# 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: 10/18/2018

TCIF # (Segment): 75.1 Other Project Identifier (EA, Project #, PPNO, etc): PPNO 11-2101

Project Title: Southline Mainline Phase 1

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

Location: County: San Diego City: San Diego, National City, Chula Vista

Project Description: The project consists of installation of a communication and railroad signaling fiber backbone between San Diego and the San Ysidro Yard, establishing the communication link required for the reverse running and communication with the Central Control Center.

**B. Contact Information**

Implementing Agency: San Diego Association of Governments Caltrans District Number: 11

Contact Person: Pete d'Ablaing Phone: (619) 699-1906

Email Address: pete.dablaing@sandag.org

| C. Cost | Adopted Program Amount ($) | Current Approved Amount ($) | Actual Expended Amount ($) | Net Difference (Dollars) |
|---|---|---|---|---|
| **Environmental** | | | | |
| Total Amount | $0 | $0 | $0 | $0 |
| **Design** | | | | |
| Total Amount | $0 | $0 | $0 | $0 |
| **Right of Way** | | | | |
| Total Amount | $0 | $0 | $0 | $0 |
| **Construction** | | | | |
| TCIF | $10,500,000 | $4,457,960 | $4,457,960 | $0 |
| Local | $0 | $0 | $0 | $0 |
| Federal | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 |
| **Totals** | $10,500,000 | $4,457,960 | $4,457,960 | $0 |

| D. Schedule | Adopted Program Date | Current Approved Date | Actual Begin/End Date | Net Difference (Months) |
|---|---|---|---|---|
| **Environmental Phase** | | | | |
| Begin | 07/01/08 | 07/01/08 | 07/01/08 | 0 |
| End | 04/01/10 | 04/01/10 | 04/01/10 | 0 |
| **Design (PS&E) Phase** | | | | |
| Begin | 08/21/09 | 08/21/09 | 08/21/09 | 0 |
| End | 12/15/09 | 12/15/09 | 12/15/09 | 0 |
| **Right of Way Phase** | | | | |
| Begin | N/A | N/A | N/A | 0 |
| End | N/A | N/A | N/A | 0 |
| **Construction Phase** | | | | |
| Begin | 06/02/10 | 06/02/10 | 06/02/10 | 0 |
| End | 11/01/11 | 03/02/12 | 07/15/12 | 4 |
| **Closeout Date** | | | | |
| Begin | 11/02/11 | 03/05/12 | 07/15/12 | 4 |
| End | 12/01/11 | 09/07/12 | 07/16/14 | 22 |

**E. Amendments**

***List approved amendments***

| Amendment # | CTC Meeting | Summary of Changes (Scope, Cost, Schedule) |
|---|---|---|
| 1 | October 2011 | Split project into 3 phases and updated delivery schedule |
| 2 | April 2012 | Split Phase 3 into Phase 3 and Phase 4 and updated Schedules |
| Alloc. Amend | March 2013 | Deallocated contract award savings |
| Alloc. Amend | March 2014 | Deallocated additional construction savings |

**F. Project Benefits**

***Describe and compare project benefits with those included in the approved Baseline Agreement.***

| Outcomes | Adopted Program | Current Approved | Actual * |
|---|---|---|---|
| Safety | Project provides for the rail transportation of goods allowing for a reduction of up to 31,800 truck trips annually on the regional highway system, with an estimated reduction of two injury accidents per year | Project provides for the rail transportation of goods allowing for a reduction of up to 31,800 truck trips annually on the regional highway system, with an estimated reduction of two injury accidents per year | The increase in capacity has reduced truck trips by 31,800 per year, which in turn is expected to reduce injury collisions by 2/year |
| Velocity | The Centralized Train Control and reverse approach signaling will allow freight trains to move on the South Line at greater operating speeds. During periods of track maintenance, reverse train speeds will increase from 10 mph to 40 mph. | The Centralized Train Control and reverse approach signaling will allow freight trains to move on the South Line at greater operating speeds. During periods of track maintenance, reverse train speeds will increase from 10 mph to 40 mph. | During track maintenance, train speeds incresed to 40 mph while operating on 'normal' rail and 30 mph while operating on 'reverse' rail |
| Throughput | Implementation of the Mainline Track Improvements project is expected to povide capacity to double the number of freight train movements from two to four trains per day. The mainline project provides for a potential increase in yearly track carload capacity from 12,375 to over 23,600. In conjunction with the San Ysidro Yard Improvements project, the Mainline Track Improvements project will help increaes total system capacity from 10,000 to 19,600 carloads transported per year. | Implementation of the Mainline Track Improvements project is expected to povide capacity to double the number of freight train movements from two to four trains per day. The mainline project provides for a potential increase in yearly track carload capacity from 12,375 to over 23,600. In conjunction with the San Ysidro Yard Improvements project, the Mainline Track Improvements project will help increaes total system capacity from 10,000 to 19,600 carloads transported per year. | Capacity in total system has increased from allowing 10,0000 carloads per year to now 19,600 carloads per year due to a 96% increase of the capacity of the Yard and Improvements on the Main Line |

