

PROJECT DELIVERY REPORT

Trade Corridors Improvement Fund

The submitting agency will be responsible for maintaining documentation of the information entered on this report.
(Please type your response, handwritten reports will not be accepted)

A. Project Information

Date: 11/8/2018

TCIF # (Segment): 50 Other Project Identifier (EA, Project #, PPNO, etc): PPNO 1126

Project Title: Grade Separation at the existing Clay Street Railroad Grade Crossing

Delivery Report: ☒ Final- Due within six months of project becoming operable.
☒ Supplemental - Due at the conclusion of all project activities.

Location: County: Riverside City: Jurupa Valley

Project Description: Construct Grade Separation by lowering roadway below railroad

B. Contact Information

Implementing Agency: County of Riverside Caltrans District Numb 8

Contact Person: Scott Staley Phone: 951-955-2092

Email Address: cstaley@rivco.org

C. Cost				
	Adopted Program Amount (\$)	Current Approved Amount (\$)	Actual Expended Amount (\$)	Net Difference (Dollars)
Environmental				
Total Amount	\$1,125,000	\$502,000	\$449,304	\$52,696
Design				
Total Amount	\$4,325,000	\$2,843,000	\$3,326,741	-\$483,741
Right of Way				
Total Amount	\$2,000,000	\$7,385,000	\$10,979,636	-\$3,594,636
Construction				
TCIF	\$12,500,000	\$13,247,000	\$13,107,679	\$139,321
Federal	\$0	\$0	\$6,807,473	-\$6,807,473
Local	\$6,857,000	\$0	\$0	\$0
Federal	\$7,500,000	\$0	\$0	\$0
Local	\$1,868,000	\$0	\$0	\$0
Other	\$1,066,000	\$6,829,000	\$370,240	\$6,458,760
Local	\$109,000	\$0	\$0	\$0
Totals	\$37,350,000	\$30,806,000	\$35,041,073	-\$4,235,073

D. Schedule				
	Adopted Program Date	Current Approved Date	Actual Begin/End Date	Net Difference (Months)
Environmental Phase				
Begin	09/08/08	06/02/09	06/08/09	0
End	04/30/10	01/14/11	03/15/11	2
Design (PS&E) Phase				
Begin	05/03/10	02/02/11	03/15/11	1
End	06/30/11	03/29/13	05/15/13	1
Right of Way Phase				
Begin	09/30/10	03/01/11	03/01/11	0
End	09/30/11	05/30/13	05/30/13	0
Construction Phase				
Begin	03/30/12	12/01/13	12/17/13	0
End	09/30/13	06/15/16	05/02/17	10
Closeout Date				
Begin	10/01/13	08/15/16	05/09/18	20
End	12/31/13	12/15/16	02/28/18 11/15/18	14

E. Amendments		
List approved amendments		
Amendment #	CTC Meeting	Summary of Changes (Scope, Cost, Schedule)
TCIF-P-1213-23	12/06/2012	Schedule, cost, and funding revisions
TCIF-P-1213-69	06/11/2013	Schedule, cost, and funding revisions

F. Project Benefits			
Describe and compare project benefits with those included in the approved Baseline Agreement.			
Outcomes	Adopted Program	Current Approved	Actual
Safety	Elimination of at-grade crossing will improve public safety by eliminating the potential for train versus automobile/truck/pedestrian accidents. Recent accident data obtained from the FRA and the County of Riverside for a 10-year period shows 2 accidents reported involving trains (1 fatality and 1 injury) and 8 accidents reported (1 fatality and 3 injuries) were vehicle to vehicle within 100 feet of the crossing area which may have been caused due to frequent interruption in the normal flow of traffic. The project will eliminate the need for pedestrians to walk across the mainline tracks. These improvements will eliminate the number of rear-end vehicular accidents at the crossing. The proposed project will also improve public safety and emergency vehicles response time.	Elimination of at-grade crossing will improve public safety by eliminating the potential for train versus automobile/truck/pedestrian accidents. Recent accident data obtained from the FRA and the County of Riverside for a 10-year period shows 2 accidents reported involving trains (1 fatality and 1 injury) and 8 accidents reported (1 fatality and 3 injuries) were vehicle to vehicle within 100 feet of the crossing area which may have been caused due to frequent interruption in the normal flow of traffic. The project will eliminate the need for pedestrians to walk across the mainline tracks. These improvements will eliminate the number of rear-end vehicular accidents at the crossing. The proposed project will also improve public safety and emergency vehicles response time.	Elimination of at-grade crossing and construction of this grade separation has improved public safety by eliminating the interface between automobiles / trucks / pedestrians and trains. Recent accident data obtained from the FRA and the County of Riverside for the 1-year period of time subsequent to the opening of the grade separation confirms zero (0) accidents reported involving trains. There have been three (3) vehicle to vehicle accidents (1 injury accident) within 100 feet of the crossing. The injury accident involved a vehicle making a left turn. The project has eliminated the need for pedestrians to walk across the mainline tracks. These improvements removed the possibility of vehicular accidents involving the train tracks. The project has improved public safety and emergency vehicle response times by eliminating delays caused by long trains or due to the re-routing of emergency vehicles because of lengthily train crossings.

