



CALIFORNIA
High-Speed Rail Authority

California High-Speed Rail Project and Construction Update

Alice Rodriguez
November 18, 2023

Connecting California

Program Highlights

- **Phase 1**
 - » 500 Miles
 - » San Francisco to Los Angeles/Anaheim
- **Phase 2**
 - » After Phase 1 - Extends 300 Miles
 - » Connections to Sacramento and San Diego
- Travels at approximately **220 mph**
- Operates on **Clean, Electric, Renewable Energy**
- Up to **24 Stations**

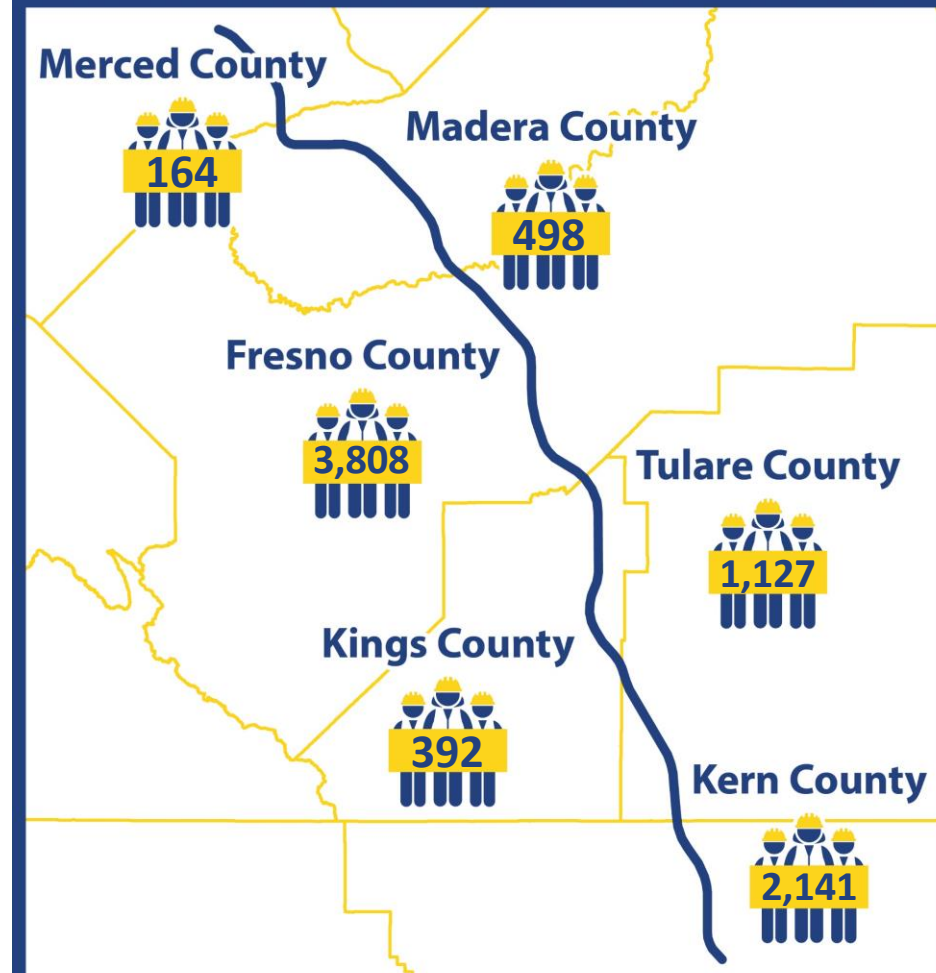


Benefits of High-Speed Rail

Workforce Development

- **11,400+ Construction Jobs Created Since Construction Began**
 - » 1,600+ Construction Workers Dispatched to Sites Daily
 - » 25+ Active Construction Sites
 - » 75% Workers from Disadvantaged Communities
- **Central Valley Training Center**
 - » Program created in City of Selma to provide pre-apprentice, construction industry training
 - » 151 students have graduated the program
- **812 Small Businesses on HSR**
 - » 215 in Central Valley

