accommodate an additional lane in each direction (the "I-215 Widening Project"). The I-215 Widening Project requires modifications to structures that accommodate the crossing of the rail lines and the freeway, including the segment of the Riverside Industrial Lead rail line that crosses the I-215 freeway discussed above as part of the New Connection Project.

G. Since 1996, the Parties have at various times undertaken formal and informal discussions relating to the various alternative proposals to resolve the need for improving rail network operations and efficiency at the location of the Colton Crossing. The Parties have analyzed numerous engineering solutions to resolve these operational and efficiency issues. Six conceptual alternatives have been developed, including: (i) BNSF Flyover crossing existing UPRR tracks; (ii) UPRR Flyover crossing existing BNSF tracks; (iii) depress BNSF tracks under existing UPRR tracks; (iv) depress UPRR tracks under existing BNSF tracks; (v) combine elevated and depressed UPRR and BNSF tracks; and (vi) a no build alternative with the Colton Crossing remaining the same.

H. The Parties are in general agreement that the UPRR rail line grade crossing flyover of the BNSF rail line appears to be the most viable alternative. Therefore, the Parties also concur that only this alternative and the no build alternative will be evaluated during any required environmental and other legal review, including under the California Environmental Quality Act ("CEQA") and (if applicable) the National Environmental Policy Act ("NEPA") processes, to the extent appropriate under applicable laws ("CEQA/NEPA Review"). The Parties also understand and agree that any CEQA/NEPA Review for the Colton Crossing

Project will address public safety and graffiti abatement issues on the bridge structure, as well as study the preservation of the historic Wells Fargo Express Building and the Southern Pacific Depot (all located at or near 125 North 9<sup>th</sup> Street).

I. CITY will be the lead agency for CEQA purposes in connection with the Laurel Avenue Grade Separation Project, the Quiet Zone Improvement Project, and 9<sup>th</sup> Street Improvement Project.

J. Before construction of the Colton Crossing Project commences, the Parties will enter into a funding agreement relating to the Improvements, which will describe how all of the Total Project Costs (defined below) for all of the individual Improvements will be funded contingent upon applicable CEQA/NEPA Review and permitting of the Improvements (the "Funding Agreement"). The Funding Agreement shall specify in detail the estimated Total Project Costs for each Improvement, based on the then-current level of design.

K. Separate Construction and Maintenance Agreements will be entered into between the relevant parties for each individual Improvement prior to the construction of such project ("Construction and Maintenance Agreements"); provided, however, that the Funding Agreement shall generally describe how the construction and maintenance obligations will be assigned to the relevant parties for each Improvement.

L. Pending completion of the Funding Agreement, as well as CEQA/NEPA Review and permitting of the Improvements, through this MOU the Parties desire to set out general terms for the design, environmental review, permitting, installation, construction, and funding of the Improvements concurrent with the construction of the Colton Crossing Project.

M. Although the Parties enter into this MOU, California law requires CEQA Review prior to any discretionary approval by the CITY or SANBAG of any of the Improvements subject to CEQA Review. To the extent applicable, NEPA review may also be required for one or more of the Improvements. Therefore, the terms of this MOU are subject to: (i) completion of CEQA/NEPA review for the proposed Improvements and the Colton Crossing Project; (ii) the public review process, including any public hearing(s) required by law, for the proposed Improvements and the Colton Crossing Project; (iii) approval of the governing authority of each Party of the various agreements; and (iv) receipt of all required governmental approvals and permits for the proposed Improvements and the Colton Crossing Project.

NOW, THEREFORE, the Parties hereby agree as follows:

1. Incorporation of Recitals. The recitals set forth above are true and correct and are incorporated herein by this reference.

2. Purpose of this MOU. This MOU is intended to describe the general terms of the roles and responsibilities of the Parties for the project management, design, environmental review, permitting, installation, construction, and funding of the Improvements, and the cooperation of the Parties to expedite the railroad structures required for the I-215 Widening Project. The Parties expressly acknowledge and agree that: (i) the Parties intend to instruct

their respective staff personnel to engage in negotiations on the terms of the Funding Agreement, which will include the terms generally set forth in this MOU (as such terms may be modified or augmented pursuant to agreement of the Parties); and (ii) staff negotiations on the terms of the Funding Agreement will not bind the Parties, and no Funding Agreement will be effective with respect to Improvements except upon completion of CEQA/NEPA Review relating to such Improvements and subsequent approval by the governing authority of each Party.

