

# Grade Separation Funding Strategy: A Blueprint for Advancing Projects



2008

Almost all freight rail traffic in Riverside County is from trains passing through. In 2003, three million tons of rail freight moved to or from destinations in Riverside County. By contrast, 68 million tons of rail freight, almost 23 times the local amount, passed through the county.



## Executive Summary

The impact of delays caused by freight trains traveling through Riverside County is rapidly becoming one of the area's most pressing transportation concerns. In 2003, 68 million tons of rail freight passed through Riverside County; less than five percent either originates or ends locally, resulting in enormous congestion, safety and air quality impacts for local residents. The cumulative impact of freight rail growth makes quality of life issues a top priority for communities that are faced with traffic delays, disruptions to public safety and emergency responses and an increase in harmful emissions.

Funding and constructing railroad grade separations will provide needed mitigation for freight rail impacts and is a top priority for Riverside County. In 2006, the Riverside County Transportation Commission (RCTC) developed a funding strategy to serve as a blueprint for advancing many of these needed projects. This 2008 funding strategy up-date reflects a number of changes and a great deal of progress which has taken place in the past two years. A handful of projects have recently begun construction and many more are in various stages of project development. Moreover, there has been welcome funding from Proposition 1B which was approved by voters in 2006 and has resulted in \$152.7 million being allocated to 12 railroad grade separations in Riverside County.

Still, a number of challenges remain. While Proposition 1B bond funding is welcome, project costs have climbed and there are additional top priority grade separations than previously identified in 2006. Many local governments are now facing significant budgetary challenges in the current economy, which has also impacted the collection of Transportation Uniform Mitigation Fees (TUMF) that could be used for grade separation projects. On the legislative front, a number of proposals included state and federal container fee programs; however no legislation was approved.

### RCTC Funding Strategy Highlights 31 Crossings

Currently there are 61 at-grade Alameda Corridor East (ACE) crossings in Riverside County. These crossings present conflicts between rail and highway traffic and are located on the main lines of either the Union Pacific (UP) or Burlington Northern Santa Fe (BNSF) railroads.

During its April 2006 meeting, RCTC ranked the 61 railroad crossings into five priority tiers based upon a set of criteria that includes traffic congestion, safety, air quality, noise and local community preferences. In addition, the Commission identified 28 crossings that were ranked in the top two tiers as the highest priority for grade separations. Based on funding availability as well as project deliverability, the 2008 funding strategy up-date reflects three additional projects added to the priority list: Avenue 52, Avenue 56/Airport Boulevard, and Avenue 66. Appendix A contains the 61 at-grade crossings and identifies the 31 priority projects. Of the 61 crossings, three have either been completed or are scheduled for completion by 2009. Thirty-one remain RCTC priorities that require funding.

The cost of constructing grade separations at the 31 locations is currently estimated at \$1.7 billion, yet only \$414.8 million is currently committed through federal, state and local funding sources. The purpose of this report is to develop a strategy and funding plan that leverages existing funding commitments of local jurisdictions to close the funding gap by 2019. In doing so, the plan develops a strategy for funding 20 of the 31 crossings for a total project cost of \$980.5 million and groups them according to three funding priority groups:

- Funding Priority Group A (8 Projects fully funded and under design.)
- Funding Priority Group B (5 TCIF projects - not fully funded.)
- Funding Priority Group C (7 Projects with little or no funding or heavily dependent on voluntary container premiums.)



## Priority Listing

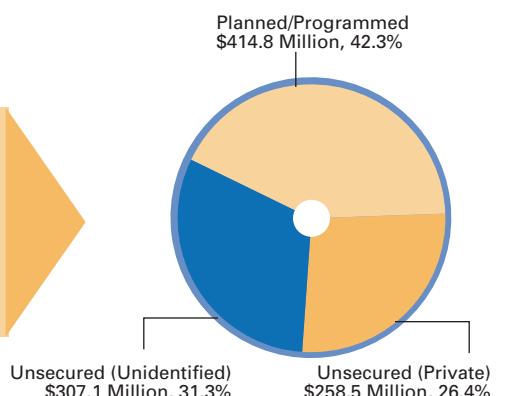
Crossing	Lead Agency	Total Project Cost (in millions)	RCTC Priority Tier	Project Status	TCIF Allocation
<b>Funding Priority Group A</b>		<b>(8 Projects fully funded)</b>			
Auto Center Drive/BNSF	Corona	\$32.0	2	Final design	\$16.0
Avenue 52/UP	Coachella	\$17.3	3	Conceptual engineering PSR	
Avenue 56/Airport Blvd./UP	County	\$60.0	4	Conceptual engineering PSR (Equiv.)	\$10.0
Avenue 66/UP	County	\$33.5	3	Conceptual engineering PSR (Equiv.)	\$10.0
Columbia Avenue/BNSF & UP	Riverside	\$34.1	1	Construction	\$6.0
Iowa Avenue/BNSF & UP	Riverside	\$32.0	1	PS&E	\$13.0
Magnolia Avenue/UP	Riverside	\$51.2	1	Right of way and design	\$20.0
Sunset Avenue/UP	Banning	\$36.5	1	Preliminary engineering	\$10.0
<b>Funding Priority Group B</b>		<b>(5 TCIF Projects - not fully funded)</b>			
3rd Street/BNSF & UP	Riverside	\$40.2	1	Preliminary engineering	\$17.5
Clay Street/UP	County	\$37.4	2	Conceptual engineering PSR (Equiv.)	\$12.5
Magnolia Avenue/BNSF	County	\$81.8	1	Conceptual engineering PSR (Equiv.)	\$13.7
Riverside Avenue/UP	Riverside	\$30.3	1	Environmental	\$8.5
Streeter Avenue/UP	Riverside	\$36.8	2	Environmental	\$15.5
<b>Funding Priority Group C</b>		<b>(7 Projects with little or no funding or heavily dependent on voluntary container premiums)</b>			
Bellgrave Avenue/UP	County	\$105.5	3	Conceptual engineering PSR (Equiv.)	
Center Street/BNSF & UP	County	\$36.3	2	Conceptual planning underway	
Jurupa Road/UP	County	\$108.4	1	Conceptual engineering PSR (Equiv.)	
Mary Street/BNSF	Riverside	\$38.0	2	Preliminary engineering	
McKinley Street/BNSF	Corona	\$109.2	1	Conceptual engineering PSR (Equiv.)	
Railroad Street/BNSF	Corona	\$30.0	3	Conceptual engineering PSR (Equiv.)	
Smith Avenue/BNSF	Corona	\$30.0	2	Conceptual engineering PSR (Equiv.)	
<b>Total:</b>		<b>\$980.5</b>			<b>\$152.7</b>

### Notes:

Center Street: The County of Riverside is working closely with the San Bernardino Associated Governments to determine whether to grade separate Center Street or Main Street. If Main Street is the preferred alternative, it is anticipated that SANBAG will provide financial support.

## BENEFITS OF GRADE SEPARATING 20 HIGH PRIORITY

Currently, \$414.8 million of the \$980.5 million is either planned or programmed through the use of federal, state and local funding sources. The balance of \$565.6 million is funded through unsecured sources including railroad contributions, Section 190 CPUC funds, voluntary container premiums or has not been identified.





## PROJECTS IN RIVERSIDE COUNTY:

The freight movement through Southern California is increasing at a rapid rate. The impact of delays caused by freight trains traveling through Riverside County is rapidly becoming one of the area's most pressing transportation concerns. Grade separating the 20 high priority projects in Riverside County will:

- Stop 277 tons of air pollutants and 544.3 tons of greenhouse gases from being emitted annually in the worst air basin in the nation in 2030 (see page 27 for public health effects);
- Eliminate projected doubling of gate crossing wait times of 74 hours, 36 minutes per day in 2030;
- Eliminate 33 potential accident sites in a 10 year period;
- Eliminate a projected increase in auto/truck traffic delay at crossings resulting from a 60% increase in rail traffic and 61% increase in vehicular traffic; and
- Connect the Alameda corridor and the Ports of Los Angeles and Long Beach to the transcontinental rail network creating a faster, more efficient method for distributing an estimated \$392.7 billion worth of trade by the year 2030.

## RECOMMENDED FUNDING STRATEGY

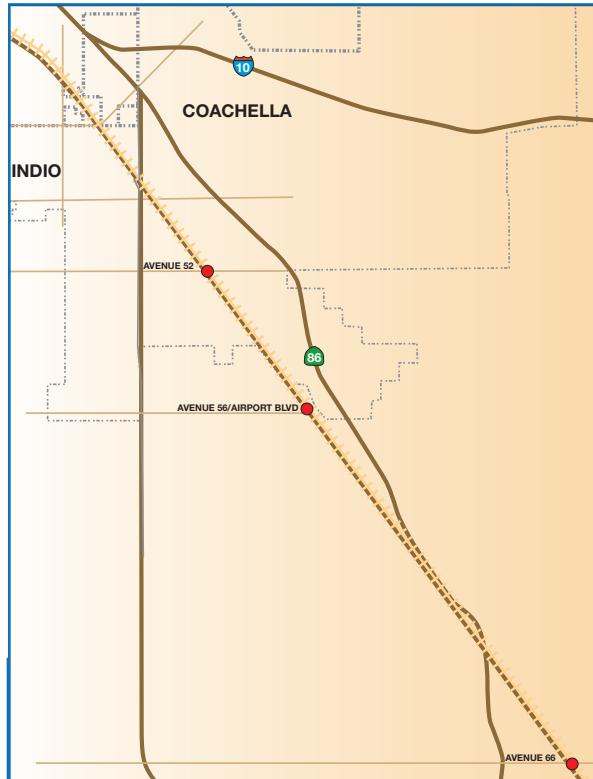
Commitment from all levels of the public sector, matched with the participation of the private sector will bring us closer to achieving meaningful results. The proposed funding mix is a combination of funding available today and potential future funding for the 20 high priority crossings. The table below summarizes the proposed funding mix for the 20 high priority crossings.