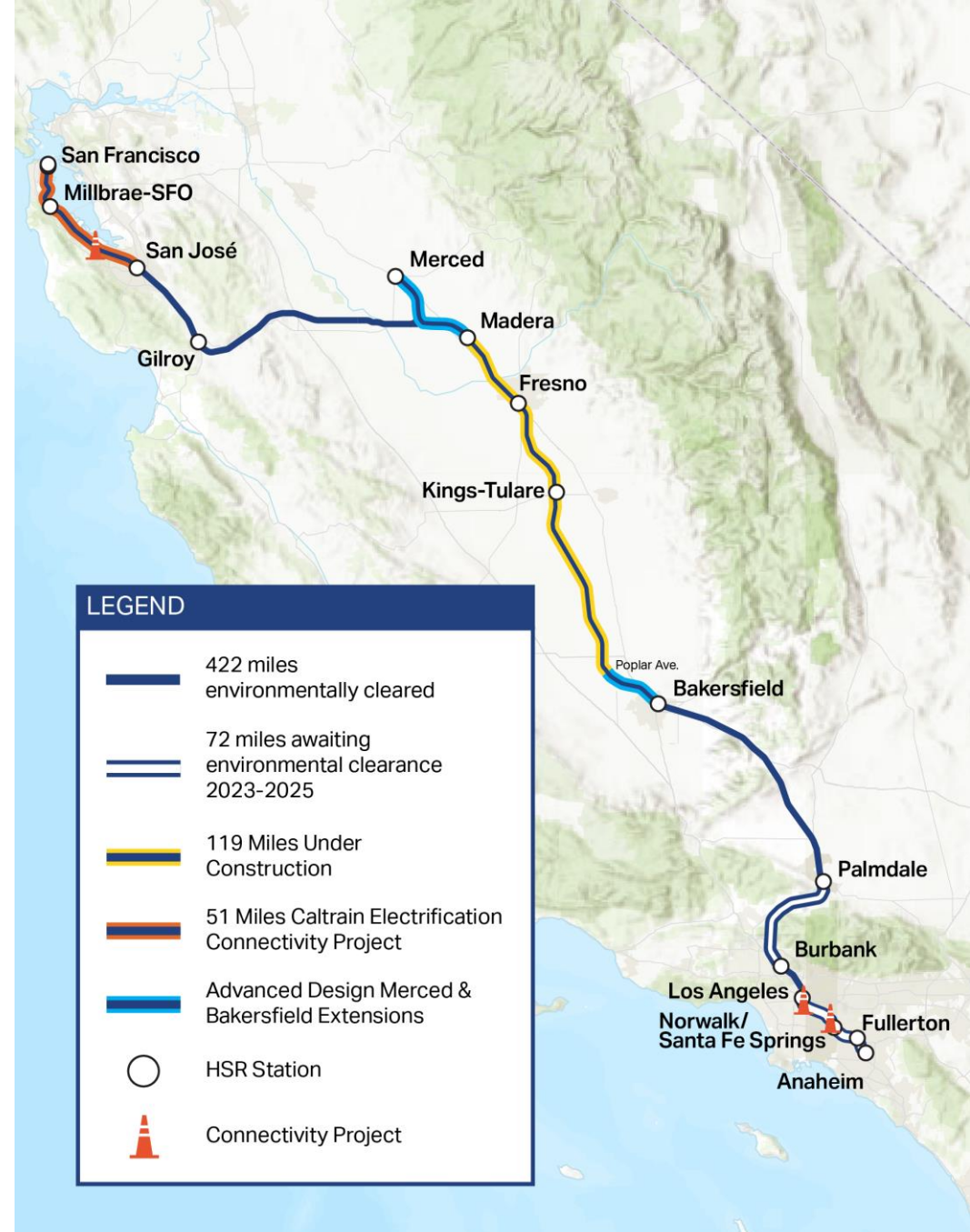
11,474 JOBS CREATED



Where We Are Today

Program Highlights

- 119 Miles Under Construction
- 52 miles under advanced design
- Environmentally Clearing 500 Miles (422 Miles Cleared To-Date)
- Station Development
 - » 4 Central Valley Stations
- Track & Systems procurement
- Rolling Stock Procurement
 - » Trainset Interior Design
- Bookend Projects:
 - » Caltrain Electrification
 - » Los Angeles Union Station Improvements
 - » Statewide Grade Separations



119 Miles in Construction

Construction Package 1

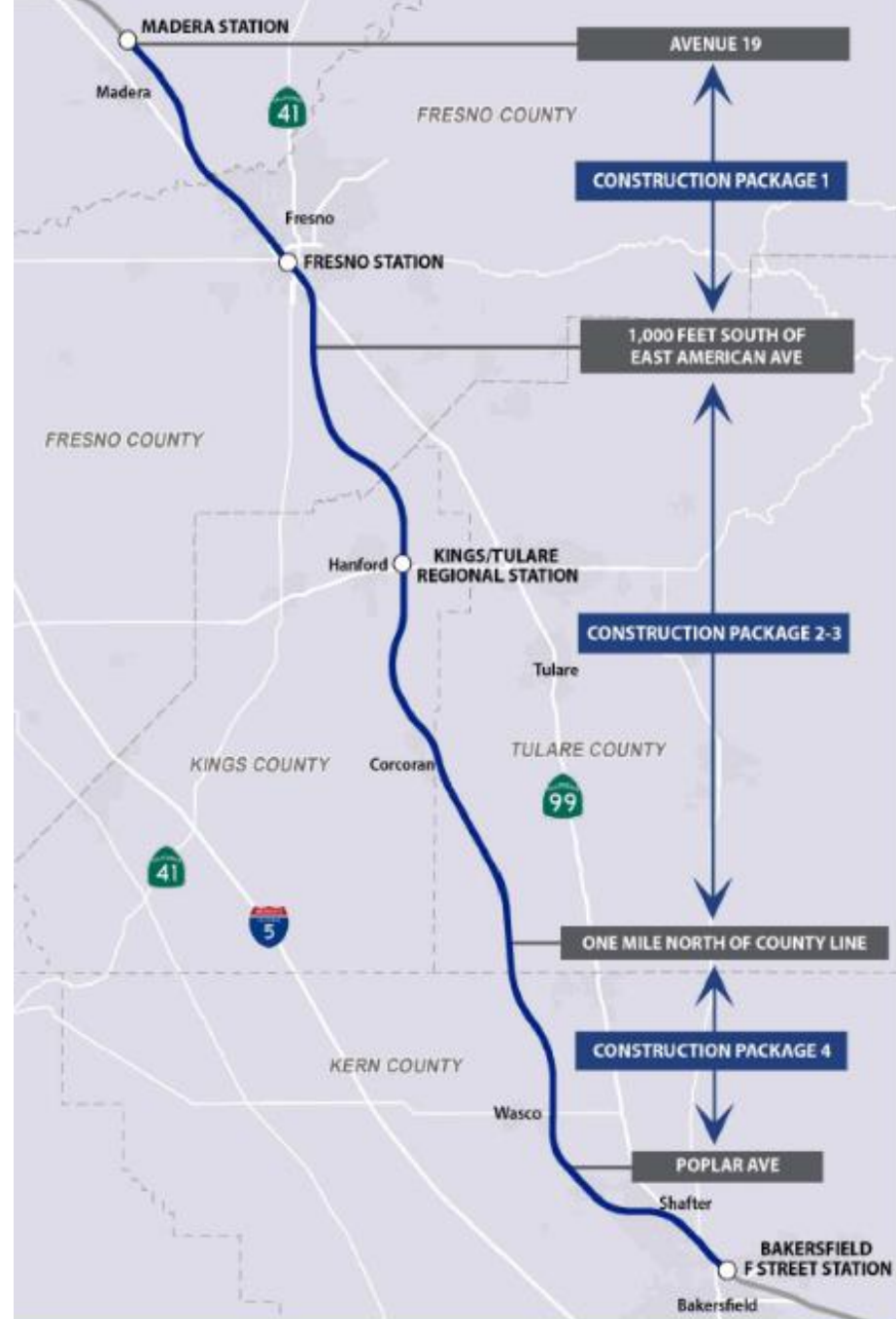
- Avenue 19 in Madera County to just south of American Avenue in Fresno County (32 miles)
- Tutor-Perini/Zachary-Parsons (TPZP)