3. No Obligation to Proceed.

a. Each Party expressly acknowledges and agrees that this MOU creates no obligation on the part of any Party to proceed to construct the Colton Crossing Project, construct any of the Improvements, enter into the Funding Agreement, or enter into any Construction and Maintenance Agreements.

b. Each Party further acknowledges and expressly agrees that the installation and construction of the Colton Crossing Project shall not proceed until the Funding Agreement that includes the general terms of this MOU with regard to the Improvements is executed by all Parties.

c. Each Party will act in good faith in negotiations and execution of the Funding Agreement and separate Construction and Maintenance Agreements for each of the Improvements. No Party shall use the negotiations or execution of these agreements to cause delay or otherwise interfere with the construction of the Colton Crossing Project and/or the Improvements.

d. Although the CITY will not be a party to the agreement for constructing the Colton Crossing Project, both SANBAG and the City agree to continue to support and advance construction of the Colton Crossing Project during all phases of development, subject to the terms of this MOU and pending execution of the Funding Agreement.

e. Each Party will participate in good faith in obtaining necessary environmental clearance and permits for the Improvements. If such clearances and/or permits cannot be obtained for one or more of the Improvements, each Party acknowledges that the Colton Crossing Project can proceed without the construction of the particular Improvements for which environmental clearance and/or permits cannot be obtained. If the Laurel Avenue Grade Separation Project cannot proceed because of circumstances beyond the control of the Parties hereto, the Parties agree to identify and make a priority an alternative vehicular traffic circulation / railroad improvement with equal or lesser monetary costs and with a substantially equal ratio of contribution by each of the Parties.

4. Preliminary Terms. All of the terms set forth in this MOU are general in nature and subject to: (i) completion of CEQA/NEPA Review and approval by each Party's governing authority; and (ii) memorialization in the Funding Agreement.

5. Proposed Terms of Improvements. The Parties concur on the following as the basis for negotiating the terms relating to the Improvements, subject to the requirements of Section 3 above:

a. Laurel Avenue Grade Separation Project. SANBAG will commence construction of the Laurel Avenue Grade Separation Project within 18 months of the commencement of construction of the Colton Crossing Project.

b. Quiet Zone Improvement Project. CITY shall be the lead agency in the application to the California Public Utilities Commission and the Federal Railroad Administration for the BNSF Quiet Zone Improvement Project and the "M" Street Quiet Zone Improvement Project. Construction of the BNSF Quiet Zone Improvement Project is to commence concurrently with the commencement of construction of the Colton Crossing Project and the "M" Street Quiet Zone Improvement Project is to be constructed in conjunction with the 9<sup>th</sup> Street Improvement Project as described in Sub-section "c" below.

c. 9<sup>th</sup> Street Improvement Project. UPRR will commence construction of the 9<sup>th</sup> Street Improvement Project within 18 months of the commencement of construction of the Colton Crossing Project, or when the CITY has acquired the right-of-way required for the improvements, whichever ever comes later. CITY will be responsible for acquiring all necessary rights-of-way in connection with the 9<sup>th</sup> Street Improvement Project and conveying them to UPRR with clear title, at no cost to UPRR, by a form agreeable to the railroad, free of any obstructions and structures except those identified in Recital "H" above, and in a condition ready for rough grading to begin. Upon completion of the 9<sup>th</sup> Street Improvement Project, for the segment of rail line in accordance with CITY street standards in the center of 9<sup>th</sup> Street from approximately East "K" Street to approximately East "O" Street, UPRR will remove the existing rail lines from the center of 9<sup>th</sup> Street, pave the street in the areas from which the rail lines have been removed, remove the existing railroad signage, and relinquish to the CITY at no cost to the CITY any rights that UPRR may have to operate in the currently paved portions of 9<sup>th</sup> Street. The right-of-way is generally described in the Ninth Street Relocation Project Conceptual Design Report.

d. New Connection Project. Subject to the Section 6.(e)(4), UPRR concurs with and will diligently pursue the Surface Transportation Board's approval for the abandonment of the segment of the Riverside Industrial Lead rail line that crosses the I-215, to allow for the removal of the railroad bridge over the I-215 as part of the I-215 Widening Project (which is currently scheduled to begin construction in 2012). SANBAG and the CITY will support UPRR's application for abandonment of this segment of this line.