<b>Total Estimated Cost for 31 High Priority Grade Crossings: \$1.7 Billion</b>		<b>Funding Estimates Provided by Local Agencies</b>	
		<b>Planned Funding (in millions)</b>	<b>Total Project Cost (in millions)</b>
Total Estimated Cost to Grade Separate 20 of the 31 High Priority Grade Crossings			\$980.5
Planned Funding (Federal, State, and Local Commitments)		\$414.8	\$414.8
Unsecured Funding			\$565.7
		\$565.7	= Federal Responsibility - New and existing revenue sources - Railroads

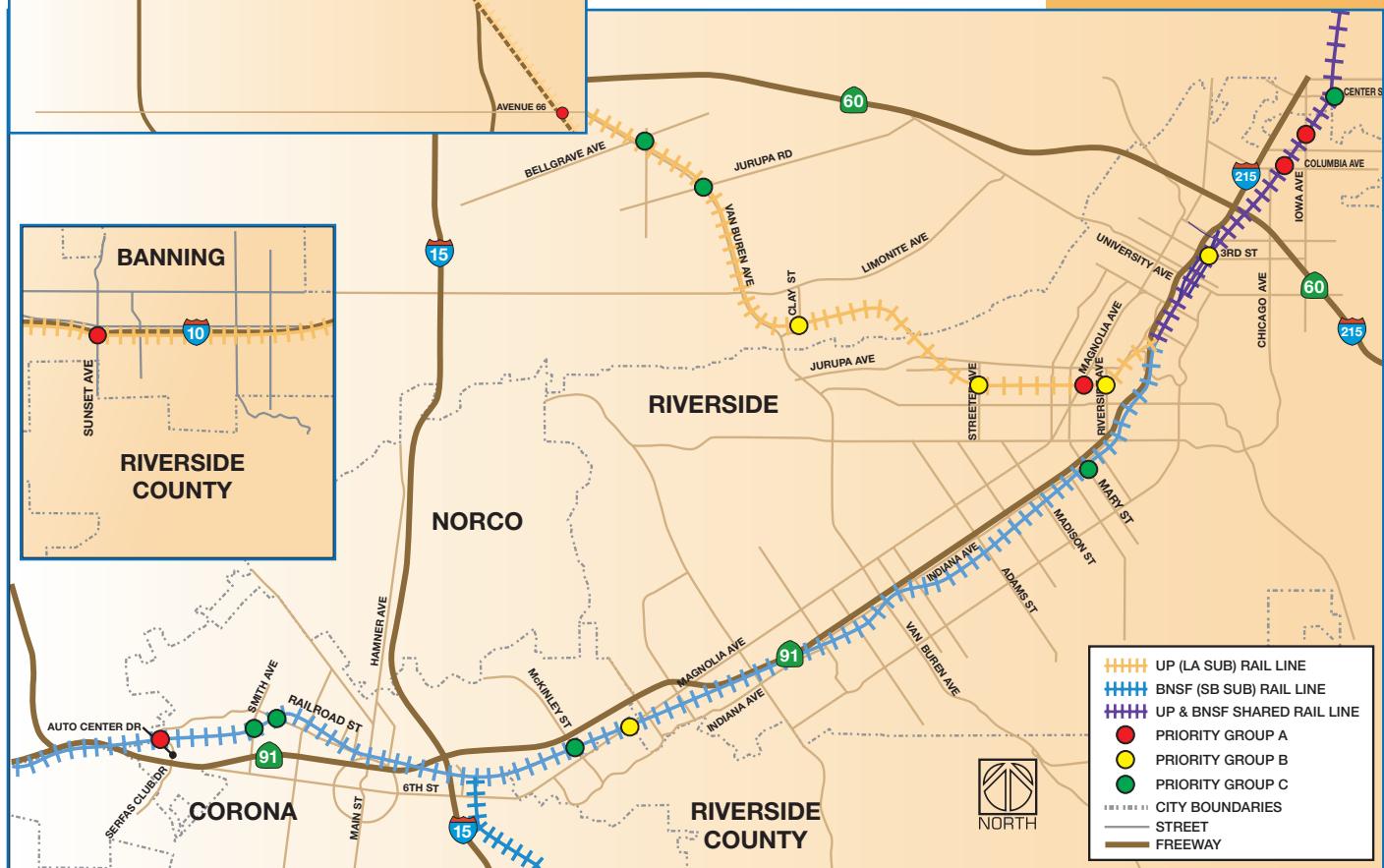
## KEY FACTORS FOR SUCCESS

Critical factors to the success of achieving the 2008 funding strategy are:

- *Lead Agency Commitment* to develop shelf-ready projects in order to compete effectively on a national, state, and local level for discretionary funds;
- *Project Completion* of the TCIF funded projects is required to demonstrate the region's ability to deliver projects in a timely manner consistent with the California Transportation Commission's direction when allocating the Proposition 1B funding;
- *Legislative Action* is required to streamline the delivery of projects as well as increase the eligibility of grade separation projects for funding;
- *New Sources of Revenue* supported by user fees such as voluntary container premiums or customs fees; and
- *Increased role of the railroads* to contribute to all grade separations beyond those in the Section 190 program.



<b>PROJECT IMPACT:</b> (ALL 20 CROSSINGS)	
<i>Elimination Of:</i>	
<b>2005 Daily Gate Down Time (Min)</b>	2,305.2 (38 hrs, 25 min)
<b>2030 Daily Gate Down Time (Min)</b>	4,475.7 (74 hrs, 36 min)
<b>2005 Daily Vehicle Hours of Delay</b>	748.6
<b>2030 Daily Vehicle Hours of Delay</b>	2,706.7
<b>Accidents (10 years)</b>	33
<b>2030 Total Emissions (tons/year)</b>	277
<b>Noise Impact*:</b>	
<b>Population Affected w/in 1600'</b>	26,209
<b>Population Affected w/in 6400'</b>	319,234
<i>* Populations may overlap at adjacent crossings – Totals likely include double-counting.</i>	



**IN 2003,  
104 MILLION TONS  
OF GOODS WERE  
SHIPPED THROUGH  
RIVERSIDE  
COUNTY.  
65% OF THIS  
THROUGH  
TRAFFIC IS ON  
TRAINS  
(68 MILLION TONS)  
AND 35% ON  
TRUCKS  
(36 MILLION TONS).**



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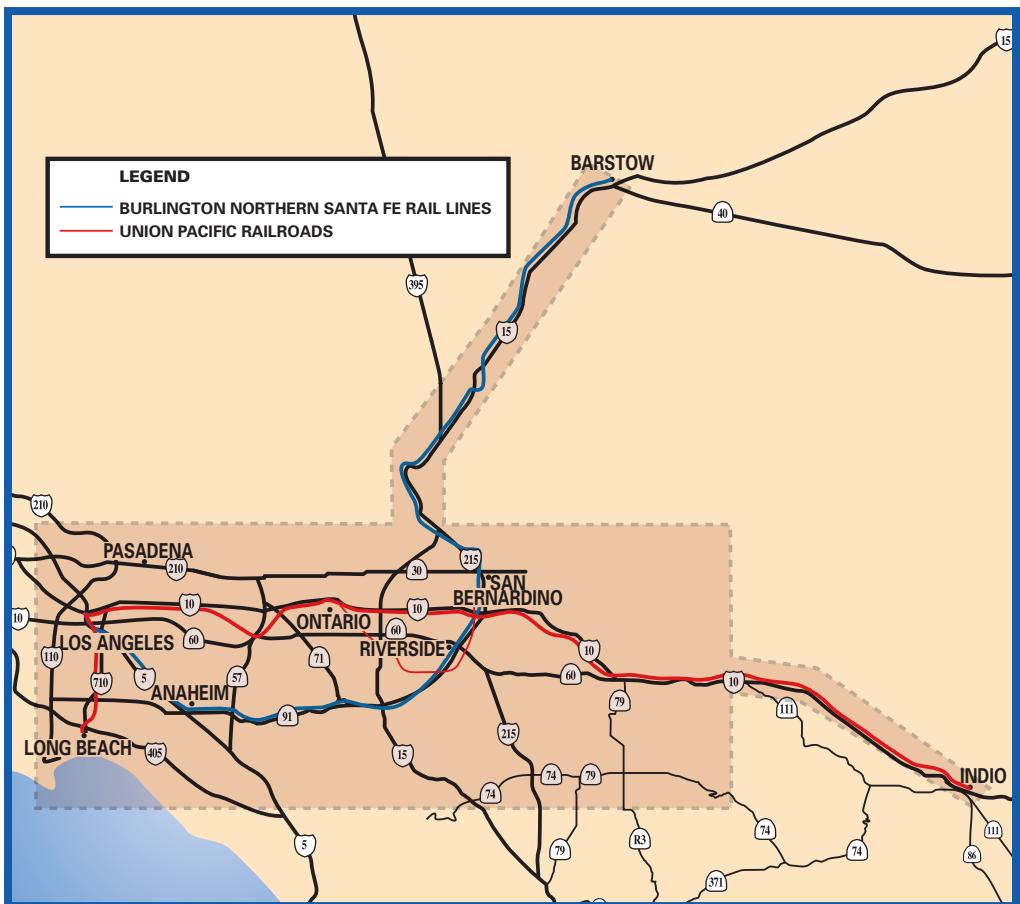


## Introduction

In October 2005, RCTC requested the development of a funding strategy for grade separation projects in Riverside County. There are 61 Alameda Corridor East at-grade mainline highway-rail crossings in Riverside County. In April 2006, the RCTC ranked the crossings into five priority tiers based upon congestion, safety, air quality, noise, and local preference. (See Appendix A). The top two tiers, comprised of 28 crossings, were identified as high priority projects for grade separations. In addition, based on funding availability as well as project deliverability, the 2008 funding strategy update reflects three additional projects added to the RCTC priority list: Avenue 52, Avenue 56/Airport Boulevard, and Avenue 66.

Given that the combined capital cost estimate exceeds several billion and there is not enough funding to grade separate all the crossings in the near future, this funding plan focuses on the top 20 of the 31 high priority crossings. The funding plan identifies potential funding sources and presents a funding strategy for an optimal funding program for the grade separation of 20 high priority crossings in Riverside County. Existing and potential future funding sources for highway-rail grade separation are discussed, and some case study examples are presented to give an overview of how and why some innovative projects received funding.

### Alameda Corridor East Trade Area



## PROJECT IMPACT: FUNDING PRIORITY GROUP A

(8 CROSSINGS)

*Elimination Of:*

**2005 Daily Gate Down Time (Min)**

906.6 (15 hrs, 7 min)

**2030 Daily Gate Down Time (Min)**

1,780.2 (29 hrs, 40 min)

**2005 Daily Vehicle Hours of Delay**

281.4

**2030 Daily Vehicle Hours of Delay**

1,142.1

**Accidents (10 years)**

9

**2030 Total Emissions (tons/year)**

116.36

**Noise Impact\*:**

**Population Affected w/in 1600'**

6,207

**Population Affected w/in 6400'**

89,838

*\* Populations may overlap at adjacent crossings – Totals likely include double-counting.*

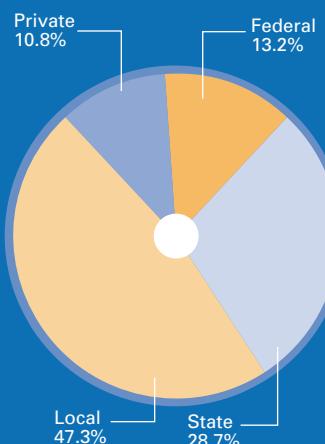
## FUNDING PRIORITY GROUPS DEFINED

The 20 crossings are divided into three “funding priority groups”: A, B & C. Because funding commitments, either planned or programmed, are an indication of local jurisdiction priorities, the funding plan seeks to leverage existing funding commitments for crossings and highlight the importance of funding the top crossings in the county.