Construction Package 2-3

- South of Fresno to one-mile north of the Tulare/Kern County line (65 miles)
- Dragados-Flatiron JV (DFJV)

Construction Package 4

- From one mile north of the Tulare/Kern County Line to Poplar Avenue (22 miles)
- California Rail Builders (CRB)



Construction Package 1

Avenue 9 Overcrossing



- **Construction Package 1 (CP 1)** is the first construction contract executed on the Initial Operating Section
- Includes 19 grade separations, three (3) viaducts (Fresno River, San Joaquin River, and Cedar Viaduct) and two (2) trenches (State Route 180 and Jensen)
- **Estimated substantial completion November 2026**

Central Valley Update

Construction Package 1

CP 1



Authority Approved
Design Completed

100%



Right-Of-Way Parcels
Delivered to DB

98%



Utility Relocation
Complete/In-Progress

82%



Structures
Complete/In Progress

85%



Miles of Guideway
Complete/In Progress

63%



Overall Contract

64%

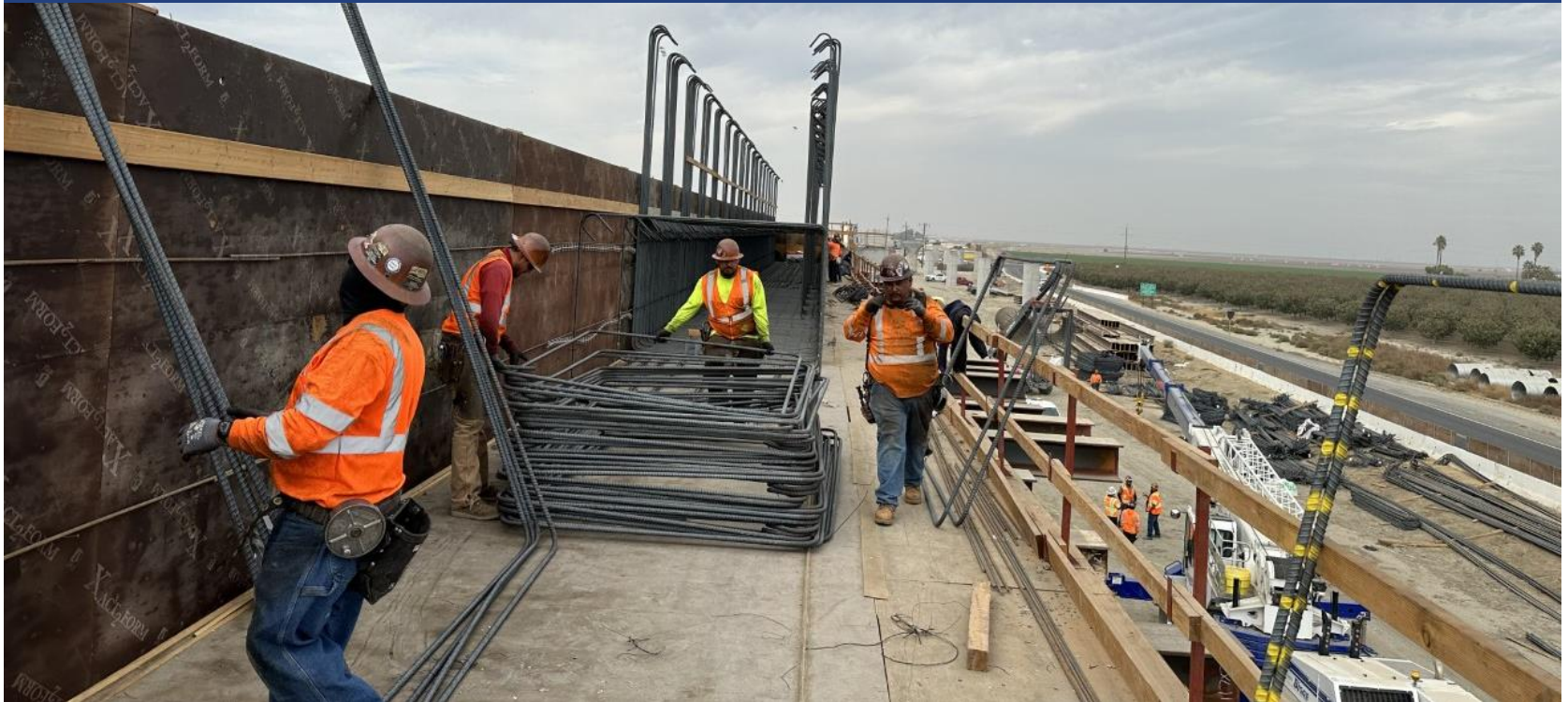


Avenue 9 Overcrossing

Data Date: 10/31/2023

Construction Package 2-3

Tule River Viaduct



- **Construction Package 2-3 (CP 2-3)** is the second significant construction contract executed on the Initial Operating Section
- Includes 26 grade separations in the counties of Fresno, Tulare and Kings including viaducts, underpasses and overpasses
- **Estimated substantial completion 2026.**