6. Proposed Funding. The Parties concur on the following as the basis for negotiating the funding of the Total Project Costs for the Improvements. For purposes of this MOU, unless otherwise stated, the phrase "Total Project Costs" shall mean all project management, environmental, design, right-of-way, permitting, installation, and construction costs.

a. **Laurel Avenue Grade Separation Project.**

1. **SANBAG.** SANBAG shall contribute eighty-point-three-eight percent (80.38%) of the Total Project Costs.

2. **CITY.** CITY shall contribute nineteen-point-six-two percent (19.62%) of the Total Project Costs, with the CITY's contribution reduced by the UPRR's contribution as described by Sub-section 3 below. Following such reduction, the City's out-of-pocket contribution is estimated at five million four hundred and eighty thousand dollars (\$5,480,000).

3. **UPRR.** UPRR shall contribute seven and seven-tenth percent (7.7%) of the Total Project Costs, which shall count towards the CITY's share as described in Sub-section 2 above, estimated at four million two-hundred thousand dollars (\$4,200,000) and irrespective of whether additional federal, state, local or other funds become available.

4. **BNSF.** BNSF shall contribute ten percent (10%) of the Total Project Costs if federal funds are not utilized on the project, or five percent (5%) of the Total Project Costs if federal funds are utilized on the project. As described by SANBAG Policy 40001, BNSF's contribution shall count towards the SANBAG's and the City's contribution as described in Sub-section 1 and 2 above.

b. **BNSF Quiet Zone Improvement Project.**

1. **SANBAG.** SANBAG shall contribute one-hundred percent (100%) of the Total Project Costs after BNSF's contribution as described in Sub-section 4 below.

2. **CITY.** CITY's contribution towards the Total Project Costs shall be to vacate its property rights on BNSF's right-of-way as part of the removal of the "H" Street and "E" Street grade crossings. CITY has no monetary obligation for this project.

3. **UPRR.** UPRR has no monetary obligation for this project.

4. **BNSF.** BNSF shall contribute one-hundred thousand dollars (\$100,000) towards the removal of the "H" Street and "E" Street grade crossings.

c. **"M" Street Quiet Zone Improvement Project.**

1. **SANBAG.** SANBAG shall contribute one-hundred percent (100%) of the Total Project Costs.

2. **CITY.** CITY has no monetary obligation for this project.

3. **UPRR.** UPRR has no monetary obligation for this project.

4. BNSF. BNSF has no monetary obligation for this project.

d. **9th Street Improvement Project.** For purposes of the 9th Street Improvement Project, Total Project Costs shall not include right-of-way acquisition costs which exceed any government grant funding obtained for this project. Any right-of-way acquisition costs above the grant funding shall be the sole obligation of the CITY.

1. SANBAG. In conjunction with CITY and UPRR, SANBAG shall assist in obtaining government grant funding to apply towards the Total Project Costs. For Total Project Costs above any grant funding but less than seven million dollars (\$7,000,000), SANBAG shall contribute fifty-nine percent (59%) up to a maximum of four million one-hundred and thirty thousand dollars (\$4,130,000). For Total Project Costs that exceed the sum of any grant funding plus seven million dollars (\$7,000,000), SANBAG shall have no obligation.

2. CITY. In conjunction with SANBAG and UPRR, CITY shall assist in obtaining government grant funding to apply towards the Total Project Costs. CITY shall pursue acquiring all required rights-of-way by donation. If the rights-of-way cannot be obtained by donation, the first priority of any government grants obtained for the project will be utilized for the purchase of rights-of-way. Any right-of-way acquisition costs above the grant funding shall be the sole obligation of the CITY. For Total Project Costs other than right-of-way acquisition, CITY shall have no obligation.