| | | | |
|---|---|---|---|
| Reliability | Reliability of freight delivery is increased with two additional train operations per day. The project also reduces canceled train movements because of scheduled and unscheduled track maintenance and reduces the variability and unpredictability of train travel times. | Reliability of freight delivery is increased with two additional train operations per day. The project also reduces canceled train movements because of scheduled and unscheduled track maintenance and reduces the variability and unpredictability of train travel times. | Improvements allow for 4 train operations per day (2 each direction) and reverse running has reduced impacts of track maintenance. Allows for increase from 2 train operations per day to 4. Reduce canceled train movements and/or variability of travel times due to track maintenance. |
| Congestion Reduction | The increased rail capacity will eliminate up to 31,800 truck rips annually, reducing congestion on the highway network and at the U.S. – Mexico border crossing. | The increased rail capacity will eliminate up to 31,800 truck rips annually, reducing congestion on the highway network and at the U.S. – Mexico border crossing. | The increase in rail freight capacity has, upon completion of TCIF 74 & 75.1-75.4, reduced the amount of trucks on the highway network by 31,800/yr and reduced calculated VMT by approx. 3,800,000 |
| Emissions Reductions | The reduction of 31,800 trucks by 2030 is projected to result in the following emissions reductions: NOx : 320 pounds/day; CO2 1.36 million pounds/day; PM10: 260 pounds/day; CO: 540 pounds/day. | The reduction of 31,800 trucks by 2030 is projected to result in the following emissions reductions: NOx : 320 pounds/day; CO2 1.36 million pounds/day; PM10: 260 pounds/day; CO: 540 pounds/day. | The NOX/SOX/PM/CO2/CO estimates were derived from the 2007 EMFAC model assuming a potential 31,800 diverted truck trips based on the added capacity. Using that same model, and the fact the project has provided the intended capacity enhancements, the potential emissions reduction goals can be acheived by 2030. |

* Please note: All 4 phases of Southline Main Line (75.1-75.4) and SY Yard project (74) were needed to acheives benefits listed above

***G. Differences/Variances***

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

The end of construction was delayed as a result of unanticipated field conditions that resulted in additional work.

The project experienced a savings of over $5 Million as a result of being constructed in conjunction with MTS Trolley imporvements, but the end of the close-out was delayed as a result of the need to close out the Trolley portion of the project and reconcile finances so that an accurate accounting of applicable and final TCIF construction support and operational costs could be made.

***H. Lessons-Learned/Best Practices***

***Describe lessons-learned and best practices for future projects.***

The overall project was split into 4 phases to enhance the delivery of the project. The phased approach allowed for the following: -- Better integration with a concurrent Trolley improvement program on the same corridor (the project could not have been delivered on-time without being split)

-- Less impact to existing Freight and Trolley operations during construction

-- Large costs savings - the original project budget was $107 Million and the final cost for the project will be ~$48 Million. A portion of this was due to other factors, such as the slow down of the economy during the early phases of the project, but the phasing of the project was the largest factor

-- By constructing the freight and trolley projects concurrently, the system received consistent, compatible upgrades to the signal communication and rail in the corridor which will benefit freight opertions in the overall corridor.

## Certification Signature

**Implementating 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

Pete d'Ablaing
(Print name) Project Manager

Pete d'Ablaing 10/26/18
(Signature) Project Manager 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.

Phillip D. Hoebeke
(Print Name) TCIF Division Program Coordinator/Project Manager

Phillip D. Hoebeke 10/26/18
(Signature)TCIF Division Program Coordinator/Project Manager Date

The TCIF Program Lead from the California Department of Transportation has reviewed the information contained in the report

Tony Cano
(Print Name) TCIF Program Lead

Tony Cano 10/30/18
(Signature) TCIF Program Lead Date

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

# 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: 10/18/2018

TCIF # (Segment): 75.2 Other Project Identifier (EA, Project #, PPNO, etc): PPNO 11-2102

Project Title: Southline Mainline Phase 2

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

Location: County: San Diego City: San Diego, National City, Chula Vista

Project Description: The project consists of the following: improvements of the signaling system to allow for reverse running including; 10 at-grade crossings, new interlockings and signals; a powered crossover; and modifications to the Palomar siding.