**Funding Priority Group A** is comprised of 8 crossings that are fully funded:

Crossing	Lead Agency	Total Project Cost (in millions)	Project Status	Status Priority Tier	Project Completion Date
<b>Funding Priority Group A</b>					
Auto Center Drive/BNSF	Corona	\$32.0	Final design	2	2011
Avenue 52/UP	Coachella	\$17.3	Conceptual engineering PSR	3	2012
Avenue 56/Airport Blvd./UP	County	\$60.0	Conceptual engineering PSR (Equiv.)	4	2014
Avenue 66/UP	County	\$33.5	Conceptual engineering PSR (Equiv.)	3	2014
Columbia Avenue/BNSF & UP	Riverside	\$34.1	Construction	1	2010
Iowa Avenue/BNSF & UP	Riverside	\$32.0	PS&E	1	2011
Magnolia Avenue/UP	Riverside	\$51.2	Right of way and design	1	2010
Sunset Avenue/UP	Banning	\$36.5	Preliminary engineering	1	2013

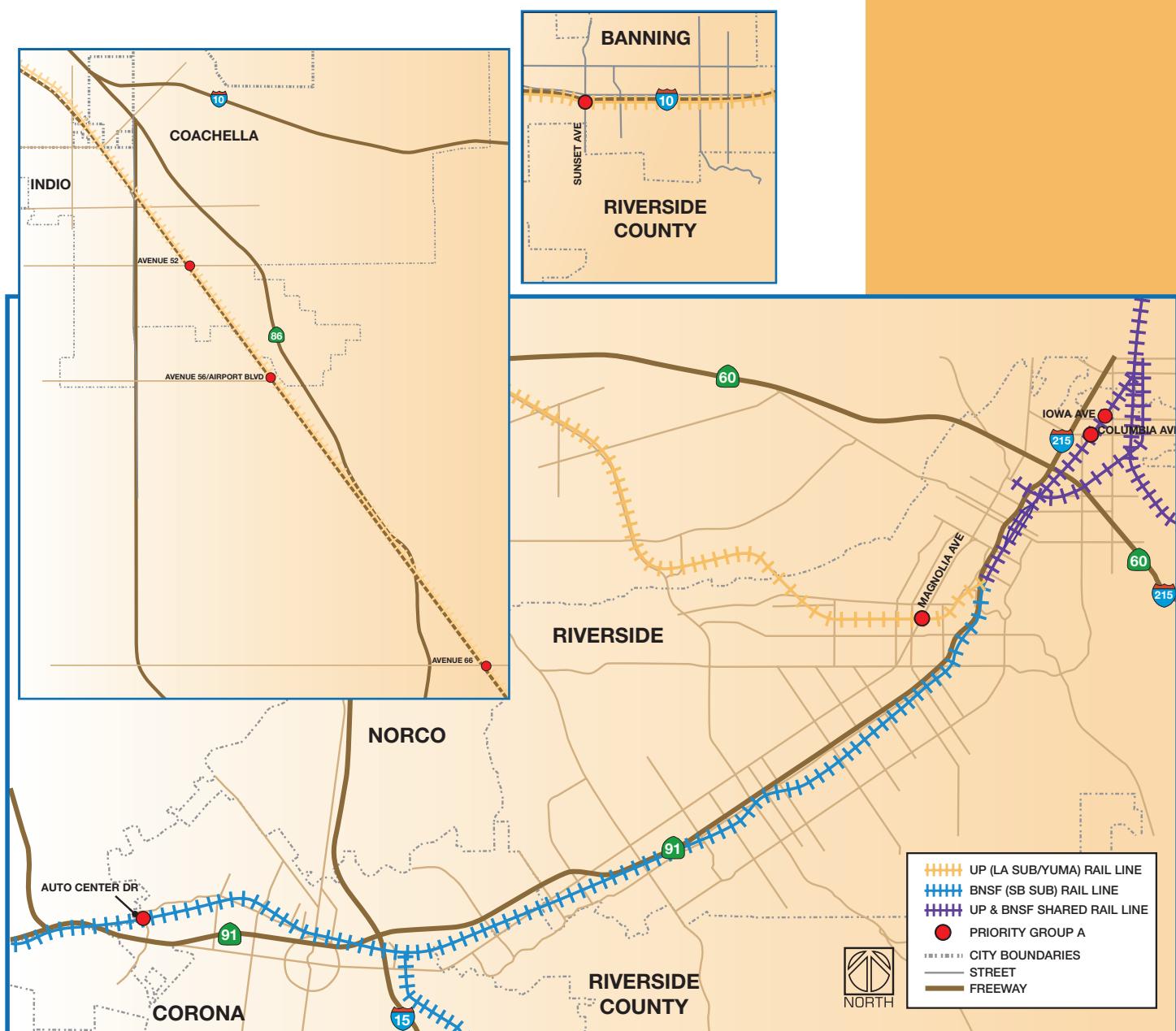
All 8 projects are scheduled to be completed by 2014. Projects in Priority B and C will be more competitive if the region can demonstrate that projects in Priority A are completed.



The funding mix of the \$296.6 million is 13.2% federal, 28.7% state, 47.3% local and 10.8% private. \$19.8 million of the \$296.6 million is funded through the SAFETEA-LU Projects of National and Regional Significance.



Funding Strategy - Map for Priority Group A (8 Crossings)



**PROJECT IMPACT:  
FUNDING PRIORITY GROUP B**  
(5 Crossings)

**Elimination Of:**

**2005 Daily Gate Down Time (Min)**

580.8 (9 hrs, 41 min)

**2030 Daily Gate Down Time (Min)**

1,127.1 (18 hrs, 47 min)

**2005 Daily Vehicle Hours of Delay**

222.2

**2030 Daily Vehicle Hours of Delay**

595.4

**Accidents (10 years)**

11

**2030 Total Emissions (tons/year)**

60.79

**Noise Impact\*:**

**Population Affected w/in 1600'**

9,389

**Population Affected w/in 6400'**

105,671

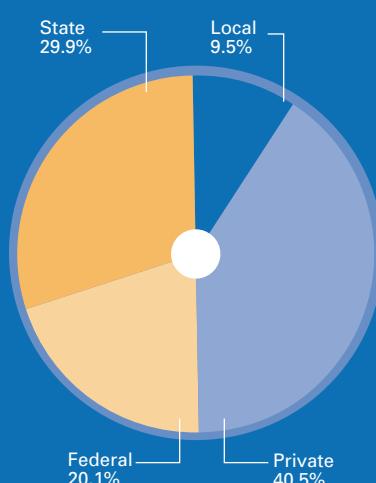
*\* Populations may overlap at adjacent crossings – Totals likely include double-counting.*



**Funding Priority Group B** is comprised of 5 crossings that were allocated TCIF funding and must commence construction by December 31, 2013.

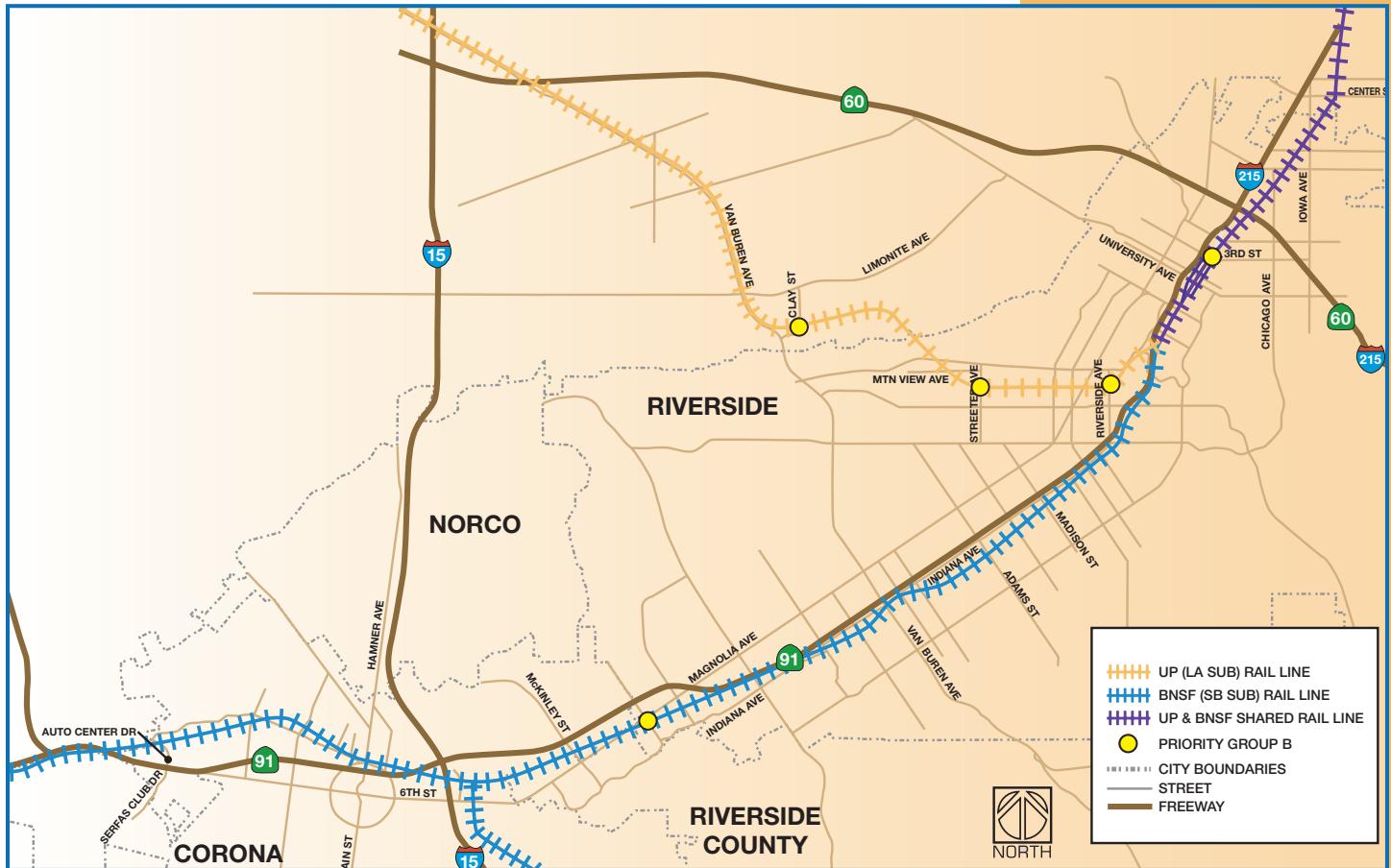
Crossing	Lead Agency	Total Project Cost (in millions)	Project Status	Status Priority Tier	Project Completion Date
<b>Funding Priority Group B</b>					
3rd Street/BNSF & UP	Riverside	\$40.2	Preliminary engineering	1	2013
Clay Street/UP	County	\$37.4	Conceptual engineering PSR (Equiv.)	2	2013
Magnolia Avenue/BNSF	County	\$81.8	Conceptual engineering PSR (Equiv.)	1	2015
Riverside Avenue/UP	Riverside	\$30.3	Environmental	1	2012
Streeter Avenue/UP	Riverside	\$36.8	Environmental	2	2013

Currently, local agencies have identified the use of \$56.3 million in container fees for these projects; however, at the direction of the California Transportation Commission, local agencies have made commitments to use local funds should container fees not materialize.