3. UPRR. In conjunction with CITY and SANBAG, UPRR shall assist in obtaining government grant funding to apply towards the Total Project Costs. For Total Project Costs above any grant funding but less than seven million dollars (\$7,000,000), UPRR shall contribute forty-one percent (41%). For Total Project Costs that exceed the sum of any grant funding plus seven million dollars (\$7,000,000), UPRR shall contribute one-hundred percent (100%). Notwithstanding anything to the contrary in this Sub-section (d), if as described in Sub-section (e) below, the bridge which serves the Riverside Industrial Lead rail line over the I-215 freeway is not permanently removed as part of the I-215 Widening Project, UPRR shall contribute one hundred percent (100%) of the Total Project Costs above any grant funding for this project (other than CITY's right-of-way obligation).

4. BNSF. BNSF has no monetary obligation for this project.

e. **New Connection Project.**

1. SANBAG. SANBAG has no monetary obligation for this project. SANBAG will cooperate with the Other Parties in obtaining any funding to apply towards the Total Project Costs.

2. CITY. CITY has no monetary obligation for this project. City will cooperate with the other Parties in obtaining any funding to apply towards the Total Project Costs.

3. UPRR. UPRR shall concur with the permanent removal of the bridge which serves the Riverside Industrial Lead rail line over the I-215 freeway. If for any reason this bridge is not permanently removed as part of the I-215 Widening Project, UPRR shall do both of the following: (a) contribute one million five-hundred thousand dollars (\$1,500,000) towards the replacement of the current bridge as part of the I-215 Widening Project; and (b) be responsible for one hundred percent (100%) of the Total Project Costs of the 9<sup>th</sup> Street Improvement Project above any grant funding received. UPRR will cooperate with the other Parties in obtaining any funding to apply towards the Total Project Costs.

4. BNSF. BNSF has no monetary obligation for this project. BNSF will cooperate in obtaining any funding to apply towards the Total Project Costs. In addition, upon the abandonment of the intermediate section of UPRR's Riverside Industrial Lead rail line between approximately Milepost 540.5 and Milepost 543.7 and provided BNSF and UPRR reach agreement on terms, BNSF will assume responsibility to switch UPRR's customers located south of the New Connection pursuant to a separate switching agreement that BNSF and UPRR will enter into as part of the definitive agreements contemplated in this MOU. The switch charge UPRR will pay BNSF and other terms and conditions for BNSF to assume such responsibility are to be determined through negotiations to be completed on or before May 15, 2010.

7. Cooperation for I-215 Widening Project. BNSF and UPRR will review and provide written responses for all submittals for their respective railroad bridges required for the I-215 Widening Project, including preliminary and final design plans, specifications and agreements, within thirty (30) working days. If the document is not approved within two submittals, a "round-table" meeting will be held to reach concurrence on the outstanding issues.

8. Amendment or Waiver. This MOU shall only be amended in writing after approval of the Parties to this MOU.

9. Counterparts. This MOU may be executed in multiple counterparts, each of which shall be deemed an original and together shall constitute one and the same agreement, with one counterpart being delivered to each Party.

10. Term of MOU. This MOU shall become effective upon its execution by all of the Parties and upon the adoption of the Baseline Agreement by the California Transportation Commission for Trade Corridor Improvement Fund (TCIF) funding incorporating that certain Memorandum of Understanding among BNSF, UPRR, and SANBAG concerning TCIF funding for the Colton Crossing Project, and shall, unless terminated for cause, remain in effect until the earliest of:

- a. execution of a Funding Agreement; or
- b. January 1, 2014.

11. Entire Agreement. This MOU is the full and complete agreement between the Parties with respect to the subject matter herein.

IN WITNESS WHEREOF, the Parties hereto have caused this MOU to be executed by their duly authorized representatives all as of the date and year first written above.

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CITY'S SIGNATURE PAGE

CITY OF COLTON

By: Kelly Chastain  
KELLY CHASTAIN, Mayor  
City of Colton

Attest:

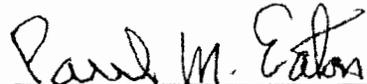
By: Eileen Boney  
City Clerk

Approved as to Form:

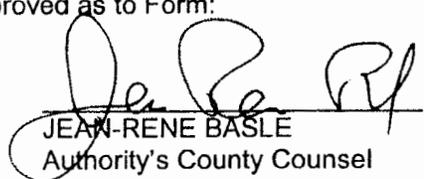
By: [Signature]  
City Attorney

**SANBAG'S SIGNATURE PAGE**

**SAN BERNARDINO ASSOCIATED GOVERNMENTS**

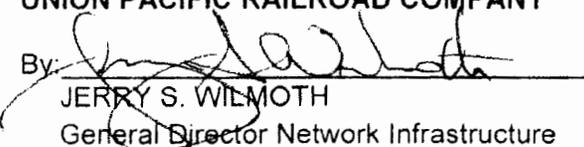
By:   
PAUL M. EATON, President  
SANBAG Board of Directors