**B. Contact Information**

Implementing Agency: San Diego Association of Governments Caltrans District Number: 11

Contact Person: Pete d'Ablaing Phone: (619) 699-1906

Email Address: pete.dablaing@sandag.org

| C. Cost | Adopted Program Amount ($) | Current Approved Amount ($) | Actual Expended Amount ($) | Net Difference (Dollars) |
|---|---|---|---|---|
| **Environmental** | | | | |
| Total Amount | $0 | $0 | $0 | $0 |
| **Design** | | | | |
| Total Amount | $0 | $0 | $0 | $0 |
| **Right of Way** | | | | |
| Total Amount | $0 | $0 | $0 | $0 |
| **Construction** | | | | |
| TCIF | $15,500,000 | $10,010,000 | $10,009,528 | $472 |
| Local | $0 | $0 | $0 | $0 |
| Federal | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 |
| | | | | |
| **Totals** | $10,500,000 | $10,010,000 | $10,009,528 | $472 |

| D. Schedule | Adopted Program Date | Current Approved Date | Actual Begin/End Date | Net Difference (Months) |
|---|---|---|---|---|
| **Environmental Phase** | | | | |
| Begin | 07/01/08 | 07/01/08 | 07/01/08 | 0 |
| End | 04/01/10 | 04/01/10 | 04/01/10 | 0 |
| **Design (PS&E) Phase** | | | | |
| Begin | 06/19/09 | 06/19/09 | 06/19/09 | 0 |
| End | 07/01/10 | 07/01/10 | 07/01/10 | 0 |
| **Right of Way Phase** | | | | |
| Begin | N/A | N/A | N/A | 0 |
| End | N/A | N/A | N/A | 0 |
| **Construction Phase** | | | | |
| Begin | 10/15/10 | 03/24/11 | 03/24/11 | 0 |
| End | 08/15/12 | 03/30/13 | 06/30/14 | 15 |
| **Closeout Date** | | | | |
| Begin | 08/16/12 | 04/02/13 | 07/01/14 | 15 |
| End | 09/19/12 | 10/01/13 | 07/30/15 | 22 |

**E. Amendments**

***List approved amendments***

| Amendment # | CTC Meeting | Summary of Changes (Scope, Cost, Schedule) |
|---|---|---|
| 1 | October 2011 | Split project into 3 phases and updated delivery schedule |
| 2 | April 2012 | Split Phase 3 into Phase 3 and Phase 4 and updated Schedules |
| Alloc. Amend | March 2013 | Deallocated contract award savings |
| Alloc. Amend | March 2014 | Deallocated additional construction savings |
| Alloc. Amend | January 2016 | Deallocated additional construction savings |

**F. Project Benefits**

***Describe and compare project benefits with those included in the approved Baseline Agreement.***

| Outcomes | Adopted Program | Current Approved | Actual * |
|---|---|---|---|
| Safety | Project provides for the rail transportation of goods allowing for a reduction of up to 31,800 truck trips annually on the regional highway system, with an estimated reduction of two injury accidents per year | Project provides for the rail transportation of goods allowing for a reduction of up to 31,800 truck trips annually on the regional highway system, with an estimated reduction of two injury accidents per year | The increase in capacity has reduced truck trips by 31,800 per year, which in turn is expected to reduce injury collisions by 2/year |
| Velocity | The Centralized Train Control and reverse approach signaling will allow freight trains to move on the South Line at greater operating speeds. During periods of track maintenance, reverse train speeds will increase from 10 mph to 40 mph. | The Centralized Train Control and reverse approach signaling will allow freight trains to move on the South Line at greater operating speeds. During periods of track maintenance, reverse train speeds will increase from 10 mph to 40 mph. | During track maintenance, train speeds incresed to 40 mph while operating on 'normal' rail and 30 mph while operating on 'reverse' rail |
| Throughput | Implementation of the Mainline Track Improvements project is expected to povide capacity to double the number of freight train movements from two to four trains per day. The mainline project provides for a potential increase in yearly track carload capacity from 12,375 to over 23,600. In conjunction with the San Ysidro Yard Improvements project, the Mainline Track Improvements project will help increaes total system capacity from 10,000 to 19,600 carloads transported per year. | Implementation of the Mainline Track Improvements project is expected to povide capacity to double the number of freight train movements from two to four trains per day. The mainline project provides for a potential increase in yearly track carload capacity from 12,375 to over 23,600. In conjunction with the San Ysidro Yard Improvements project, the Mainline Track Improvements project will help increaes total system capacity from 10,000 to 19,600 carloads transported per year. | Capacity in total system has increased from allowing 10,0000 carloads per year to now 19,600 carloads per year due to a 96% increase of the capacity of the Yard and improvements on the Main Line |