The funding mix of the \$226.4 million is 20.1% federal, 29.9% state, 9.5% local and 40.5% private. \$67.7 million of the \$226.4 million is funded through Proposition 1B funding. \$2.5 million is funded through the SAFETEA-LU Projects of National and Regional Significance.

## Funding Strategy - Map for Priority Group B (5 Crossings)



**PROJECT IMPACT:**  
**FUNDING PRIORITY GROUP C**  
(7 Crossing)

*Elimination Of:*

**2005 Daily Gate Down Time (Min)**

817.8 (13 hrs, 38 min)

**2030 Daily Gate Down Time (Min)**

1,568.4 (26 hrs, 8 min)

**2005 Daily Vehicle Hours of Delay**

245

**2030 Daily Vehicle Hours of Delay**

969.2

**Accidents (10 years)**

13

**2030 Total Emissions (tons/year)**

99.85

**Noise Impact\*:**

**Population Affected w/in 1600'**

10,613

**Population Affected w/in 6400'**

123,725

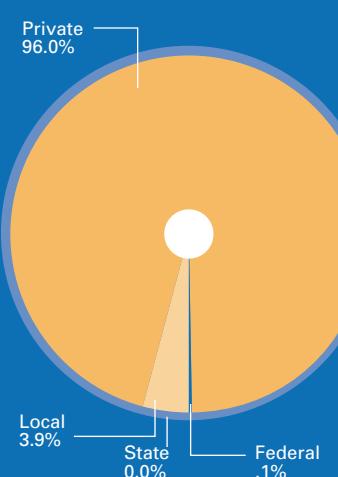
\* Populations may overlap at adjacent crossings – Totals likely include double-counting.

**Funding Priority Group C** is comprised of 7 crossings that have little secured funding or are heavily dependent on container fees or show a large balance of funding needed.

Crossing	Lead Agency	Total Project Cost (in millions)	Project Status	Status Priority Tier	Project Completion Date
<b>Funding Priority Group C</b>					
Bellgrave Avenue/UP	County	\$105.5	Conceptual engineering PSR (Equiv.)	3	Not Available <sup>1</sup>
Center Street/BNSF & UP	County	\$36.3	Conceptual planning underway	2	Not Available <sup>1</sup>
Jurupa Road/UP	County	\$108.4	Conceptual engineering PSR (Equiv.)	1	2015 <sup>2</sup>
Mary Street/BNSF	Riverside	\$38.0	Preliminary engineering	2	Not Available <sup>1</sup>
McKinley Street/BNSF	Corona	\$109.2	Conceptual engineering PSR (Equiv.)	1	Not Available <sup>1</sup>
Railroad Street/BNSF	Corona	\$30.0	Conceptual engineering PSR (Equiv.)	3	Not Available <sup>1</sup>
Smith Avenue/BNSF	Corona	\$30.0	Conceptual engineering PSR (Equiv.)	2	Not Available <sup>1</sup>

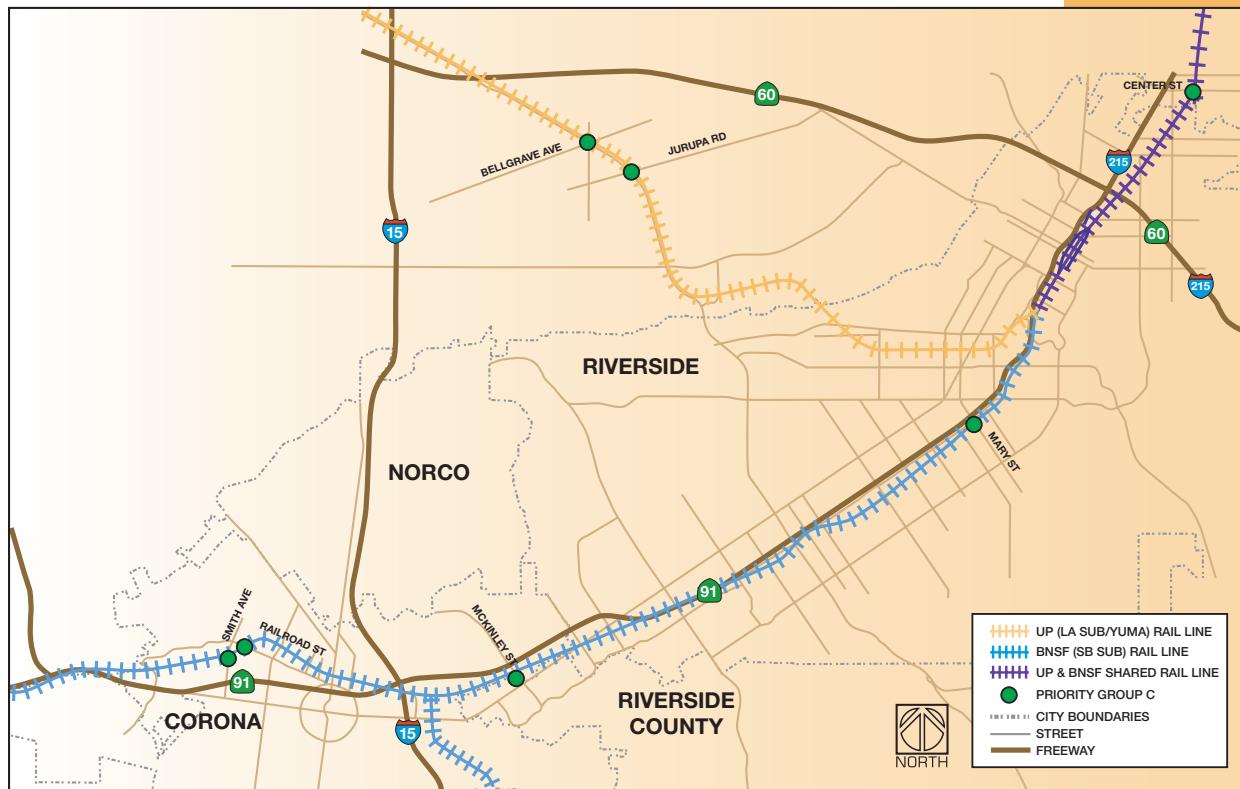
<sup>1</sup> Little or no funding identified, as a result, project completion date unknown.

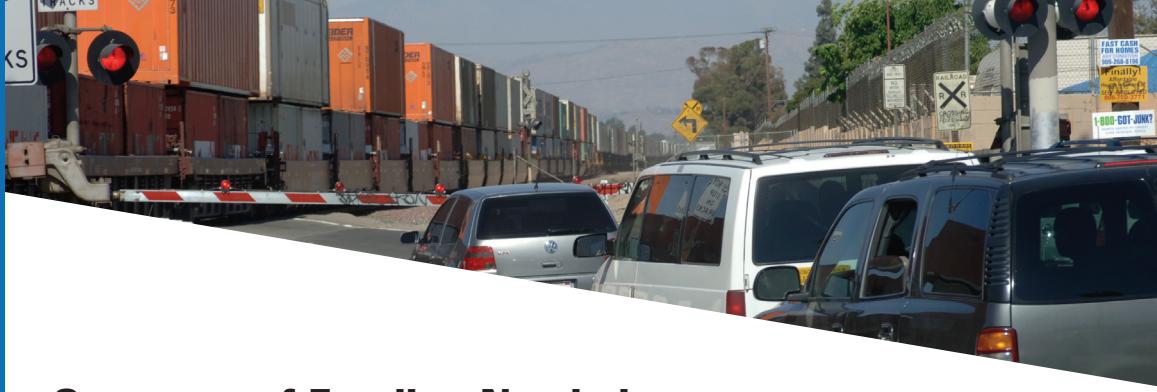
<sup>2</sup> Although project has an anticipated delivery date the majority of funding for Jurupa Road is identified as container fees, an unsecured funding source.



The funding mix of the \$457.4 million is .1% federal, 0.0% state, 3.9% local and 96.0% private (e.g. voluntary container premiums and unidentified funding sources).

## Funding Strategy - Map for Priority Group C (7 Crossings)





## Summary of Funding Needed

The 2008 blueprint develops a strategy for funding the 20 high priority crossings that total \$980.5 million. The funding plan leverages the local funding commitments made by the lead agencies responsible for constructing the grade separation projects: Banning, Coachella, Corona, County, and Riverside.

Local Agency	Total Project Cost	Funding Priority Group A		Funding Priority Group B		Funding Priority Group C		Balance Needed (Source Unidentified)
		Planned Federal, State & Local	Unsecured Private	Planned Federal, State & Local	Unsecured Private	Planned Federal, State & Local	Unsecured Private	
Banning	\$36.5	\$33.5	\$3.0					
Coachella	\$17.3	\$10.2	\$7.1					
Corona	\$201.2	\$27.0	\$5.0			\$2.4		\$166.8
County	\$462.9	\$93.5		\$67.5	\$51.7	\$13.5	\$96.4	\$140.3
Riverside	\$262.6	\$97.9	\$19.4	\$67.2	\$40.1	\$2.3	\$35.8	
<b>TOTALS</b>	<b>\$980.5</b>	<b>\$262.1</b>	<b>\$34.5</b>	<b>\$134.7</b>	<b>\$91.8</b>	<b>\$18.2</b>	<b>\$132.2</b>	<b>\$307.1</b>

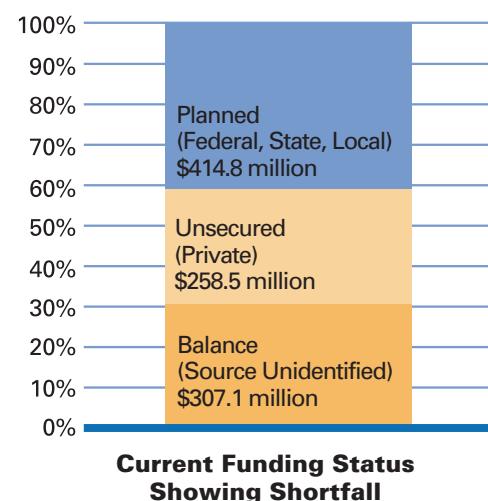
(All dollars in millions)

### LEGEND

**Planned Funding** includes Federal, State and Local revenue. Local funds are derived from General Funds, TUMF, TDA, and CPUC Section 190 Match.

**Unsecured Private Funding** is derived from Railroad Contributions, CPUC Section 190, and Voluntary Container Premiums.

The ACE corridor includes Union Pacific and Burlington Northern Santa Fe mainline tracks. Among the 20 high priority projects, 10 are located on UP mainline tracks and 10 are on BNSF mainline tracks (four of which UP operates over as well).



## **FUNDING SOURCES**

There are several funding sources that are typically used for highway-rail grade separation projects. This section describes those sources and assesses the likelihood of receiving funding for grade separations from each one.

### **Federal**

#### *[Projects of National & Regional Significance](#)*

Twenty-five designated Projects of National and Regional Significance are identified in the federal transportation bill, commonly referred to as SAFETEA-LU. These are typically large projects with large funding amounts. Alameda Corridor East is one of the projects receiving a \$125 million allocation for the life of SAFETEA-LU (FY2005-FY2009). These funds are to be split evenly between four county transportation commissions. RCTC will receive \$31.25 million for grade separations from this earmark.