Attest:  
By:   
VICKI WATSON  
Clerk of the Board

Approved as to Form:  
  
JEAN-RENE BASLE  
Authority's County Counsel

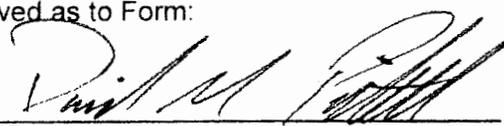
UNION PACIFIC RAILROAD'S SIGNATURE PAGE

UNION PACIFIC RAILROAD COMPANY

By: 

JERRY S. WILMOTH  
General Director Network Infrastructure  
Union Pacific Railroad

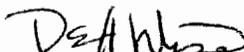
Approved as to Form:

By: 

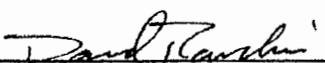
DAVID M. PICKETT  
General Attorney  
Union Pacific Railroad

**BNSF'S SIGNATURE PAGE**

**BNSF RAILWAY**  
a Delaware Corporation

By:   
DEAN WISE  
Vice President Network Strategy  
BNSF Railway Company

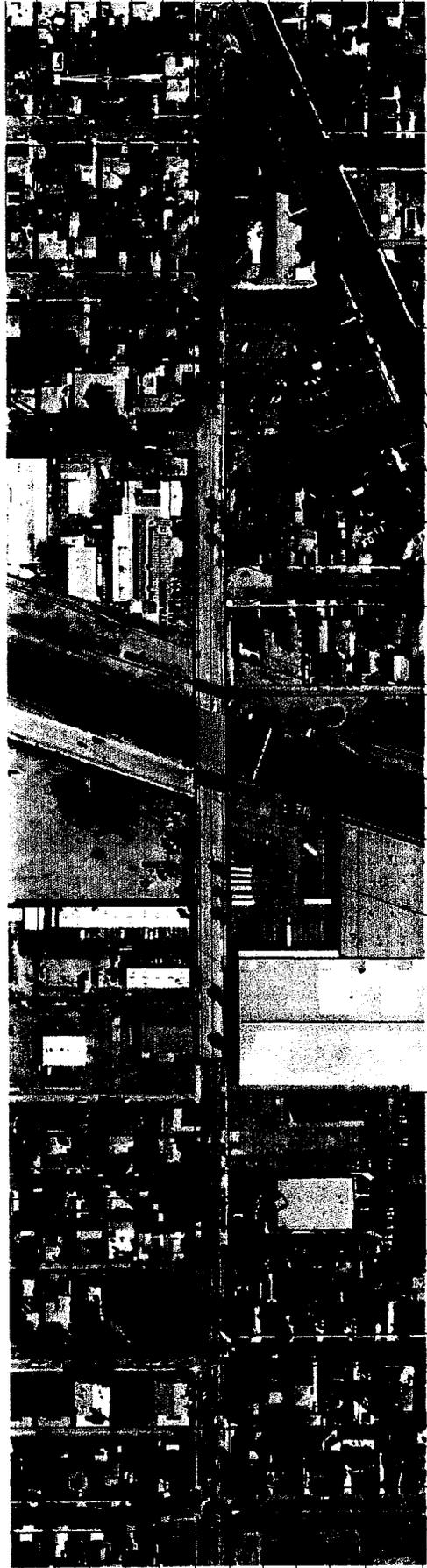
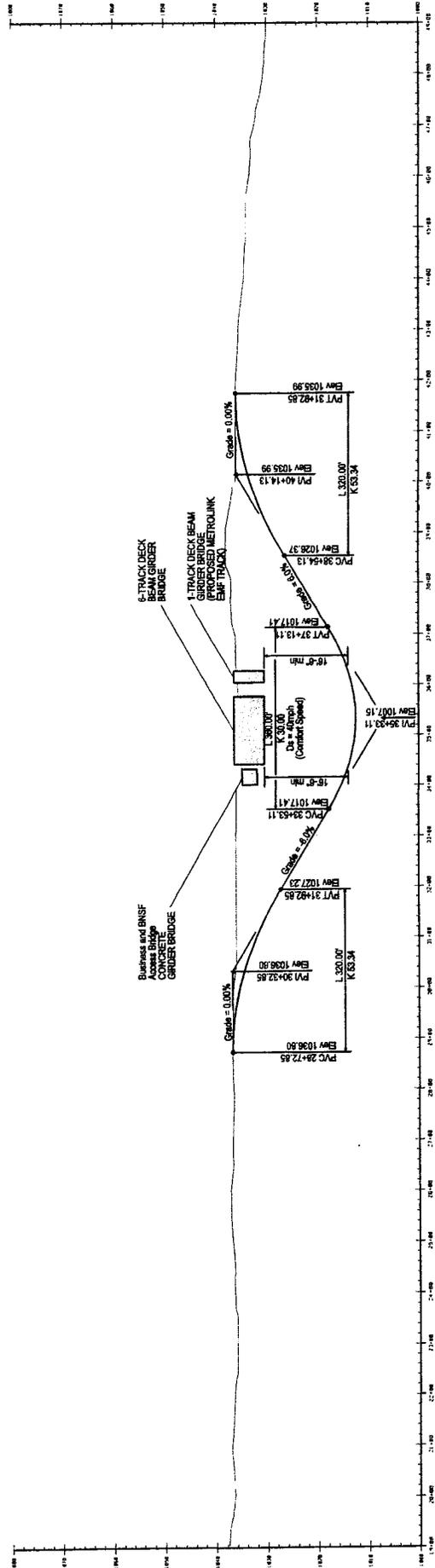
Approved as to Form:

By:   
DAVID RANKIN  
Senior General Attorney  
BNSF Railway Company

# ATTACHMENT B

Build Alternative 1

Conceptual Design Layout and Cross Section



LAUREL STREET GRADE SEPARATION  
 UNDERPASS  
 PRELIMINARY CONCEPTUAL EXHIBIT

SCALE: 1"=200'  
 DATE: 04-21-2010



Dc 2°42'56"

BNSF Rail Bridge (6 tracks)

Signal Bridge (6 tracks)

Business and BNSF Access Bridge

No 11 LH T.O.

Dc 3°49'14"

Dc 2°51'54"

No 15 RH T.O.

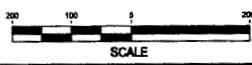
Dc 2°42'58"

Dc 2°42'58"

Future Metrolink Rail Bridge (1 track)

No 20 LH T.O.

Metrolink Maintenance Facility



Governments  
**SANBAG**  
San Joaquin Hills

**HDR** ONE COMPANY  
Many Solutions  
HDR Engineering, Inc.  
1000 P Street, Suite 200  
Berkeley, CA 94710

LAUREL STREET GRADE SEPARATION UNDERPASS  
PRELIMINARY CONCEPTUAL EXHIBIT  
BNSF SHOOFLY TRACKS

SCALE: 1"=200'  
DATE: 04-21-2010

**ATTACHMENT C**  
**Project Cost Estimate**



**Rough Order of Magnitude (ROM) Estimate of Probable Costs  
Laurel St. Undercrossing - Single Phase Bridge Construction**