| | | | |
|---|---|---|---|
| Reliability | Reliability of freight delivery is increased with two additional train operations per day. The project also reduces canceled train movements because of scheduled and unscheduled track maintenance and reduces the variability and unpredictability of train travel times. | Reliability of freight delivery is increased with two additional train operations per day. The project also reduces canceled train movements because of scheduled and unscheduled track maintenance and reduces the variability and unpredictability of train travel times. | Improvements allow for 4 train operations per day (2 each direction) and reverse running has reduced impacts of track maintenance. Allows for increase from 2 train operations per day to 4. Reduce canceled train movements and/or variability of travel times due to track maintenance. |
| Congestion Reduction | The increased rail capacity will eliminate up to 31,800 truck rips annually, reducing congestion on the highway network and at the U.S. – Mexico border crossing. | The increased rail capacity will eliminate up to 31,800 truck rips annually, reducing congestion on the highway network and at the U.S. – Mexico border crossing. | The increase in rail freight capacity has, upon completion of TCIF 74 & 75.1-75.4, reduced the amount of trucks on the highway network by 31,800/yr and reduced calculated VMT by approx. 3,800,000 |
| Emissions Reductions | The reduction of 31,800 trucks by 2030 is projected to result in the following emissions reductions: NOx : 320 pounds/day; CO2 1.36 million pounds/day; PM10: 260 pounds/day; CO: 540 pounds/day. | The reduction of 31,800 trucks by 2030 is projected to result in the following emissions reductions: NOx : 320 pounds/day; CO2 1.36 million pounds/day; PM10: 260 pounds/day; CO: 540 pounds/day. | The NOX/SOX/PM/CO2/CO estimates were derived from the 2007 EMFAC model assuming a potential 31,800 diverted truck trips based on the added capacity. Using that same model, and the fact the project has provided the intended capacity enhancements, the potential emissions reduction goals can be acheived by 2030. |

* Please note: All 4 phases of Southline Main Line (75.1-75.4) and SY Yard project (74) were needed to acheives benefits listed above

***G. Differences/Variances***

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

The completion of the project's construction was delayed as a result of the following items: unanticipated site conditions; additional work at the at-grade crossings to meet CPUC requirements as part of GO-88; and phasing/scheduling restrictions related to the timing of full track closures for the signal system cutovers, done to limit impact to trolley and freight operations.

The project experienced a savings of over $5 Million as a result of being constructed in conjunction with MTS Trolley imporvements, but the end of the close-out was delayed as a result of the need to close out the Trolley portion of the project and reconcile finances so that an accurate accounting of applicable and final TCIF construction support and operational costs could be made.

***H. Lessons-Learned/Best Practices***

***Describe lessons-learned and best practices for future projects.***

The overall project was split into 4 phases to enhance the delivery of the project. The phased approach allowed for the following: -- Better integration with a concurrent Trolley improvement program on the same corridor (the project could not have been delivered on-time without being split)

-- Less impact to existing Freight and Trolley operations during construction

-- Large costs savings - the original project budget was $107 Million and the final cost for the project will be ~$48 Million. A portion of this was due to other factors, such as the slow down of the economy during the early phases of the project, but the phasing of the project was the largest factor

-- By constructing the freight and trolley projects concurrently, the system received consistent, compatible upgrades to the signal communication and rail in the corridor which will benefit freight opertions in the overall corridor.

## Certification Signature

**Implementating 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

Pete d'Ablaing
(Print name) Project Manager

Pete d'Abl 10/26/18
(Signature) Project Manager 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.