The federal share for this program is 80% except for designated projects, which have a federal share of 80% subject to the sliding scale adjustment under 23 USC 120(b). A total of \$1.8 billion nationally is allocated to PNRS in SAFETEA-LU, but no additional funding will be available before SAFETEA-LU expires in 2009.

In April 2006, the Commission awarded \$21 million (of the \$31.25 million) of PNRS funds through a Call for Projects. In December 2007 and May 2008, the Commission awarded the balance of the \$10.25 fund balance:

<b>Crossing</b>	<b>Jurisdiction</b>	<b>Total Project Cost (in millions)</b>	<b>Total PNRS Award (in millions)</b>
Avenue 48/Dillon Road/UP	Coachella/Indio	\$16.1	\$2.5
Auto Center Drive/BNSF	Corona	\$32.0	\$8.3
Clay Street/UP	County	\$37.4	\$2.5
Iowa Avenue/BNSF & UP	Riverside	\$32.0	\$4.0
Jurupa Avenue/UP	Riverside	\$21.7	\$6.0
McKinley Street/BNSF	Corona	\$109.2	\$4.0
Sunset Avenue/UP	Banning	\$36.5	\$7.5
<b>Total</b>			<b>\$31.2</b>

It should be noted that future earmarks for PNRS (or any federal program) are always uncertain. Because federal programs are constantly changing, the post-2009 existence of PNRS (or any other federal program) is also not guaranteed. However taking an optimistic approach regarding future PNRS funding is not unreasonable. RCTC has made good use of the funding and hopes there will be a bigger investment in the next major transportation authorization bill. Recently, the United States Department of Transportation identified freight traffic in Southern California as a top priority. As a result of this interest, RCTC will advocate for more than twice as much funding for ACE in the next highway bill. Depending on when Congress acts, this will take place in 2010 or 2011.

## Congressional Support

Grade separation funding should be pursued in the next federal transportation authorization bill as well as annual federal appropriations bills. Authorization bills offer the opportunity to create new programs or fund existing programs at higher levels. Authorization legislation holds the potential to provide large sums of money towards projects such as Alameda Corridor East, similar to the Projects of National and Regional Significance funding from SAFETEA-LU. Goods movement is one of the key focuses of Congress in the next authorization bill, and RCTC should advocate with regional partners for programmatic language that funds grade separations at a level commensurate with the federal government's responsibility for facilitating interstate commerce and trade. The authorization bill should provide most of the funding gap identified in the 2008 Funding Strategy.

It is not known to what extent Congress will preserve existing programs such as PNRS, CMAQ, STP, or other sources of SAFETEA-LU funding. Many of these programs may be rewritten or replaced. Therefore, RCTC's strategy should not hinge on any one existing program, but on obtaining funding from any federal program that funds goods movement and air quality mitigation.

Annual appropriations bills are also opportunities to secure funding for grade separations. Grade separation funds usually come in the form of earmarks for specific projects or corridors, typically in smaller amounts than in authorization bills. RCTC should advocate for grade separation appropriations to the corridor, rather than specific projects, to allow maximum flexibility to use the funds as quickly as possible on projects that are shelf ready. RCTC will seek these earmarks annually until the funding gap is closed on the high priority projects identified in this document. Based on recent results, under an optimistic scenario, Riverside County might receive \$1-2.5 million per year on average from federal appropriations; however, earmarks are becoming less available in Washington. The total contribution of appropriations funds for grade separation projects through 2019 is expected to be approximately \$17.5 million. However, RCTC will advocate for a more significant federal contribution.

### Congestion Mitigation & Air Quality Improvement

The CMAQ program provides flexible federal funding for projects and programs that reduce transportation-related emissions in air quality non-attainment and maintenance areas. The primary purpose is to reduce carbon monoxide, ozone, and particulate matter emissions. Intermodal freight facility improvements are eligible, and the CMAQ program has funded rail yards, branch lines, and clearance improvements.<sup>1</sup> In the context of grade separation, highway-rail crossings that have large amounts of delay (and consequently emissions) could help achieve the objectives of this program.

CMAQ funds, which are distributed by states and MPOs, are apportioned according to a formula based on population and the severity of pollution in ozone and carbon monoxide areas. With some limitations, states may transfer CMAQ funds to STP, NHS Program, Interstate Maintenance Programs, Bridge Program, Highway Safety Improvement Program, and/or Recreational Trails Program apportionments. The federal share is generally 80%, subject to the sliding scale and 90% for Interstate projects.<sup>2</sup>

RCTC is not likely to use CMAQ funds for grade separation projects before 2010. In April 2007, the Commission approved an "off the top" allocation of 25% of CMAQ (*or in the formula program that succeeds CMAQ*) funds from the next transportation bill (anticipated after 2009) for Alameda Corridor East grade separation projects, contingent upon a "use it

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<sup>1</sup> AASHTO, "Freight-Rail Bottom Line Report," 2002.

<sup>2</sup> Some activities receive a federal share of 100%.



or lose it" provision. As illustrated in the following table, the Commission allocated \$22.0 million of the projected \$30 million in CMAQ funds available:

<b>Crossing</b>	<b>Jurisdiction</b>	<b>Total Project Cost (in millions)</b>	<b>CMAQ Allocation (in millions)</b>
3rd Street/BNSF & UP	Riverside	\$40.2	\$7.0
Magnolia Avenue/BNSF	County	\$81.8	\$15.0
<b>Totals</b>		<b>\$122.0</b>	<b>\$22.0</b>

#### Surface Transportation Program

The STP – established under ISTEA – is the most flexible federal funding source. Federal-aid highway projects, bridges, transit capital projects, and intercity and intracity bus terminals and facilities are eligible for these funds. Highway-rail grade crossing elimination or improvements are eligible for STP funds if the roadway is a federal-aid highway. Projects must be (i) consistent with Title 23 United States Code (USC) and/or Title 49 USC and (ii) derived from the Regional Transportation Plan, included in a Federal Transportation Improvement Program (FTIP) and/or Federal Statewide Transportation Improvement Program (FSTIP), and consistent with the conformity determinations of the Clean Air Act and its amendments.<sup>3</sup> STP funds are apportioned based on a federal formula; therefore, they are not a new source of funding for the region.

RCTC is intending to fund other projects with STP funds throughout the life of SAFETEA-LU, but these funds might be available for grade separations after SAFETEA-LU expires. Similar to CMAQ (or in the formula program that succeeds STP) funds, in April 2007, the Commission approved an "off the top" allocation of 25% of STP funds from the next transportation bill (anticipated after 2009) for Alameda Corridor East grade separation projects, contingent upon a "use it or lose it" provision. In 2007, the Commission allocated \$23.95M of its STP funds.

## **Federal Discretionary Funds**

<b>Crossing</b>	<b>Jurisdiction</b>	<b>Total Project Cost (in millions)</b>	<b>STP Allocation (in millions)</b>
Clay Street/UP	County	\$37.40	\$7.50
Iowa Avenue/BNSF & UP	Riverside	\$32.00	\$3.95
Riverside Avenue/UP	Riverside	\$30.30	\$5.00
Streeter Avenue/UP	Riverside	\$36.80	\$7.50
<b>Totals</b>		<b>\$136.50</b>	<b>\$23.95</b>

New funding may become available when SAFETEA-LU is reauthorized. Funding levels in past federal transportation bills have not indicated future funding; however, knowing which funding sources may be available and their historical funding amounts can be an approximate gauge for assessing potential future RCTC funding amounts.

RCTC would benefit from a robust goods movement program in the next authorization bill that is not entirely earmarked and allows for discretionary spending according to needs. RCTC supports directing revenues to projects that meet merit-based criteria. These performance-based programs should take a variety of shapes in the next authorization bill. RCTC would benefit from a continuance of the PNRS program concept.

<sup>3</sup> <[http://www.dot.ca.gov/hq/LocalPrograms/lam/prog\\_g/g04stp.pdf](http://www.dot.ca.gov/hq/LocalPrograms/lam/prog_g/g04stp.pdf)>.



## State

### *[Proposition 1B Bond Initiative](#)*

The \$19.95 billion transportation bond initiative that was approved by the California voters in 2006 also known as Proposition 1B, created two new accounts worth \$3.25 billion in total which could fund grade separation projects.

Proposition 1B authorized \$2 billion to the Trade Corridors Improvement Fund (TCIF). The proposition states that, “projects that separate rail lines from highway or local road traffic” are eligible for TCIF funding. This \$2 billion was allocated by the California Transportation Commission (CTC) along federally designated “Trade Corridors of National Significance” and other corridors with high volumes of freight movement. Proposition 1B requires the CTC to consult trade infrastructure and goods movement plans adopted by regional transportation planning agencies, which would include the Multi-County Goods Movement Action Plan (MCGMAP)<sup>4</sup>. In July 2009, the CTC approved \$162.7M in funding for 12 grade separations in Riverside County and an interchange improvement project at the I-215/Van Buren interchange.

Another \$1 billion is authorized for distribution by the CTC to goods movement projects that result in emissions reduction. Although the CTC must allocate the funds through the State Air Resources Board, Business, Transportation, and Housing officials have expressed a desire that the CTC's guidelines consider grade separations as air quality projects. Depending on the guidelines the CTC adopts, it may be feasible to fund grade separation projects from this \$1 billion air quality fund.

Finally, Proposition 1B created the Highway-Railroad Crossing Safety Account (HRCSA), which was authorized at \$250 million. Projects funded from this account require a dollar-for-dollar match of non-state funds. \$150 million is to be allocated according to the California Public Utilities Commission's (CPUC) existing process for identifying and funding high-priority grade crossings. The other \$100 million is to be allocated by the CTC, in consultation with the CPUC, considering projects that are not on the CPUC's statewide list of high-priority grade crossings. RCTC on behalf of the cities of Banning, Riverside and the County submitted applications for the HRCSA funding; however, no funding was allocated for Inland Empire projects.

### *[CPUC Section 190 Grade Separation Fund](#)*

The CPUC Section 190 Grade Separation Fund allocates \$15 million per year in state funds among grade crossing separation or alteration projects. For any one project, the amount of funding is limited to \$5 million per year or one-third of the total fund (whichever is less), and the cumulative project funding allocation cannot exceed \$20 million.<sup>5</sup> The Caltrans program can fund up to 80% of the estimated cost, but no allocation can be made unless the railroad agrees to contribute either 5% or 10% of the project cost; actual percentage amount is determined based on whether project is federally funded.

Caltrans distributes the funds according to the funding priority list generated by the CPUC. The CPUC establishes a funding priority list (every two years, with updating in the second year) of grade crossing projects that are most urgently in need of separation or alteration. Currently, the Jurupa Avenue, Avenue 48/Dillon Road and Avenue 50 grade separation projects have received \$5 million each from Section 190 funds.

While this program is competitive and typically only allocates funds to a small number of projects, some local jurisdictions might nominate their strongest grade separation candidate crossing if they can meet the requirements. Projects at the top of the priority

<sup>4</sup> RCTC was a co-sponsor and active participant in the MCGMAP.

