



# CONNECTING AND TRANSFORMING CALIFORNIA

Design-Build Institute of America, Western Pacific Region  
Conference, May 18, 2017

Ofelia Alcantara, PE – Acting Director of Engineering  
Noopur Jain, PE, SE – Engineering Manager



# HIGH-SPEED RAIL: Around the World

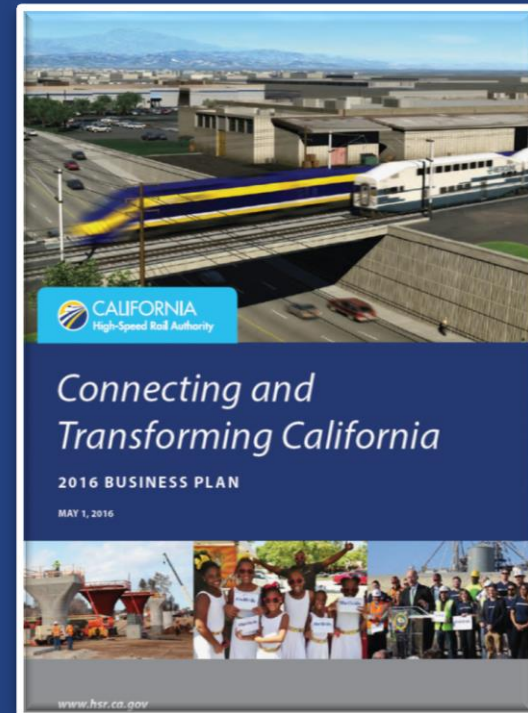
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- 12 Countries with High-Speed Rail
- Over 3,600 High-Speed Rail Train Sets
- Over 18,500 Miles of High-Speed Rail
- 1.6 Billion Annual Passengers
- High-Speed Rail first introduced in Japan in 1960s



# ABOUT HIGH-SPEED RAIL AUTHORITY

- **Mission:** Build the Nation's First High-Speed Rail System
- **High-Speed Rail System**
  - » Connect the Northern California, the Central Valley and Southern California with service capable of exceeding 200 miles per hour.
  - » The system will modernize and connect seamlessly to regional and local transit.
- **Nation's First**
  - » California leads the nation in technology, commerce and agriculture.
  - » California is, and will remain, the nation's most populous state.
  - » It is imperative that California leads the nation in transforming mobility and connectivity.



# HIGH-SPEED RAIL: Connecting California



*Increase Mobility*



*Needed Alternative*



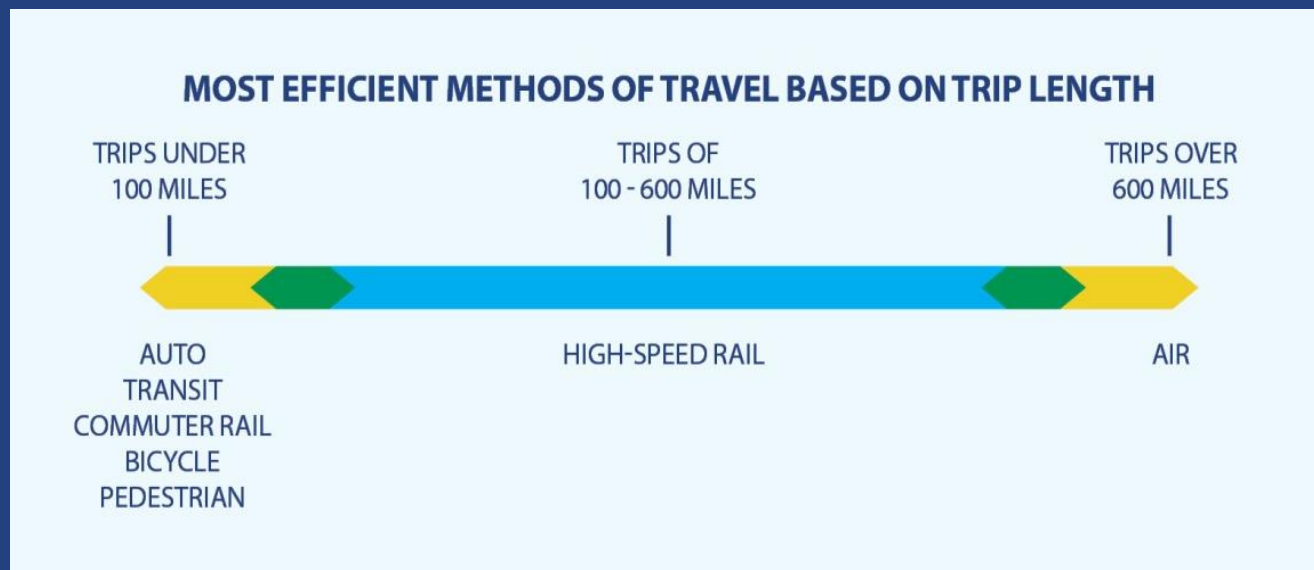
*Better Air Quality*



*Job Growth*

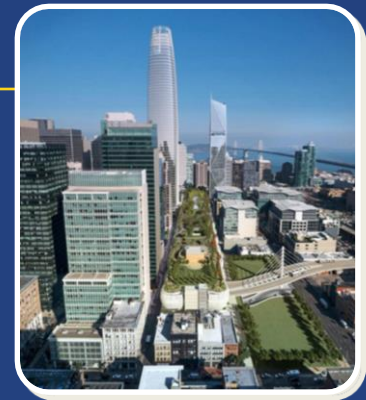
# HIGH-SPEED: A More Efficient Alternative