Velocity	<p>Elimination of at-grade crossing will improve train velocity by eliminating the potential for train versus automobile/truck/pedestrian accidents and associated delays to investigate and clear tracks. The proposed project will also eliminate idling of trucks and passenger cars at the crossing. Although the train speed limit at this crossing is 65 mph for the freight and 70 mph for the passenger trains, these trains pass through with a much lower speed roughly 25 to 30 mph in this area. After the improvements are complete both freight and passenger trains will be able to operate at their maximum designated speed for the area and will also improve the volume of trains traveling through this crossing. Vehicular traffic on Clay Street will also be able to flow at 45 mph speed without the interruptions of train traffic.</p>	<p>Elimination of at-grade crossing will improve train velocity by eliminating the potential for train versus automobile/truck/pedestrian accidents and associated delays to investigate and clear tracks. The proposed project will also eliminate idling of trucks and passenger cars at the crossing. Although the train speed limit at this crossing is 65 mph for the freight and 70 mph for the passenger trains, these trains pass through with a much lower speed roughly 25 to 30 mph in this area. After the improvements are complete both freight and passenger trains will be able to operate at their maximum designated speed for the area and will also improve the volume of trains traveling through this crossing. Vehicular traffic on Clay Street will also be able to flow at 45 mph speed without the interruptions of train traffic.</p>	<p>Construction of this grade separation has improved train velocity by eliminating the potential for train versus automobile / truck / pedestrian accidents and associated delays to investigate and clear tracks. Additionally, the project has eliminated idling of trucks and passenger cars caused by train crossings. Freight and passenger trains are now able to operate at their maximum designated speed for the area of 65 mph for freight and 70 mph for passenger trains, improving the volume of trains traveling through this crossing. Vehicular traffic on Clay Street is also able to flow at the 45 mph posted speed limit without interruptions caused by train traffic.</p>
Throughput	<p>This grade separation project will improve the operational efficiency by eliminating accidents and associated delays. Currently, 30 freight and 12 Metrolink commuter trains pass through the Clay Street crossing daily and is projected to increase to 45 freight and 28 Metrolink commuter trains by 2030. Width of new bridge will allow for Union Pacific to add an additional track without modification.</p>	<p>This grade separation project will improve the operational efficiency by eliminating accidents and associated delays. Currently, 30 freight and 12 Metrolink commuter trains pass through the Clay Street crossing daily and is projected to increase to 45 freight and 28 Metrolink commuter trains by 2030. Width of new bridge will allow for Union Pacific to add an additional track without modification.</p>	<p>Construction of this grade separation has improved operational efficiency by eliminating accidents and associated delays from occurring by eliminating the interface between automobiles/trucks/pedestrians and trains. Construction of this grade separation provides for the projected 50% increase in freight train traffic and the 125% increase of Metrolink commuter trains. The width of the new bridge allows Union Pacific to add an additional track without further modification to the bridge.</p>
Reliability	<p>This project will improve freight train movement and reliability by eliminating the potential for accidents. These accidents create costly schedule impacts to other trains when the operation on rail shuts down for several hours to investigate and clear the accident. Response times will be greatly enhanced for emergency vehicles.</p>	<p>This project will improve freight train movement and reliability by eliminating the potential for accidents. These accidents create costly schedule impacts to other trains when the operation on rail shuts down for several hours to investigate and clear the accident. Response times will be greatly enhanced for emergency vehicles.</p>	<p>Construction of this grade separation has improved freight train movement and reliability by eliminating the potential for accidents between trains and automobiles/trucks/pedestrians. Such accidents create costly schedule impacts to other trains on this line when the operation on this rail shuts down for several hours due to investigating and clearing of accidents. The project has improved public safety and emergency vehicle response times by eliminating delays caused by lengthy train crossings or due to the re-routing of emergency vehicles because of lengthy train crossings.</p>