<sup>5</sup> Also, projects cannot be grouped together.

list are first in line for funding, but there are several requirements that are often not met by candidate projects, leading to projects that are lower on the priority list being funded. For example, projects ranking 14, 38, and 52 received funding in FY2002/03. The requirements for funding are:

- Design/final construction plans must be completed;
- A maintenance agreement with the affected railroads must be established;
- Authority to construct the project must be obtained from the CPUC;
- The environmental review must be completed; and
- The local funding share or remainder of the project cost must be procured.

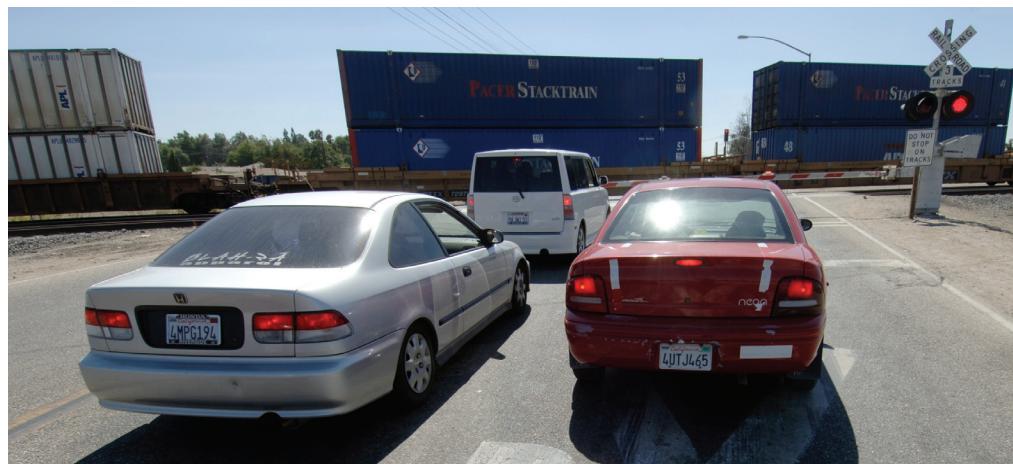
CPUC strongly recommends that agencies apply for funding if candidate projects can meet the requirements listed above within two years. The CPUC draft Priority List for FY2008/09 includes the following Riverside County ACE Projects:

#### CALIFORNIA PUBLIC UTILITIES COMMISSION LISTING

Crossing	Lead Agency	CPUC Rank	Priority Listing
Magnolia Avenue/BNSF	County	4	B
McKinley Street/BNSF	Corona	7	C
3rd Street/BNSF & UP	Riverside	9	B
Sunset Avenue/UP	Banning	15	A
Madison Street/BNSF	Riverside	20	--
Jurupa Road/UP	County	27	C
Riverside Avenue/UP	Riverside	28	B
Clay Street/UP	County	30	B
Tyler Street/BNSF	Riverside	34	--
Columbia Avenue/BNSF & UP	Riverside	39	A
Iowa Avenue/BNSF & UP	Riverside	40	A
Bellgrave Avenue/UP	County	45	C
Jane Street/BNSF	Riverside	46	--
Pierce Avenue/BNSF	Riverside	49	--
Auto Center Drive/BNSF	Corona	52	A
Magnolia Avenue/UP	Riverside	57	A
Mary Street/BNSF	Riverside	59	C
Smith Avenue/BNSF	Corona	60	C
Railroad Street/BNSF	Corona	72	C
Brockton Avenue/UP	Riverside	76	--
Streeter Avenue/UP	Riverside	77	B
Palm Avenue/UP	Riverside	93	--

Many highway-rail grade separation projects struggle with getting railroads to contribute the mandatory 5% to 10% share of the project cost; however, as part of the Proposition 1B TCIF initiative, RCTC and local agency jurisdictions have met with railroad officials to develop a Corridor Delivery Plan which documents the project schedules and estimated railroad financial contributions. RCTC believes continued communication with railroad staff is critical to the success of the 2008 funding strategy.

In 2007, the California State Auditor released an audit report concerning the funding and approval process required for grade separation projects by state and local transportation agencies. The report concluded that although the CPUC's priority list of grade separation projects for the last several years has contained more than 50 projects, the California Department of Transportation has been unable to allocate all of the grade separation program funds because local agencies have often not taken the additional steps necessary to apply for the funds once their projects are included on the priority list. Part of the reason for the failure to apply for funds is that the cost of grade separation projects has increased more than tenfold over the past 30 years while the funds available from the grade separation program have remained unchanged. The audit identified \$2.5 million as the average cost of a grade separation project in 1974 to a current average of just more than \$26 million. Due to the increased costs, local agencies have difficulty securing the funding necessary to pay for the projects and as a result, many agencies are not nominating new projects. The report further identified that \$165 million is needed to provide funding for the same number of grade separation projects that \$15 million provided in 1974.





## Local

### Measure A – Local Streets and Roads

The 1989 Measure A expenditure plan allocates 40% of the revenues to local street and road improvements in western Riverside County; the 2009 Measure A Expenditure Plan allocates \$970 million to local street and road improvements in western Riverside County over the 30-year period. Five-year Capital Improvement Programs are prepared and annually updated within the County and each City with public participation. Grade separation projects are an eligible expenditure for this Program. In March 2008 the Measure A revenue apportionment projections for FY2009 – 2013 were released by RCTC to the County and western county cities for planning purposes. A total of \$92,235,000 is projected for the cities of Banning, Corona, Riverside, and the County (western Riverside portion)<sup>6</sup>. Assuming 10% of the proceeds is available for grade separation projects, the total contribution of Measure A Local Streets & Roads funds available for grade separation projects through 2013 is projected at \$9.2 million.

### Measure A – Economic Development Incentives Program

In November 2002, Riverside County voters passed an extension of the Measure A ½ cent sales tax program. The program included a new category of funding: Economic Development Incentives with an allocation of \$40 million over the 30-year life of the Measure. The intent is to improve existing interchanges, construct new interchanges, provide public transit linkages or stations, and make other improvements to the transportation system.<sup>7</sup> Existing grade separation projects located in a commercial and industrial development in Western Riverside County could be eligible to compete in this category. If 25% of these funds were used for grade separation projects over six years, there would be \$10 million in Economic Development Incentives funding for grade separation between 2010 and 2015. In December 2007, the Commission allocated \$10 million of the available funding to the Jurupa Road/UP grade separation. As a result, no additional Measure A Economic Development Incentive funding is available for grade separation projects through 2019.

### Transportation Uniform Mitigation Fee

Some RCTC grade crossings are eligible for TUMF funding. The amount of funding available varies, and not all crossings are eligible. The following table reflects current TUMF funded grade separations.<sup>8</sup>

#### **Transportation Uniform Mitigation Fee**

Crossing	Lead Agency	Project Cost (in millions)	TUMF Funding (in millions)
Auto Center Drive/BNSF	Corona	\$32.0	\$2.1
Columbia Avenue/BNSF & UP	Riverside	\$34.1	\$12.0
Magnolia Avenue/BNSF	County	\$81.8	\$14.6
Magnolia Avenue/UP	Riverside	\$51.2	\$15.7
McKinley Street/BNSF	Corona	\$109.2	\$1.8
Sunset Avenue/UP	Banning	\$36.5	\$4.2
		<b>Total</b>	<b>\$50.4</b>

Given the economy and the local downturn in the housing market, it is difficult to estimate the amount of TUMF funding that may be available for grade separations through 2019.

<sup>6</sup> Source: March 2008 Schedule of FY 2009 - 13 Measure A Revenue Projections.

<sup>7</sup> Measure A 2002 Expenditure Plan.

<sup>8</sup> Donna Dean, Program Manager, WRCOG.

The Alameda Corridor Transportation Authority (ACTA) charges a \$16.75 fee for each loaded waterborne twenty-foot equivalent unit (TEU) container, \$4.47 for each empty or non-waterborne TEU container, and \$8.93 for other types of loaded waterborne rail cars that originate or terminate at the San Pedro Bay Ports and utilize the Alameda rail corridor. The user fees were used to back \$1.2 billion in revenue-backed bonds. The revenues from this are expected to be \$74 million for FY2006.

User fees are just one part of the Alameda Corridor Project funding plan. Other major funding sources were the ports of Long Beach and Los Angeles (\$394 million), a U.S. DOT loan (\$400 million), the Los Angeles County MTA (\$347 million), and interest and other resources (\$160 million).

The ACTA project is unique in that it consolidated four meandering train lines into one throughway, eliminating approximately 200 at-grade highway-rail crossings. Along with drivers and air quality along the corridor, the railroads benefited considerably from the Alameda Corridor Project. The railroads realized speed improvements, which helped them meet their shippers' needs. Although the railroads experience intense competition from trucks in the Alameda Corridor, the railroads clearly benefited from the rail line consolidation, making the user fees more acceptable.

#### **Sources:**

[http://www.acta.org/news-room\\_factsheet.htm](http://www.acta.org/news-room_factsheet.htm)

[www.innovativefinance.org](http://www.innovativefinance.org)

ACTA, Program and Operating Budget for FY2005/2006



Based on discussions with WRCOG staff, a conservative estimate of additional TUMF funding of \$50 million is projected to be available for grade separations through 2019.

#### *RCTC's Grade Separation Match Program: CPUC Section 190 Program*

The Commission approved a policy in September 2001, to support successful CPUC Section 190 grade separation projects that are included in the Commission's approved ACE Grade Crossing Priority list by funding the 10% local share match required of the CPUC if funding sources are available. The maximum RCTC award is \$500,000 per project. As of September 2007, a total of \$1.5 million in funding was awarded for Avenue 48/Dillon Road, Avenue 50, and Jurupa Avenue.

#### *RCTC's TCIF Jump Start Funding Program*

In 2007, the Commission approved \$10 million in Transportation Development Act funds to jumpstart grade separation projects along tracks where Metrolink Commuter Rail operates to increase the competitiveness for Proposition 1B funding. Grade separation projects receiving the jump start funding consisted of Auto Center Drive, Bellgrave Avenue, Center Street, Iowa Avenue, Jurupa Road, McKinley Street, Railroad Street, Riverside Avenue, Smith Avenue, and Streeter Avenue.

#### *Direct Contributions from Railroads to support CPUC Section 190 Program*

Section 190 awards from the state requires up to a 5% or 10% local match from the host railroad (see pages 18-19); the actual railroad contribution is negotiated through a construction and maintenance agreement. Local agencies project that the total contribution of Section 190 funds through 2019 is \$60 million, however, in all likelihood actual funding for Riverside County projects will be much less due to the competitive nature of this funding source.

#### *Railroad User Fees*

In some cases, railroad user fees have been used to fund rail grade separation projects. ACE could consider levying a user charge on railroads; however, railroads would likely resist such charges unless they believed they would benefit from grade separations. Additionally, railroad user fees need stable and increasing volumes of traffic.<sup>9</sup>

The most renowned example of using railroad user fees is the Alameda Corridor Project, which is discussed in the side bar.