Central Valley Update

Construction Package 2-3

CP 2-3



Authority Approved
Design Completed

100%



Right-Of-Way Parcels
Delivered to DB

98%



Utility Relocation
Complete/In-Progress

80%



Structures
Complete/In Progress

76%



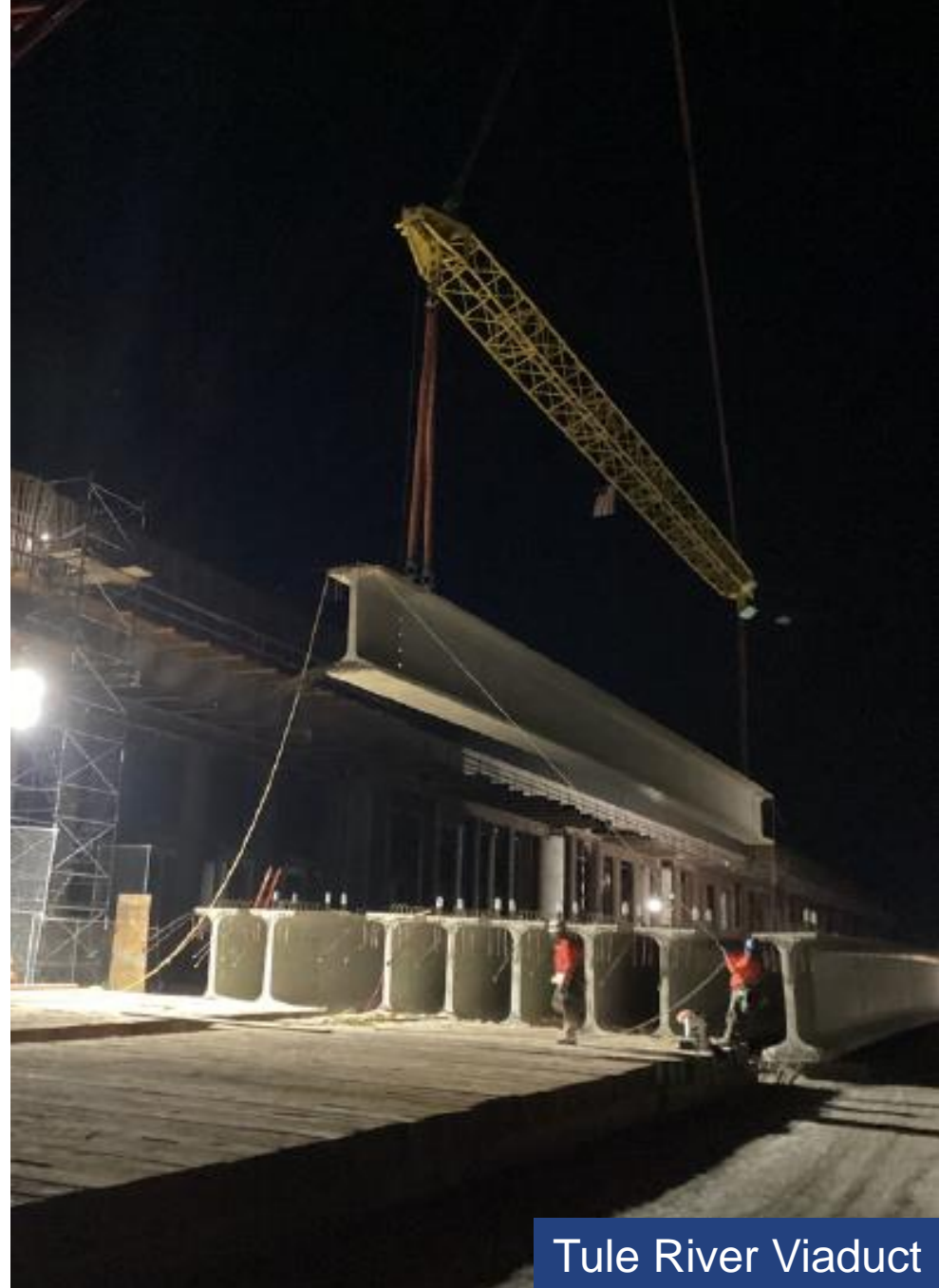
Miles of Guideway
Complete/In Progress

75%



Overall Contract

72%



Tule River Viaduct

Data Date: 10/31/2023

Construction Package 4

Wasco Viaduct

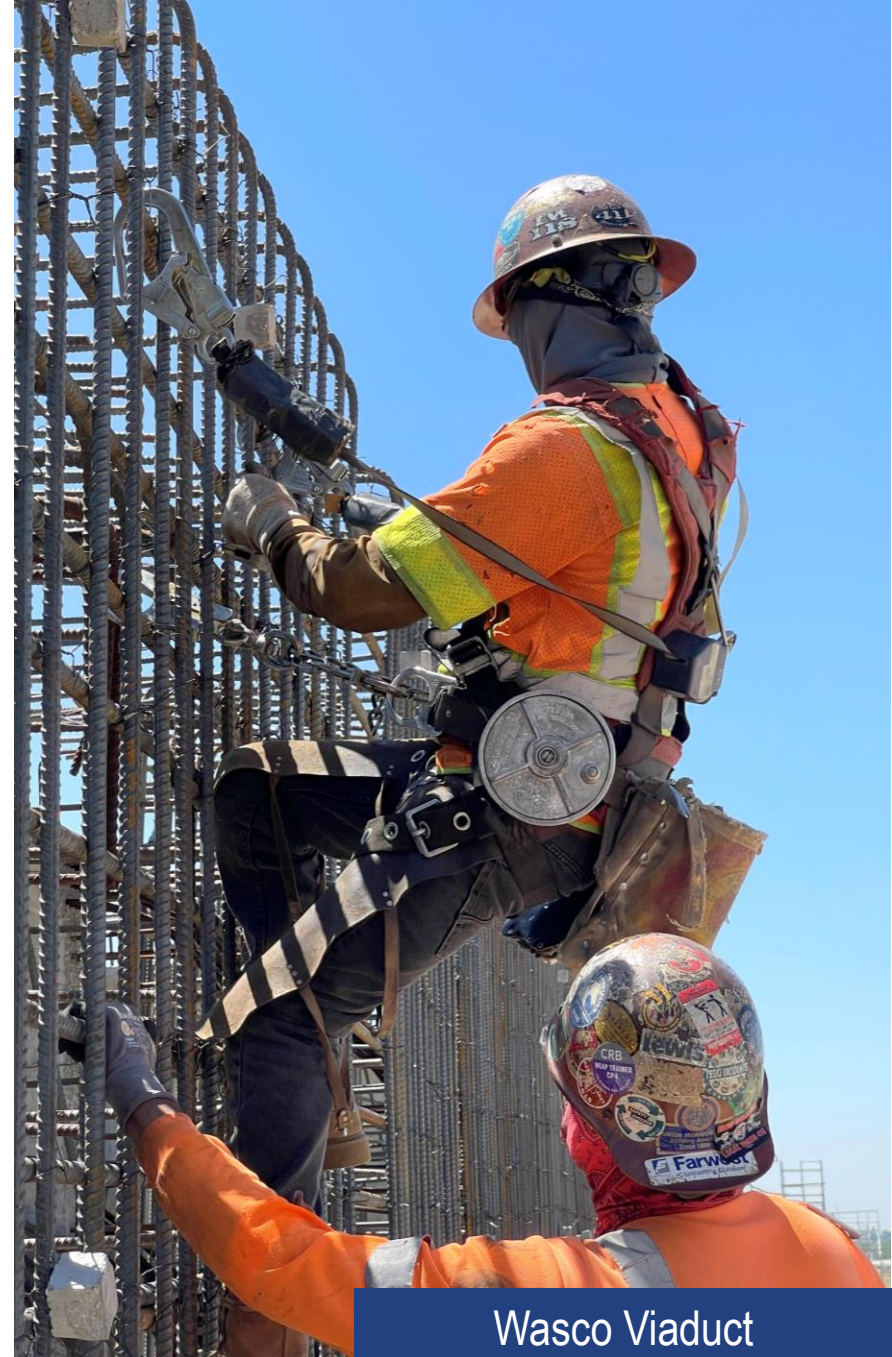


- **Construction Package 4 (CP 4)** is the third significant construction contract executed on the Initial Operating Section
- Includes construction of at-grade, retained fill and aerial sections of the high-speed rail alignment
- **Substantial completion expected by end of 2023**

Central Valley Update

Construction Package 4

	CP 4
 Authority Approved Design Completed 100%	
 Right-Of-Way Parcels Delivered to DB 100%	
 Utility Relocation Complete/In-Progress 100%	