Phillip D. Hoebeke
(Print Name) TCIF Division Program Coordinator/Project Manager

Phil D Hoe 10/24/18
(Signature)TCIF Division Program Coordinator/Project Manager Date

The TCIF Program Lead from the California Department of Transportation has reviewed the information contained in the report

Tony Cano
(Print Name) TCIF Program Lead

Tony C 10/30/18
(Signature) TCIF Program Lead Date

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

# 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: 10/18/2018

TCIF # (Segment): 75.3 Other Project Identifier (EA, Project #, PPNO, etc): PPNO 11-2103

Project Title: Southline Mainline Phase 3

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

Location: County: San Diego City: Chula Vista

Project Description: The project consists of modifications to the SD&AE Freight track in the vicinity of the Palomar Street Trolley Station and removal, realignment, and reconstruction of the Mainline and Palomar siding track and improvements to associated signal and overhead caternary systems

**B. Contact Information**

Implementing Agency: San Diego Association of Governments Caltrans District Number: 11

Contact Person: Pete d'Ablaing Phone: (619) 699-1906

Email Address: pete.dablaing@sandag.org

| C. Cost | Adopted Program Amount ($) | Current Approved Amount ($) | Actual Expended Amount ($) | Net Difference (Dollars) |
|---|---|---|---|---|
| **Environmental** | | | | |
| Total Amount | $0 | $0 | $0 | $0 |
| **Design** | | | | |
| Total Amount | $0 | $0 | $0 | $0 |
| **Right of Way** | | | | |
| Total Amount | $0 | $0 | $0 | $0 |
| **Construction** | | | | |
| TCIF | $4,000,000 | $3,445,000 | $3,445,000 | $0 |
| Local | $0 | $0 | $0 | $0 |
| Federal | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 |
| | | | | |
| **Totals** | $4,000,000 | $3,445,000 | $3,445,000 | $0 |

| D. Schedule | Adopted Program Date | Current Approved Date | Actual Begin/End Date | Net Difference (Months) |
|---|---|---|---|---|
| **Environmental Phase** | | | | |
| Begin | 07/01/08 | 07/01/08 | 07/01/08 | 0 |
| End | 04/01/10 | 04/01/10 | 04/01/10 | 0 |
| **Design (PS&E) Phase** | | | | |
| Begin | 04/03/10 | 04/03/10 | 04/03/10 | 0 |
| End | 11/30/11 | 09/10/12 | 09/10/12 | 0 |
| **Right of Way Phase** | | | | |
| Begin | N/A | N/A | N/A | 0 |
| End | N/A | N/A | N/A | 0 |
| **Construction Phase** | | | | |
| Begin | 04/02/12 | 03/18/13 | 04/25/13 | 1 |
| End | 07/01/15 | 12/22/14 | 02/24/16 | 14 |
| **Closeout Date** | | | | |
| Begin | 07/02/15 | 12/23/14 | 02/25/16 | 14 |
| End | 01/01/16 | 12/21/15 | 01/30/17 | 13 |

**E. Amendments**

***List approved amendments***

| Amendment # | CTC Meeting | Summary of Changes (Scope, Cost, Schedule) |
|---|---|---|
| 1 | October 2011 | Split project into 3 phases and updated delivery schedule |
| 2 | April 2012 | Split Phase 3 into Phase 3 and Phase 4 and updated Schedules |
| 3 | February 2013 | Update costs, Phase 3 schedule, and move scope from Phase 4 to 3 |
| 4 | September 2013 | Update Phase 3 schedule |
| Alloc. Amend | March 2014 | Deallocated contract award savings |

**F. Project Benefits**

***Describe and compare project benefits with those included in the approved Baseline Agreement.***

| Outcomes | Adopted Program | Current Approved | Actual * |
|---|---|---|---|
| Safety | Project provides for the rail transportation of goods allowing for a reduction of up to 31,800 truck trips annually on the regional highway system, with an estimated reduction of two injury accidents per year | Project provides for the rail transportation of goods allowing for a reduction of up to 31,800 truck trips annually on the regional highway system, with an estimated reduction of two injury accidents per year | The increase in capacity has reduced truck trips by 31,800 per year, which in turn is expected to reduce injury collisions by 2/year |
| Velocity | The Centralized Train Control and reverse approach signaling will allow freight trains to move on the South Line at greater operating speeds. During periods of track maintenance, reverse train speeds will increase from 10 mph to 40 mph. | The Centralized Train Control and reverse approach signaling will allow freight trains to move on the South Line at greater operating speeds. During periods of track maintenance, reverse train speeds will increase from 10 mph to 40 mph. | During track maintenance, train speeds increased to 40 mph while operating on 'normal' rail and 30 mph while operating on 'reverse' rail |
| Throughput | Implementation of the Mainline Track Improvements project is expected to povide capacity to double the number of freight train movements from two to four trains per day. The mainline project provides for a potential increase in yearly track carload capacity from 12,375 to over 23,600. In conjunction with the San Ysidro Yard Improvements project, the Mainline Track Improvements project will help increaes total system capacity from 10,000 to 19,600 carloads transported per year. | Implementation of the Mainline Track Improvements project is expected to povide capacity to double the number of freight train movements from two to four trains per day. The mainline project provides for a potential increase in yearly track carload capacity from 12,375 to over 23,600. In conjunction with the San Ysidro Yard Improvements project, the Mainline Track Improvements project will help increaes total system capacity from 10,000 to 19,600 carloads transported per year. | Capacity in total system has increased from allowing 10,0000 carloads per year to now 19,600 carloads per year due to a 96% increase of the capacity of the Yard and improvements on the Main Line |