The ACE project differs from the Alameda Corridor Project in that no clear grade separation speed advantages have been identified for the railroads. Railroads do benefit from grade separations if the improvements allow them to store trains over longer segments of track (when parking trains, railroads often have to split trains into multiple segments to permit vehicles to cross at-grade crossings), although the dollar value of this benefit is unclear. Trains currently experience little or no delay that can be attributed to the highway-rail grade crossings in this study, so speed benefits appear to be small or non-existent. Therefore, it seems unlikely that railroads would be willing to contribute a large amount of funding for highway-rail grade separations for the RCTC high priority crossings, if anything. Railroads are commonly resistant about contributing to highway-rail grade separation projects.

<sup>9</sup> AASHTO, "Freight-Rail Bottom Line Report, "2002.

## Appendix A

### RCTC ACE Trade Corridor Grade Crossing Separation Need List, April 2006

Rail Line	Cross Street	Lead Agency	Overall Weighted Score	Priority Group	2008 Funding Strategy		Total Project Cost (in millions)
					Top Priority	✓	
UP (LA SUB)	Jurupa Road	County	4,412	1	✓		\$108.4
BNSF & UP (SB SUB)	Chicago Avenue	Riverside	4,330	1	✓		\$100.0
BNSF (SB SUB)	Magnolia Avenue	County	4,250	1	✓		\$81.8
BNSF & UP (SB SUB)	3rd Street	Riverside	4,010	1	✓		\$40.2
BNSF (SB SUB)	McKinley Street	Corona	3,950	1	✓		\$109.2
BNSF & UP (SB SUB)	Columbia Avenue (BNSF)	Riverside	3,950	1	✓		\$34.1
UP (LA SUB)	Magnolia Avenue	Riverside	3,880	1	✓		\$51.2
UP (YUMA MAIN)	Sunset Avenue	Banning	3,800	1	✓		\$36.5
UP (LA SUB)	Riverside Avenue	Riverside	3,785	1	✓		\$30.3
BNSF & UP (SB SUB)	Iowa Avenue (BNSF)	Riverside	3,770	1	✓		\$32.0
BNSF (SB SUB)	Adams Street	Riverside	3,665	1	✓		\$70.0
BNSF (SB SUB)	Auto Center Drive	Corona	3,638	2	✓		\$32.0
UP (YUMA MAIN)	Hargrave Street	Banning	3,625	2	✓		\$80.0
UP (LA SUB)	Clay Street	County	3,535	2	✓		\$37.4
BNSF (SB SUB)	Smith Avenue	Corona	3,263	2	✓		\$30.0
BNSF & UP (SB SUB)	7th Street	Riverside	3,110	2	✓		\$40.0
BNSF (SB SUB)	Tyler Street	Riverside	3,100	2	✓		\$100.0
UP (YUMA MAIN)	22nd Street	Banning	3,100	2	✓		\$60.0
UP (YUMA MAIN)	Avenue 48/Dillon Road	Indio/Coachella	3,075	2	— Underway —		
BNSF & UP (SB SUB)	Center Street	County	3,008	2	✓		\$36.3
UP (YUMA MAIN)	San Gorgonio Avenue	Banning	3,000	2	✓		\$80.0
UP (LA SUB)	Streeter Avenue	Riverside	2,965	2	✓		\$36.8
UP (LA SUB)	Jurupa Avenue	Riverside	2,925	2	— Underway —		
BNSF & UP (SB SUB)	Palmyrita Avenue (UP)	Riverside	2,835	2	✓		\$40.0
BNSF & UP (SB SUB)	Spruce Street (BNSF)	Riverside	2,695	2	✓		\$80.0
BNSF (SB SUB)	Madison Street	Riverside	2,690	2	✓		\$40.0
UP (LA SUB)	Brockton Avenue	Riverside	2,650	2	✓		\$50.0
BNSF (SB SUB)	Mary Street	Riverside	2,640	2	✓		\$38.0
BNSF (SB SUB)	Pierce Street	Riverside	2,590	3			
UP (YUMA MAIN)	Avenue 62	County	2,544	3			
BNSF (SB SUB)	Railroad Street	Corona	2,475	3	✓		\$30.0
UP (LA SUB)	Panorama Road	Riverside	2,465	3			
BNSF (SB SUB)	Buchanan Street	Riverside	2,400	3			
UP (LA SUB)	Bellgrave Avenue	County	2,348	3	✓		\$105.5
UP (YUMA MAIN)	Avenue 66	County	2,265	3	✓		\$33.5
UP (LA SUB)	Palm Avenue	Riverside	2,265	3			
UP (YUMA MAIN)	Avenue 52	Coachella	2,258	3	✓		\$17.3
UP (YUMA MAIN)	California Avenue	Beaumont	2,200	3			
UP (YUMA MAIN)	San Timoteo Canyon Road	Calimesa	2,100	3			
BNSF (SB SUB)	Washington Street	Riverside	2,080	4			
UP (YUMA MAIN)	Apache Trail	County	2,052	4			
UP (LA SUB)	Rutile Street	County	2,046	4			
BNSF (SB SUB)	Jefferson Street	Riverside	2,030	4			
BNSF & UP (RIV)	Cridge Street	Riverside	2,025	4			
UP (YUMA MAIN)	Viele Avenue	Beaumont	1,983	4			
BNSF (SB SUB)	Cota Street	Corona	1,938	4			
UP (YUMA MAIN)	Broadway	County	1,904	4			
UP (LA SUB)	Mountain View Avenue	Riverside	1,650	4			
UP (YUMA MAIN)	Avenue 56/Airport Boulevard	County	1,592	4	✓		\$60.0
BNSF & UP (SB SUB)	Main Street	County	1,531	4			
BNSF (SB SUB)	Jackson Street	Riverside	1,330	4			
UP (YUMA MAIN)	Pennsylvania Avenue	Beaumont	1,267	4			
BNSF (SB SUB)	Joy Street	Corona	1,250	4			
BNSF (SB SUB)	Harrison Street	Riverside	1,120	4			
UP (YUMA MAIN)	Tipton Road	Palm Springs	1,100	4			
BNSF (SB SUB)	Radio Road	Corona	1,075	5			
BNSF (SB SUB)	Jane Street	Riverside	1,060	5			
UP (YUMA MAIN)	Avenue 54	Coachella	767	5			
UP (YUMA MAIN)	Avenue 58	County	688	5			
BNSF (SB SUB)	Sheridan Street	Corona	663	5			
BNSF (SB SUB)	Gibson Street	Riverside	520	5			
					Total (billion)		\$1.7

Seven factors were considered in determining the overall score and resulting priority group; they were identified in consultation with technical staff of the affected jurisdictions, and approved by RCTC.

#### The factors include:

- Safety – Accident Score  
(combination of frequency & severity)  
20% of total score
- Delay – 2005 Daily Vehicle Delay  
20% of total score
- Delay – 2030 Daily Vehicle Delay  
20% of total score
- Emissions Reduction  
10% of total score
- Noise Reduction  
10% of total score
- Adjacent Grade Separations  
10% of total score
- Local Priority Ranking  
10% of total score

RCTC established a priority list in March 2001. The list was updated in April 2006. Between March 2001 and April 2006, one grade separation project was completed: Avenue 50 in January 2004. Two additional crossings - Avenue 48/Dillon Road and Jurupa Avenue will be completed by August 2009.

## Appendix B

### RCTC Grade Separation Funding Strategy — Summary

RCTC Priority Tier	Crossing	Total Project Cost	Federal	State	Railroad Contribution	CPUC Section 190	Voluntary Container Premiums	Total Avail. Funds*	Balance Needed	Project Status	
<b>Funding Strategy Priority A</b>											
2	Auto Center Drive/ BNSF	\$32.0	\$8.30	\$16.00	\$2.70	-	\$5.0	-	\$32.0	-	FD
3	Avenue 52/UP	\$17.3	\$10.20	-	\$2.10	-	\$5.0	-	\$17.3	-	CE PSR
4	Avenue 56/ Airport Blvd./UP	\$60.0	-	\$10.00	\$50.00	-	-	-	\$60.0	-	CE PSR (Eqv.)
3	Avenue 66/UP	\$33.5	-	\$10.00	\$23.50	-	-	-	\$33.5	-	CE PSR (Eqv.)
1	Columbia Avenue/ BNSF & UP	\$34.1	-	\$6.00	\$20.45	\$2.60	\$5.0	-	\$34.1	-	C
1	Iowa Avenue/ BNSF & UP	\$32.0	\$10.30	\$13.00	\$2.40	\$1.30	\$5.0	-	\$32.0	-	PS&E
1	Magnolia Avenue/UP	\$51.2	-	\$20.00	\$26.20	-	\$5.0	-	\$51.2	-	ROW&D
1	Sunset Avenue/UP	\$36.5	\$10.60	\$10.00	\$12.90	\$3.00	-	-	\$36.5	-	PE
<b>Funding Strategy Priority B</b>											
1	3rd Street/ BNSF & UP	\$40.2	\$7.66	\$17.50	\$0.50	\$2.00	\$5.0	\$7.5	\$40.2	-	PE
2	Clay Street/UP	\$37.4	\$10.00	\$12.50	\$1.18	\$1.87	\$5.0	\$6.9	\$37.4	-	CE PSR (Eqv.)
1	Magnolia Avenue/ BNSF	\$81.8	\$15.00	\$13.70	\$15.10	\$4.09	\$5.0	\$28.9	\$81.8	-	CE PSR (Eqv.)
1	Riverside Avenue/UP	\$30.3	\$5.00	\$8.50	\$2.50	\$1.30	\$5.0	\$8.0	\$30.3	-	E
2	Streeter Avenue/UP	\$36.8	\$7.80	\$15.50	\$2.20	\$1.30	\$5.0	\$5.0	\$36.8	-	E
<b>Funding Strategy Priority C</b>											
3	Bellgrave Avenue/ UP	\$105.5	-	-	\$1.00	-	-	\$-	\$1.0	\$104.5	CE PSR (Eqv.)
2	Center Street/ BNSF & UP	\$36.3	-	-	\$0.50	-	-	\$-	\$0.5	\$35.8	CPU
1	Jurupa Road/UP	\$108.4	-	-	\$12.00	\$10.34	\$5.0	\$81.1	\$108.4	-	CE PSR (Eqv.)
2	Mary Street/BNSF	\$38.0	-	-	\$2.25	-	\$5.0	\$30.8	\$38.0	-	PE
1	McKinley Street/ BNSF	\$109.2	\$0.40	-	\$1.50	-	-	\$-	\$1.9	\$107.3	CE PSR (Eqv.)
3	Railroad Street/ BNSF	\$30.0	-	-	\$0.25	-	-	\$-	\$0.3	\$29.8	CE PSR (Eqv.)
2	Smith Avenue/ BNSF	\$30.0	-	-	\$0.25	-	-	\$-	\$0.3	\$29.8	CE PSR (Eqv.)
<b>TOTALS:</b>		<b>\$980.5</b>	<b>\$85.3</b>	<b>\$152.7</b>	<b>\$179.5</b>	<b>\$27.8</b>	<b>\$60.0</b>	<b>\$168.1</b>	<b>\$673.3</b>	<b>\$307.1</b>	

\* Total available funds include unsecured funding including railroad contributions, CPUC Section 190 and voluntary container fees.