Congestion Reduction	On average, 42 freight and passenger trains pass through Clay Street rail crossing each day causing 84.3 minutes of delays at this crossing which are forecast to double to 163.5 minutes by 2030. The vehicle hours of delay per day were 42.5 in 2005 and are projected to increase to 131.8 vehicle hours of delay per day by 2030.	On average, 42 freight and passenger trains pass through Clay Street rail crossing each day causing 84.3 minutes of delays at this crossing which are forecast to double to 163.5 minutes by 2030. The vehicle hours of delay per day were 42.5 in 2005 and are projected to increase to 131.8 vehicle hours of delay per day by 2030.	Construction of this grade separation eliminated vehicular traffic congestion caused by the train crossing at this location. The grade separation currently eliminates approximately 116 vehicle hours of delay per day and is on target to meet the 2030 vehicle hours of delay by allowing traffic to free flow beneath the railroad crossing. The time savings will continue to increase as traffic and train volumes increase.
Emissions Reductions	The emissions benefit of the project in 2030 is calculated to be 6 tons per year of combined PM10, ROG, NOx and CO2. Additionally, noise from train horns is eliminated for a population of 9,227 within 6,400' of the project.	The emissions benefit of the project in 2030 is calculated to be 6 tons per year of combined PM10, ROG, NOx and CO2. Additionally, noise from train horns is eliminated for a population of 9,227 within 6,400' of the project.	With completion of this grade separation, we are on target to meet year 2030 emissions reductions projections. Additionally, the need for train horns at this location have been eliminated by construction of this grade separation and have directly reduced acoustical impacts to nearly 10,000 people in proximity of this location.

G. Differences/Variations

Describe differences/variances (if any) and reason for, between approved scope, cost, schedule, and actual.

Design cost increased by 17% due to complex utility relocations that required environmental revalidation and changes in design. Coordination with UPRR revealed an opportunity to modify the railroad track design to better accommodate the grade separation.

The need to purchase additional land rights for utility relocations, negotiations, relocations, and settlements with property owners contributed to increased Right-of-way costs.

Delays from work performed by UPRR and utility company relocations added 10 months to the construction duration.

Project closeout date was extended to finalize billings with utility companies, UPRR and to finalize disputes and billings with the contractor. A traffic signal was also constructed at General Drive to improve safety, aid in right-of-way negotiations, and better accommodate a multi-use trail through the area.

H. Lessons-Learned/Best Practices

Describe lessons-learned and best practices for future projects.

Better utility coordination during construction would have benefitted the project. The communications utility company relocated their facility prior to construction into the wrong location, requiring a second move which resulted in schedule delays. The gas company utilized a construction technique that damaged their facility necessitating repairs to that facility, which resulted in construction schedule delays and added to construction costs.

High water table was anticipated due to geotechnical work but none was encountered. Checking for water table just prior to construction could provide some benefit for construction scheduling as well as construction costs.

Certification Signature

Implementing Agency

I hereby certify to the best of my knowledge and belief, the information in this report is a true and accurate record. The work was performed in accordance with the CTC approved scope, cost, schedules, and benefit information in the Baseline Agreement.

C. Scott Staley

(Print name) Project Manager



(Signature) Project Manager

November 15, 2018

Date

Caltrans

The TCIF Division Program Coordinator and/or the Project Manager from the California Department of Transportation has reviewed the information contained in this report and has verified the information presented is correct.

Alicia Merrill

(Print Name) TCIF Division Program Coordinator/Project Manager



(Signature) TCIF Division Program Coordinator/Project Manager

12/5/18

Date

The TCIF Program Lead from the California Department of Transportation has reviewed the information contained in the report and concurs with the approval.

Tony Caro

(Print Name) TCIF Program Lead



(Signature) TCIF Program Lead

12/10/18

Date

Distribution: 1) Local Agency, 2) Division Program Coordinator/Project Manager, 3) TCIF Program Lead, 4) CTC