| | | | |
|---|---|---|---|
| Reliability | Reliability of freight delivery is increased with two additional train operations per day. The project also reduces canceled train movements because of scheduled and unscheduled track maintenance and reduces the variability and unpredictability of train travel times. | Reliability of freight delivery is increased with two additional train operations per day. The project also reduces canceled train movements because of scheduled and unscheduled track maintenance and reduces the variability and unpredictability of train travel times. | Improvements allow for 4 train operations per day (2 each direction) and reverse running has reduced impacts of track maintenance. Allows for increase from 2 train operations per day to 4. Reduce canceled train movements and/or variability of travel times due to track maintenance. |
| Congestion Reduction | The increased rail capacity will eliminate up to 31,800 truck rips annually, reducing congestion on the highway network and at the U.S. – Mexico border crossing. | The increased rail capacity will eliminate up to 31,800 truck rips annually, reducing congestion on the highway network and at the U.S. – Mexico border crossing. | The increase in rail freight capacity has, upon completion of TCIF 74 & 75.1-75.4, reduced the amount of trucks on the highway network by 31,800/yr and reduced calculated VMT by approx. 3,800,000 |
| Emissions Reductions | The reduction of 31,800 trucks by 2030 is projected to result in the following emissions reductions: NOx : 320 pounds/day; CO2 1.36 million pounds/day; PM10: 260 pounds/day; CO: 540 pounds/day. | The reduction of 31,800 trucks by 2030 is projected to result in the following emissions reductions: NOx : 320 pounds/day; CO2 1.36 million pounds/day; PM10: 260 pounds/day; CO: 540 pounds/day. | The NOX/SOX/PM/CO2/CO estimates were derived from the 2007 EMFAC model assuming a potential 31,800 diverted truck trips based on the added capacity. Using that same model, and the fact the project has provided the intended capacity enhancements, the potential emissions reduction goals can be acheived by 2030. |

* Please note: All 4 phases of Southline Main Line (75.1-75.4) and SY Yard project (74) were needed to acheives benefits listed above

***G. Differences/Variances***

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

The completion of this project took longer than anticipated for the following reasons: unanticipated field conditions including relocation of utility lines by utility owners; the delay in starting a portion of the work caused by a concurrent project being undertaken by the City of Chula Vista and; work that was needed to obtain CPUC approval of the GO-88 process due to changes to the grade crossing at Anita Street. The closeout phase was delayed by the extension of the construction, though the closeout was expedited so as to lessen the total length of the delay.

The project experienced a savings of approxiamtely $2 Million (adjusted at the March 2014 CTC meeting) as a result of being constructed in conjunction with MTS Trolley Improvements.

***H. Lessons-Learned/Best Practices***

***Describe lessons-learned and best practices for future projects.***

The overall project was split into 4 phases to enhance the delivery of the project. The phased approach allowed for the following: – Better integration with a concurrent Trolley Improvement program on the same corridor (the project could not have been delivered on-time without being split)
– Less impact to existing Freight and Trolley operations during construction
– Large costs savings - the original project budget was $107 Million and the final cost for the project will be ~$48 Million. A portion of this was due to other factors, such as the slow down of the economy during the early phases of the project, but the phasing of the project was the largest factor
– By constructing the freight and trolley projects concurrently, the system received consistent, compatible upgrades to the signal communication and rail in the corridor which will benefit freight opertions in the overall corridor.

## Certification Signature

**Implementating 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

Pete d'Ablaing
(Print name) Project Manager

Pete d'Ablaing 10/26/18
(Signature) Project Manager 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.