(All dollars in millions. Slight discrepancies may occur due to rounding.)

#### LEGEND

CPU	Conceptual Planning Underway
CE PSR	Conceptual Engineering PSR
CE PSR (Eqv.)	Conceptual Engineering PSR (or Equivalent)
PE	Preliminary Engineering
E	Environmental
ROW&D	Right of Way and Design
C	Construction
PS&E	Plans, Specifications and Estimate
FD	Final Design

## Appendix C

### RCTC Grade Separation Funding Strategy — Potential Impacts to be Eliminated by Grade Separations

RCTC Priority Tier	Crossing	2005 Daily						2030 Daily			2030 Daily Greenhouse Gas Emissions			2030 Daily Greenhouse Gas Emissions		
		Gate Down Time (minutes)	2030 Daily Gate Down Time (minutes)	2005 Daily Vehicle Hours of Delay <sup>1</sup>	2030 Daily Vehicle Hours of Delay <sup>1</sup>	Accidents (10 Years)	2030 Total Emissions (tons/year)	CO <sub>2</sub> Equivalent (g/day)	CO <sub>2</sub> Equivalent (tons/year)	Noise: Population Affected within 1600'	Noise: Population Affected within 6400'					
<b>Funding Strategy Priority A</b>																
2	Auto Center Drive/BNSF	114.4	214.6	23.3	264.1	1	27.36	137,658	53.11	843	18,169					
3	Avenue 52/UP	74.5	140.9	15.2	45.4	0	4.5	23,664	9.13	900	10,311					
4	Avenue 56/Airport Blvd./UP	74.3	140.9	6.5	18.3	1	1.81	9,539	3.68	167	2,565					
3	Avenue 66/UP	74.3	140.5	11.0	33.5	3	3.32	17,461	6.74	537	3,677					
1	Columbia Avenue/BNSF & UP	185.6	383.4	33.9	145.4	1	15.07	75,788	29.24	1,082	12,937					
1	Iowa Avenue/BNSF & UP	185.6	383.4	51.8	254.1	1	25.95	132,446	51.10	524	9,325					
1	Magnolia Avenue/UP	96.7	175.9	99.3	187.3	1	18.84	97,628	37.67	1,233	24,520					
1	Sunset Avenue/UP	101.2	200.6	40.4	194.0	1	19.51	101,120	39.01	921	8,334					
<b>Subtotal Priority A</b>		<b>906.6</b>	<b>1,780.2</b>	<b>281.4</b>	<b>1142.1</b>	<b>9</b>	<b>116.36</b>	<b>595,304</b>	<b>229.67</b>	<b>6,207</b>	<b>89,838</b>					
		15 hrs 7 min.	29 hrs 40 min.													
<b>Funding Strategy Priority B</b>																
1	3rd Street/BNSF & UP	185.6	383.4	37.4	148.0	1	15.33	77,143	29.76	1,140	26,686					
2	Clay Street/UP	84.3	163.5	42.5	131.8	1	13.66	68,699	26.50	1,247	9,227					
1	Magnolia Avenue/BNSF	104.8	203.5	24.8	103.4	6	10.56	53,896	20.79	2,851	23,596					
1	Riverside Avenue/UP	114.6	206.0	88.3	139.4	2	14.02	72,660	28.03	1,253	21,936					
2	Streeter Avenue/UP	91.5	170.7	29.2	72.8	1	7.22	37,946	14.64	2,898	24,226					
<b>Subtotal Priority B</b>		<b>580.8</b>	<b>1,127.1</b>	<b>222.2</b>	<b>595.4</b>	<b>11</b>	<b>60.79</b>	<b>310,344</b>	<b>119.73</b>	<b>9,389</b>	<b>105,671.0</b>					
		9 hrs 41 min.	18 hrs 47 min.													
<b>Funding Strategy Priority C</b>																
3	Bellgrave Avenue/UP	82.9	161.9	10.9	48.5	3	5.02	25,280	9.75	541	8,261					
2	Center Street/BNSF & UP	187.4	385.2	20.0	85.0	0	8.81	44,305	17.09	965	9,989					
1	Jurupa Road/UP	126.9	205.9	105.4	291.7	6	30.22	152,045	58.66	972	9,856					
2	Mary Street/BNSF	104.8	203.5	13.2	49.9	1	5.02	26,010	10.03	2,060	21,946					
1	McKinley Street/BNSF	106.2	204.9	65.2	276.7	3	28.26	144,226	55.64	2,851	20,202					
3	Railroad Street/BNSF	104.8	203.5	10.6	91.3	0	9.46	47,589	18.36	1,612	27,409					
2	Smith Avenue/BNSF	104.8	203.5	19.7	126.1	0	13.06	65,728	25.36	1,612	26,062					
<b>Subtotal Priority C</b>		<b>817.8</b>	<b>1,568.4</b>	<b>245.0</b>	<b>969.2</b>	<b>13</b>	<b>99.85</b>	<b>505,183</b>	<b>194.90</b>	<b>10,613</b>	<b>123,725.0</b>					
		13 hrs 38 min.	26 hrs 8 min.													
<b>TOTALS</b>		<b>2,305.2</b>	<b>4,475.7</b>	<b>748.6</b>	<b>2,706.7</b>	<b>33</b>	<b>277</b>	<b>1,410,831</b>	<b>544.31</b>	<b>26,209</b>	<b>319,234</b>					
		38 hrs 25 min.	74 hrs 36 min.													

<sup>1</sup> Delay based on total train activity including switching and operational delay.

Note: Populations may overlap at adjacent crossings – Totals likely include double-counting.



## **Voluntary Container Premiums**

The 2008 funding update strategy identifies \$980.5 million as the total project cost to construct Riverside County's 20 high priority grade separations. Of that amount \$414.8 million is committed through federal, state, and local financial sources. \$258.5 million in funding is identified as railroad contributions, the State's CPUC Section 190 program and voluntary container premiums. \$307.1 million remains as an unidentified funding source.

Although container premiums or fees are currently not a secured revenue source, the following bills have been introduced. While not a voluntary fee, if approved, they could be a beneficial revenue source for grade crossings:

**SB 974 (Lowenthal)** provides for a \$30-per TEU charge on containers moving through the ports of Long Beach, Los Angeles and Oakland to pay for transportation infrastructure and air quality improvement projects. The estimated \$500 million generated by the fee annually would be restricted for infrastructure improvements and clean-air initiatives tied to goods movement in California. The bill includes specific projects that would be eligible for funding including 39 grade separations in Riverside County.

**HR 5102 (Calvert)** known as the On Time Act requests the establishment and collection of a fee based on the fair market value of articles imported into the United States as well as articles exported.

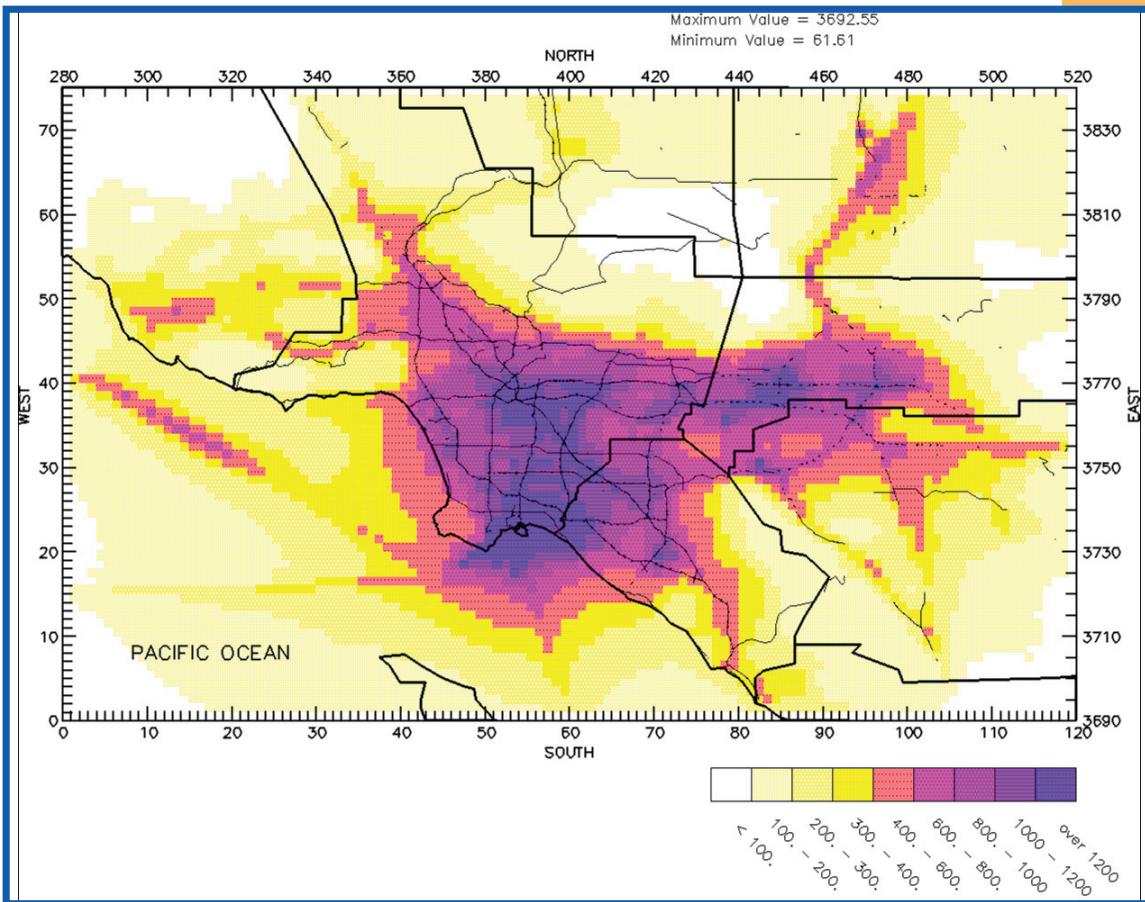
Although a number of state and federal programs identified the need for container fee programs, no legislation was approved.

Any legally-mandated container fee program will likely result in some form of legal challenge; however, there appears to be a growing understanding of the need for additional investment for the nation's freight-related infrastructure and the need to mitigate its impacts. The purpose of this document is to illustrate Riverside County's significant need for grade separation funding and for this document to be used as a resource for policy makers, residents, and businesses which all must come together to advocate for effective solutions.

## Public Health Impacts

### California Air Resources Board Annual (2005) Health Effects of PM and Ozone Pollution from Freight Transport in California<sup>1</sup>

HEALTH EFFECT	CASES PER YEAR
Premature death	5,400
Hospitalizations	2,400
Asthma and lower respiratory symptoms	140,000
Lost work days	980,000
Minor restricted activity days	5,000,000



<sup>1</sup> Source: CARB Assessment of PM Health Effects on Southern California Air Basin residents.



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