 Structures Complete/In Progress 100%	
 Miles of Guideway Complete/In Progress 100%	
 Overall Contract 97%	



Wasco Viaduct

Data Date: 10/31/2023

Major Scope Elements



115 Structures



1,836 Utility Relocations



211 Wildlife Crossings / Culvert Boxes



2 ½ Miles of Freeway Realignment

Major Scope Elements



7.2 miles of railroad realignment



24 Million CY of Earthwork (Guideway)



35 miles of Intrusion Protection Barrier



2,293 Right of Way Parcels

10 Completed Structures This Year!

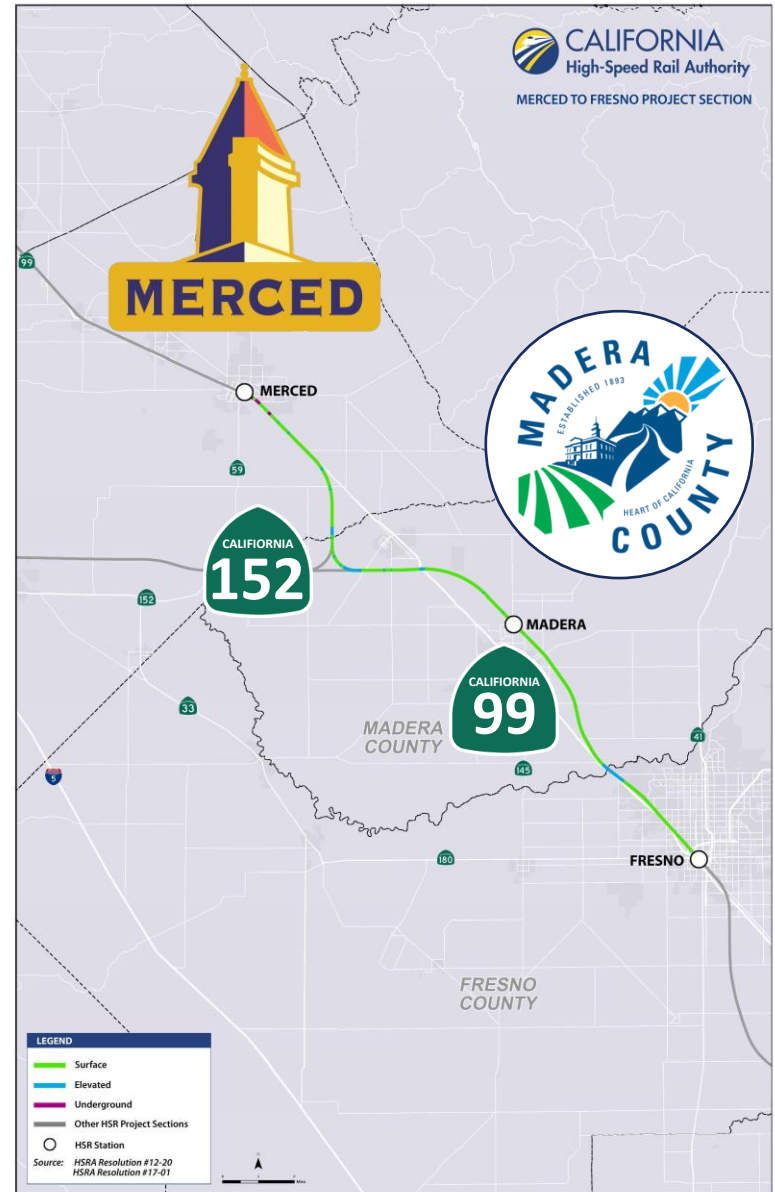
- **Combined, each Construction Package has completed 10 structures this year including:**
 - » Cedar Viaduct (City of Fresno)
 - » Elkhorn Avenue (Fresno County)
 - » Idaho Avenue (Kings County)
 - » Dover Avenue (Kings County)
 - » Merced Avenue (Kern County)
 - » McCombs Avenue (Kern County)
 - » Poso Avenue (Kern County)
 - » Davis Avenue (Fresno County)
 - » Kansas Avenue (Kings County)
 - » Avenue 9 (Madera County)