Phillip D. Hoebeke
(Print Name) TCIF Division Program Coordinator/Project Manager

Phillip D Hoebeke 10/26/18
(Signature)TCIF Division Program Coordinator/Project Manager Date

The TCIF Program Lead from the California Department of Transportation has reviewed the information contained in the report

Tony Cano
(Print Name) TCIF Program Lead

Tony Cano 10/30/18
(Signature) TCIF Program Lead Date

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

# 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: 10/18/2018

TCIF # (Segment): 75.4 Other Project Identifier (EA, Project #, PPNO, etc): PPNO 11-2101

Project Title: Southline Mainline Phase 4

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

Location: County: San Diego City: San Diego, National City, Chula Vista

Project Description: The project consists of installation of a communication and railroad signaling fiber backbone between San Diego and the San Ysidro Yard, establishing the communication link required for the reverse running and communication with the Central Control Center.

**B. Contact Information**

Implementing Agency: San Diego Association of Governments Caltrans District Number: 11

Contact Person: Pete d'Ablaing Phone: (619) 699-1906

Email Address: pete.dablaing@sandag.org

| C. Cost | Adopted Program Amount ($) | Current Approved Amount ($) | Actual Expended Amount ($) | Net Difference (Dollars) |
|---|---|---|---|---|
| **Environmental** | | | | |
| Total Amount | $220,000 | $220,000 | $220,000 | $0 |
| **Design** | | | | |
| Total Amount | $8,750,000 | $8,750,000 | $3,823,620 | $4,926,380 |
| **Right of Way** | | | | |
| Total Amount | $0 | $0 | $0 | $0 |
| **Construction** | | | | |
| TCIF | $68,060,000 | $21,621,000 | $21,621,000 | $0 |
| Local | $0 | $0 | $3,025,572 | -$3,025,572 |
| Federal | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 |
| | | | | |
| Totals | $77,030,000 | $30,591,000 | $28,690,192 | $1,900,808 |

| D. Schedule | Adopted Program Date | Current Approved Date | Actual Begin/End Date | Net Difference (Months) |
|---|---|---|---|---|
| **Environmental Phase** | | | | |
| Begin | 07/01/08 | 07/01/08 | 07/01/08 | 0 |
| End | 04/01/10 | 04/01/10 | 04/01/10 | 0 |
| **Design (PS&E) Phase** | | | | |
| Begin | 04/03/10 | 04/03/10 | 04/03/10 | 0 |
| End | 06/03/13 | 05/03/13 | 05/03/13 | 0 |
| **Right of Way Phase** | | | | |
| Begin | N/A | N/A | N/A | 0 |
| End | N/A | N/A | N/A | 0 |
| **Construction Phase** | | | | |
| Begin | 12/02/13 | 11/01/13 | 12/02/13 | 1 |
| End | 07/01/15 | 07/01/15 | 08/14/16 | 13 |
| **Closeout Date** | | | | |
| Begin | 07/02/15 | 07/02/15 | 08/15/16 | 13 |
| End | 01/01/16 | 07/01/16 | 02/28/17 | 7 |

| *E. Amendments* | | |
|---|---|---|
| ***List approved amendments*** | | |
| **Amendment #** | **CTC Meeting** | **Summary of Changes (Scope, Cost, Schedule)** |
| 1 | October 2011 | Split project into 3 phases and updated delivery schedule |
| 2 | April 2012 | Split Phase 3 into Phase 3 and Phase 4 and updated Schedules |
| Allocation | May 2013 | Allocation of funds for Phase 4 |