	Unit	Qty	Unit Price	Total Cost (\$)
<b>Mobilization</b>				
Mobilization	LS	1	\$2,000,000	\$2,000,000
<b>Structures</b>				
Roadway Bridge	LS	1	\$900,000	\$900,000
Rail Bridge	LS	1	\$6,175,000	\$6,175,000
<b>Retaining Walls</b>				
North and South Soldier Pile Walls	LS	1	\$500,000	\$500,000
Retaining Walls	SF	21,000	\$150	\$3,150,000
<b>Utilities (Allowance)</b>				
Relocation of Underground and Overhead Utilities	LS	1	\$2,500,000	\$2,500,000
<b>Civil</b>				
Removal/Relocations/Demolitions	LS	1	\$700,000	\$700,000
Unclassified Excavation	CY	105,000	\$15	\$1,575,000
AC Pavement	TON	3,000	\$95	\$285,000
Subbase	CY	1,500	\$30	\$45,000
Concrete	LS	1	\$150,000	\$150,000
Signing and Striping	LS	1	\$25,000	\$25,000
Traffic Control	LS	1	\$500,000	\$500,000
Miscellaneous (drainage, onsite improvements, etc..)	LS	1	\$750,000	\$750,000
Pump Station	EA	1	\$1,500,000	\$1,500,000
<b>Track</b>				
Furnish and Install New #20 Turnouts	EA	1	\$400,000	\$400,000
Furnish and Install New #11 Turnouts	EA	1	\$192,500	\$192,500
Furnish and Install New #15 Turnouts	EA	1	\$250,000	\$250,000
Shift Existing Rail Track	TF	9,540	\$150	\$1,431,000
Shift Existing Metrolink Rail Track	TF	1,800	\$150	\$270,000
Remove Existing and Furnish and Install New Rail Track	TF	4,120	\$300	\$1,236,000
Signal Modifications	LS	1	\$3,750,000	\$3,750,000
<b>Lighting</b>				
Lighting	LS	1	\$300,000	\$300,000
			<b>CONSTRUCTION SUBTOTAL</b>	<b>\$28,584,500</b>
<b>Soft Costs</b>				
Final Design	%	10%	\$28,584,500	\$2,858,450
Construction Management	%	10%	\$28,584,500	\$2,858,450
Agency Administration	%	3%	\$28,584,500	\$857,535
Railroad Flagging (1 flagmen for 1.5 years)	MAN-DAY	390	\$960	\$374,400
Right of Way (including Engineering & Legal)	LS	1	\$6,000,000	\$6,000,000
			<b>SOFT COST SUBTOTAL</b>	<b>\$12,948,835</b>
<b>CONTINGENCIES</b>	LS	30%	\$41,533,335	\$12,461,000
<b>GRAND TOTAL ROM ESTIMATE</b>				<b>\$53,994,335</b>
<b>ADJUSTMENT TO MID CONST DOLLARS</b>	Year	3	3%	<b>\$59,010,000</b>

# ATTACHMENT D

## Preliminary Project Delivery Schedule

Laurel Avenue Grade Separation  
DRAFT Project Delivery Schedule

ID	Task Name	Duration	Start	Finish	2011					2012				
					H2	H1	H2	H1	H2	H1	H2	H1	H2	
1	<b>Project Delivery Timeline</b>	<b>508 days</b>	<b>Mon 12/06/10</b>	<b>Wed 11/14/12</b>										
2	Notice to Proceed	0 days	Mon 12/06/10	Mon 12/06/10										
3	<b>Environmental and Preliminary Design</b>	<b>132 days</b>	<b>Tue 12/07/10</b>	<b>Wed 06/08/11</b>										
4	Environmental (WBS 2.165)	132 days	Tue 12/07/10	Wed 06/08/11										
5	File Statutory Exemption	0 days	Wed 06/08/11	Wed 06/08/11										
6	Project Report and 30% PS&E (WBS 3.185)	132 days	Tue 12/07/10	Wed 06/08/11										
7	<b>Final Design and ROW</b>	<b>264 days</b>	<b>Thu 06/09/11</b>	<b>Tue 06/12/12</b>										
8	65% PS&E (WBS 3.230)	110 days	Thu 06/09/11	Wed 11/09/11										
9	95% PS&E (WBS 3.255)	88 days	Thu 11/10/11	Mon 03/12/12										
10	Final PS&E (WBS 3.260)	66 days	Tue 03/13/12	Tue 06/12/12										
11	ROW Certification (WBS 4)	154 days	Thu 11/10/11	Tue 06/12/12										
12	Agency Review (WBS 2.170)	264 days	Thu 06/09/11	Tue 06/12/12										
13	RTL	0 days	Tue 06/12/12	Tue 06/12/12										
14	Advertise Construction Contract (WBS 3.265)	110 days	Wed 06/13/12	Tue 11/13/12										
15	Award Construction Contract	0 days	Tue 11/13/12	Tue 11/13/12										
16	Construction	1 day	Wed 11/14/12	Wed 11/14/12										

Construct Project (396 Days - Opening Date is 5/21/14) I

Laurel Avenue Grade Separation  
Date: Wed 06/16/10

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	