Merced to Madera (M2M) Project Segment

Located between Avenue 19 in Madera County to R Street in City of Merced

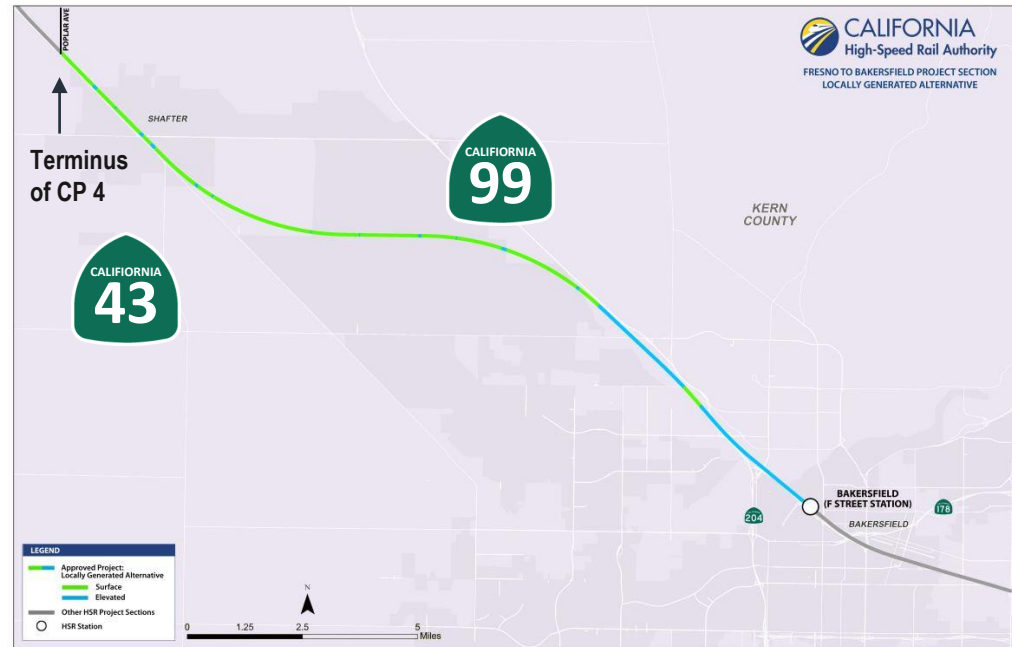
- 33.9 miles long
 - 40 structures
 - 2 ½ miles of viaduct
 - Elevated station at Merced
 - Six (6) at-grade railroad crossings eliminated
 - Approx. 346 parcels needed for project
- **Advancing Design & Outreach:**
 - Design to 30%
 - Develop Right of Way Footprint
 - Utilities to 100% Design
 - Informational meetings



Locally Generated Alternative (LGA) Project Segment

Located between the cities of Shafter and Bakersfield in Kern County

- 18.5 miles long
- 31 structures
- 5 ½ miles of viaduct,
- Elevated station at Bakersfield
- Six (6) at-grade railroad crossings eliminated
- Approx. 296 parcels needed for project
- **Advancing Design & Outreach:**
 - Design to 30%
 - Develop Right of Way Footprint
 - Utilities to 100% Design
 - Informational meetings



Grade Separations in Shafter

- The Authority received \$202M in federal funding to complete six (6) grade separations in City of Shafter.
- Structures include two (2) overpasses and four (4) underpasses, taking traffic over or under the current freight rail and future high-speed rail lines.
- Grade separations are anticipated to start in August 2024 and will be completed by August 2028.



Central Valley Station Planning

Central Valley Stations

- City of Merced
- City of Fresno
- Kings/Tulare Regional
- City of Bakersfield

Design Services

- Foster + Partners and Arup (F+P Arup)
- Advancing design work, identifying ROW, utility relocation requirements
- Providing preliminary station concepts by end of 2023
- Ongoing stakeholder engagement to receive input
- Coordination with San Joaquin Joint Powers Authority on Madera Amtrak Station relocation to Avenue 12



Conceptual Central Valley Station Renderings

Currently Progressing Station Designs



Conceptual Central Valley Station Renderings

City of Fresno



Future Trainsets and Design of Train Interiors



A new benchmark for passenger experience and sustainable mobility.

Procuring the Trainsets

- **Request for Qualifications issued August 2023**
 - » Six trainsets capable of operating at 220 mph and tested up to 242 mph;
 - » Two prototypes in 2028 to support static/dynamic testing and trial running;
 - » Additional four trainsets by the end of 2030 to support revenue operations on the 171-mile Merced to Bakersfield section.