***F. Project Benefits***

***Describe and compare project benefits with those included in the approved Baseline Agreement.***

| Outcomes | Adopted Program | Current Approved | Actual * |
|---|---|---|---|
| Safety | Project provides for the rail transportation of goods allowing for a reduction of up to 31,800 truck trips annually on the regional highway system, with an estimated reduction of two injury accidents per year | Project provides for the rail transportation of goods allowing for a reduction of up to 31,800 truck trips annually on the regional highway system, with an estimated reduction of two injury accidents per year | The increase in capacity has reduced truck trips by 31,800 per year, which in turn is expected to reduce injury collisions by 2/year |
| Velocity | The Centralized Train Control and reverse approach signaling will allow freight trains to move on the South Line at greater operating speeds. During periods of track maintenance, reverse train speeds will increase from 10 mph to 40 mph. | The Centralized Train Control and reverse approach signaling will allow freight trains to move on the South Line at greater operating speeds. During periods of track maintenance, reverse train speeds will increase from 10 mph to 40 mph. | During track maintenance, train speeds incresed to 40 mph while operating on 'normal' rail and 30 mph while operating on 'reverse' rail |
| Throughput | Implementation of the Mainline Track improvements project is expected to povide capacity to double the number of freight train movements from two to four trains per day. The mainline project provides for a potential increase in yearly track carload capacity from 12,375 to over 23,600. In conjunction with the San Ysidro Yard Improvements project, the Mainline Track Improvements project will help increaes total system capacity from 10,000 to 19,600 carloads transported per year. | Implementation of the Mainline Track Improvements project is expected to povide capacity to double the number of freight train movements from two to four trains per day. The mainline project provides for a potential increase in yearly track carload capacity from 12,375 to over 23,600. In conjunction with the San Ysidro Yard Improvements project, the Mainline Track Improvements project will help increaes total system capacity from 10,000 to 19,600 carloads transported per year. | Capacity in total system has increased from allowing 10,0000 carloads per year to now 19,600 carloads per year due to a 96% increase of the capacity of the Yard and improvements on the Main Line |
| Reliability | Reliability of freight delivery is increased with two additional train operations per day. The project also reduces canceled train movements because of scheduled and unscheduled track maintenance and reduces the variability and unpredictability of train travel times. | Reliability of freight delivery is increased with two additional train operations per day. The project also reduces canceled train movements because of scheduled and unscheduled track maintenance and reduces the variability and unpredictability of train travel times. | Improvements allow for 4 train operations per day (2 each direction) and reverse running has reduced impacts of track maintenance. Allows for increase from 2 train operations per day to 4. Reduce canceled train movements and/or variability of travel times due to track maintenance. |

| | | | |
|---|---|---|---|
| Congestion Reduction | The increased rail capacity will eliminate up to 31,800 truck rips annually, reducing congestion on the highway network and at the U.S. – Mexico border crossing. | The increased rail capacity will eliminate up to 31,800 truck rips annually, reducing congestion on the highway network and at the U.S. – Mexico border crossing. | The increase in rail freight capacity has, upon completion of TCIF 74 & 75.1-75.4, reduced the amount of trucks on the highway network by 31,800/yr and reduced calculated VMT by approx. 3,800,000 |
| Emissions Reductions | The reduction of 31,800 trucks by 2030 is projected to result in the following emissions reductions: NOx : 320 pounds/day; CO2 1.36 million pounds/day; PM10: 260 pounds/day; CO: 540 pounds/day. | The reduction of 31,800 trucks by 2030 is projected to result in the following emissions reductions: NOx : 320 pounds/day; CO2 1.36 million pounds/day; PM10: 260 pounds/day; CO: 540 pounds/day. | The NOX/SOX/PM/CO2/CO estimates were derived from the 2007 EMFAC model assuming a potential 31,800 diverted truck trips based on the added capacity. Using that same model, and the fact the project has provided the intended capacity enhancements, the potential emissions reduction goals can be acheived by 2030. |

* Please note: All 4 phases of Southline Main Line (75.1-75.4) and SY Yard project (74) were needed to acheives benefits listed above

***G. Differences/Variances***

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

The end of construction was delayed as a result of unanticipated field conditions that resulted in additional work.

The project experienced a savings of over $5 Million as a result of being constructed in conjunction with MTS Trolley imporvements, but the end of the close-out was delayed as a result of the need to close out the Trolley portion of the project and reconcile finances so that an accurate accounting of applicable and final TCIF construction support and operational costs could be made.

***H. Lessons-Learned/Best Practices***

***Describe lessons-learned and best practices for future projects.***

The overall project was split into 4 phases to enhance the delivery of the project. The phased approach allowed for the following: -- Better integration with a concurrent Trolley improvement program on the same corridor (the project could not have been delivered on-time without being split)

-- Less impact to existing Freight and Trolley operations during construction

-- Large costs savings - the original project budget was $107 Million and the final cost for the project will be ~$48 Million. A portion of this was due to other factors, such as the slow down of the economy during the early phases of the project, but the phasing of the project was the largest factor

-- By constructing the freight and trolley projects concurrently, the system received consistent, compatible upgrades to the signal communication and rail in the corridor which will benefit freight opertions in the overall corridor.

## Certification Signature

**Implementating 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

Pete d'Ablaing
(Print name) Project Manager

Pete d'Ablaing 10/26/18
(Signature) Project Manager 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.

Phillip D. Hoebeke
(Print Name) TCIF Division Program Coordinator/Project Manager

Phillip D Hoebeke 10/26/18
(Signature)TCIF Division Program Coordinator/Project Manager Date

The TCIF Program Lead from the California Department of Transportation has reviewed the information contained in the report

Tony Cano
(Print Name) TCIF Program Lead

Tony Cano 10/30/18
(Signature) TCIF Program Lead Date

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