Current Opportunities on High-Speed Rail

- Planners
 - » Transportation, Environmental, Urban
- Engineers
 - » Civil, Mechanical, Rail, Computer, Geotechnical, Electrical
- Managers
 - » Contracts, Compliance, Project, Program, Risk
- Environmental
- Surveyors
- Estimators
- Right of Way Agents
- Outreach and Public Relations
- Construction Workers

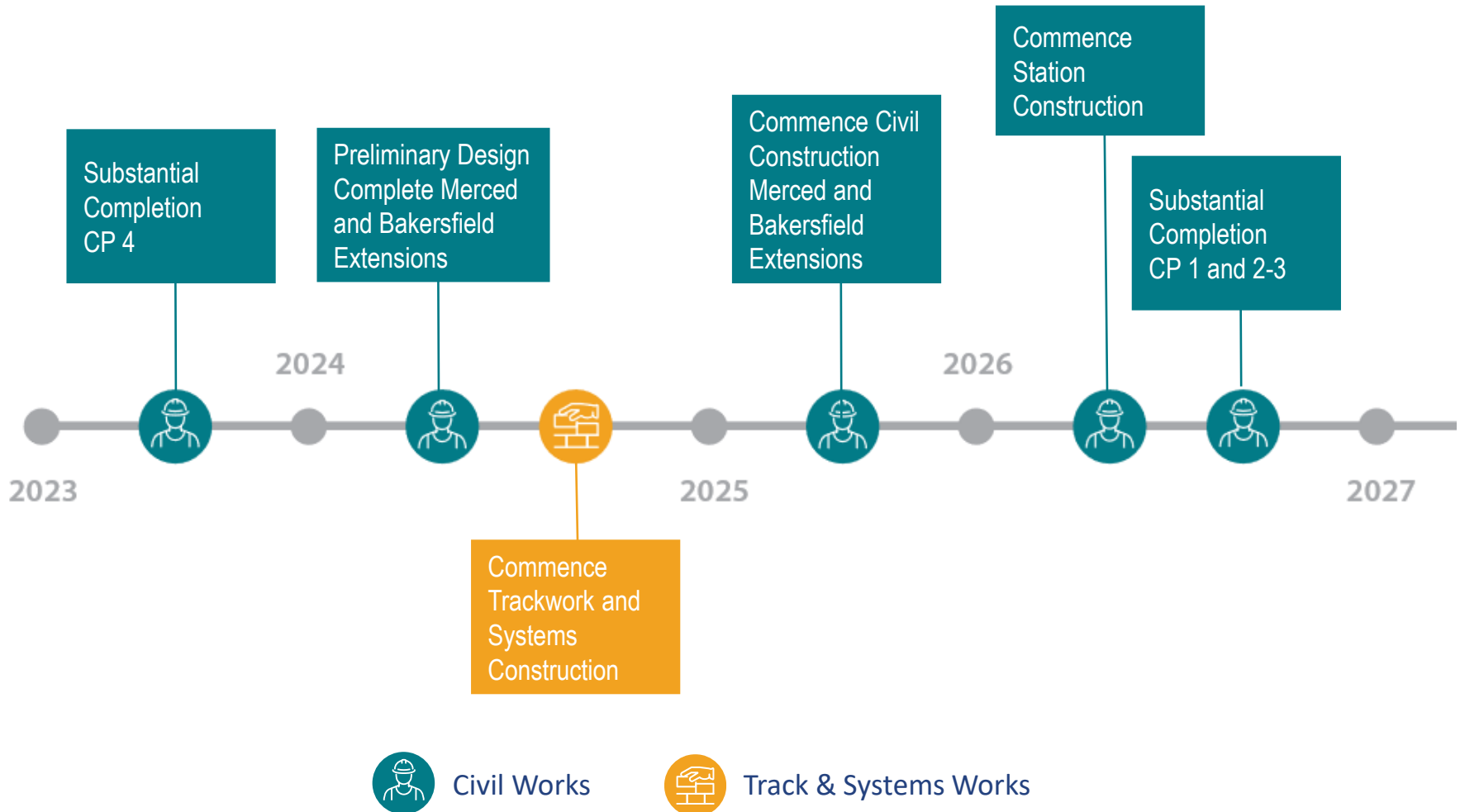


Future Opportunities on High-Speed Rail

- Railcar Manufacturer/Assembly
- Operation Planners
- Station Managers
- Passenger Service/Reservation Agents
- Train Operators/Workers
- Train Dispatchers/Signaling
- Train/System Security
- Maintenance Engineers

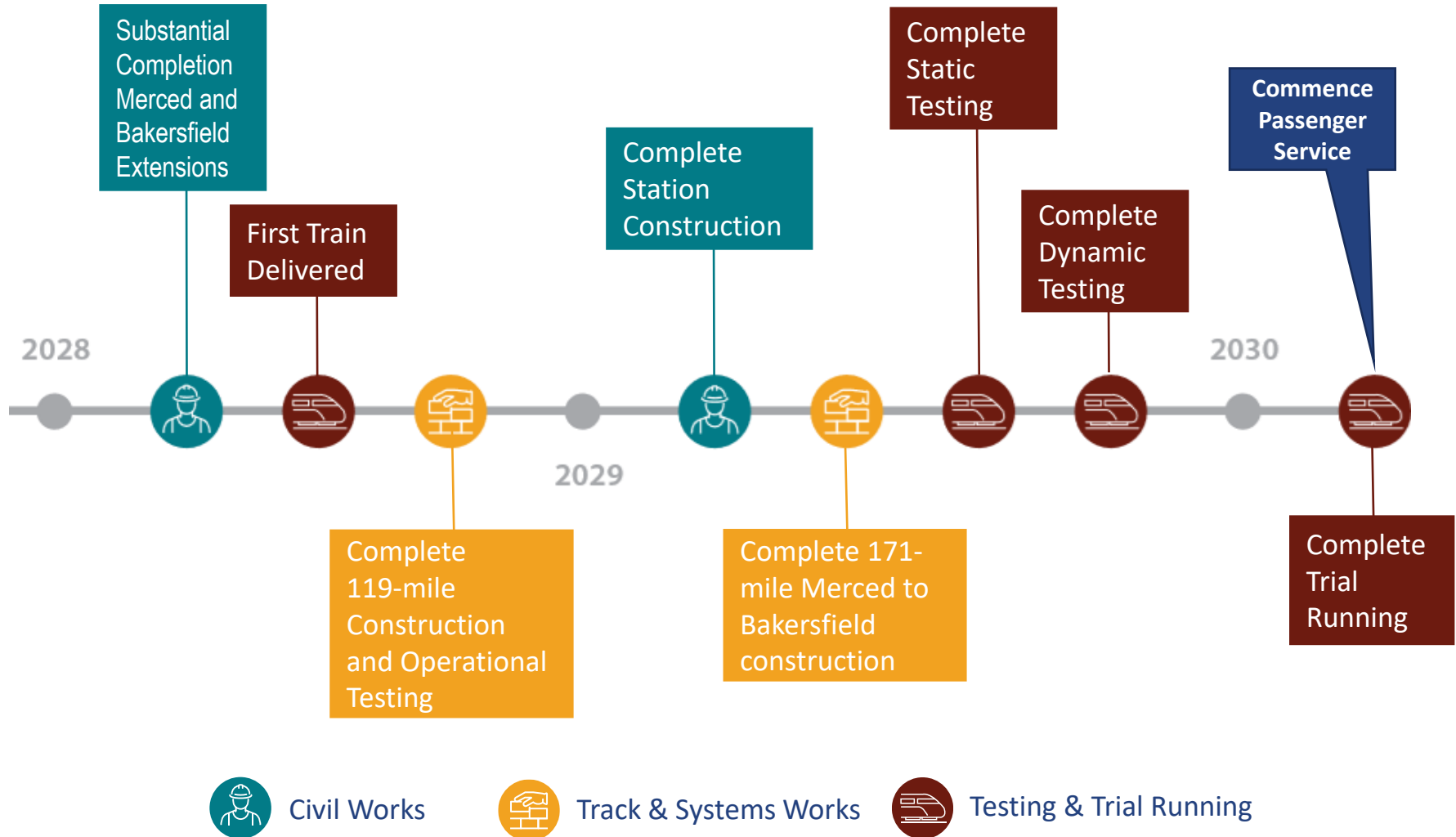
Upcoming Schedule

Track to Operations (Part 1)



Upcoming Schedule

Track to Operations (Part 2)



California High-Speed Rail Funding Sources

1 \$9.95 billion
Bond
measure

2008
Proposition
1A

2 \$2.5 billion
Federal
Grant

2009
American
Recovery and
Reinvestment
Act (ARRA)

3 \$929 million
Federal Funding

FY 2010
Appropriations
Bill

4 \$750m-\$1b per
year

Annual
Cap and
Trade
Auction
Market

5 \$271 million
Federal Grants

2021, 2022 &
2023 Rebuilding
American
Infrastructure with
Sustainability and
Equity (RAISE)
2023 Consolidated
Rail Infrastructure
and Safety
Improvements
(CRISI)



FEDERAL GRANT FUNDING OPPORTUNITIES

Grant Program	Date	Amount	Scope
AWARDED			
RAISE	Date Awarded December 2021	\$24M (Grant Awarded) \$76M (Total Project Cost)	<u>Wasco</u> <ul style="list-style-type: none"> Wasco SR 46 Improvement Project
RAISE	Date Awarded August 2022	\$25M (Grant Awarded) \$41M (Total Project Cost)	<u>Merced Extension Design</u> <ul style="list-style-type: none"> Advance Design for the Merced Extension
RAISE	Date Awarded June 2023	\$20 M (Grant Awarded) \$33 M (Total Project Cost)	<u>Fresno Station Historic Depot</u> <ul style="list-style-type: none"> Enhance future Fresno HSR Station
CRISI	Date Awarded September 2023	\$202M (Grant Awarded) \$292M (Total Project Cost)	<u>Shafter Grade Separations</u> <ul style="list-style-type: none"> Construct 6 grade separations
APPLICATIONS SUBMITTED/PENDING AWARD NOTIFICATION			
Federal State Partnership	Applications (2) Submitted April 20, 2023	\$2.83B (Grant Request) \$3.53B (Total Project Cost)	<u>Inaugural High-Speed Service</u> <ul style="list-style-type: none"> Procure 6 Trainsets Construct 2nd Track Construct Fresno Station Complete Final Design, ROW, and Utility Design/Coordination on M&B Extensions
		Request for a multi-year Phased Funding Agreement	
		\$194M (Grant Request) \$242M (Total Project Cost)	<u>Advance Design/Geotech Studies</u> <ul style="list-style-type: none"> San Jose to Merced Bakersfield to Palmdale
Wildlife Crossing Pilot Program	Application Submitted July 31, 2023	\$2M (Grant Request) \$2.5M (Total Project Cost)	<u>Wildlife Crossing Study</u> <ul style="list-style-type: none"> Assess effectiveness of wildlife crossings in Central Valley to inform future designs
Mega	Application Submitted August 18, 2023	\$232M (Grant Request) \$386M (Total Project Cost)	<u>Merced Station</u> <ul style="list-style-type: none"> Construct Merced station accommodating three rail systems; HSR, ACE, & San Joaquins
Reconnecting Communities & Neighborhoods	Application Submitted September 28, 2023	\$203M (Grant Request) \$254M (Total Project Cost)	<u>Chowchilla & Fairmead Improvements</u> <ul style="list-style-type: none"> Construct two grade separations Community enhancement projects

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