- High-Speed Rail Fills a Gap in California's Infrastructure
- Equivalent New Capacity Between SF-LA would cost **\$158 Billion**, and would require:
  - » 4,300 New Highway Lane Miles
  - » 115 Additional Airport Gates
  - » 4 New Airport Terminals, Runways





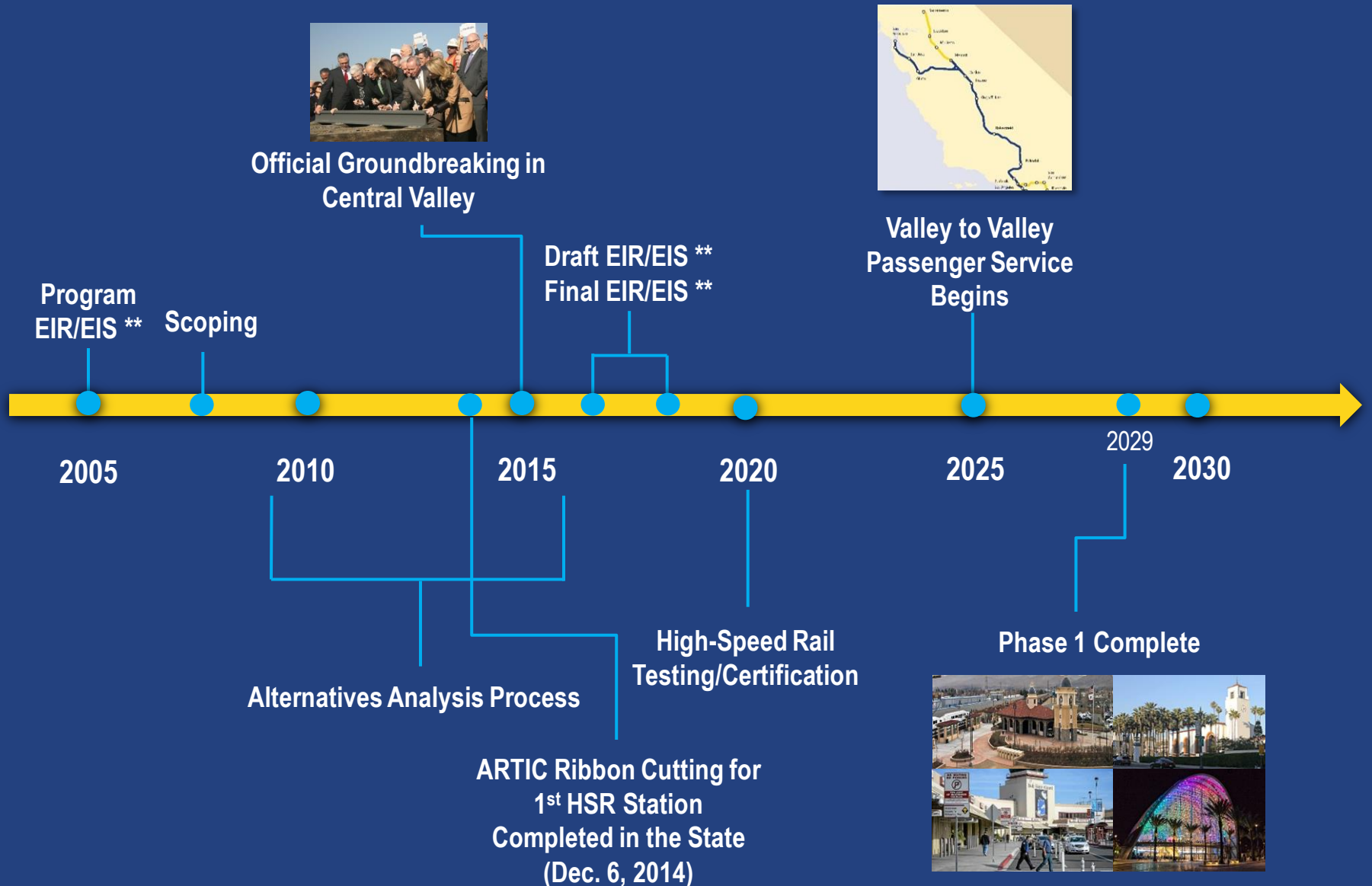
# HIGH-SPEED RAIL: Helping Shape Cities



- **Ties Economies Together**
  - » San Jose to Fresno = 60 Minutes
  - » Bakersfield to Los Angeles = 60 Minutes
  - » San Francisco to Los Angeles = 2 Hours 40 Minutes
- **Connects With and Reinforces Local Mobility**
- **Foundation for Sustainable Growth**
- **Opportunities for Revitalization in Downtown Cores**



# PROGRAM TIMELINE \*



\* Subject to Change

\*\* EIR/EIS = Environmental Impact Report / Environmental Impact Statement

In compliance with National Environmental Policy Act & California Environmental Quality Act (NEPA / CEQA)

# HIGH-SPEED RAIL: VALLEY TO VALLEY AND BOOKENDS

- **Silicon Valley to Central Valley Line**
  - » Operational by 2025
  - » San Jose-North of Bakersfield
  - » \$20.7 Billion – Funded
- **Bookend and Connectivity Investments**
  - » 15 bookend and connectivity projects
- **Extension to San Francisco, Merced & Bakersfield**
  - » Operational by 2025
  - » Additional \$2.9 Billion





# CONNECTING CALIFORNIA: Northern California

- Improves Mobility & Upgrades Bay Area Transportation Infrastructure
- Connects Bay Area to Central Valley
- Blended System Along Peninsula
- Multi-Model Transportation Hubs
  - Transbay Transit Center
  - Millbrae Transit Center
  - San Jose Diridon Station
  - Gilroy Station



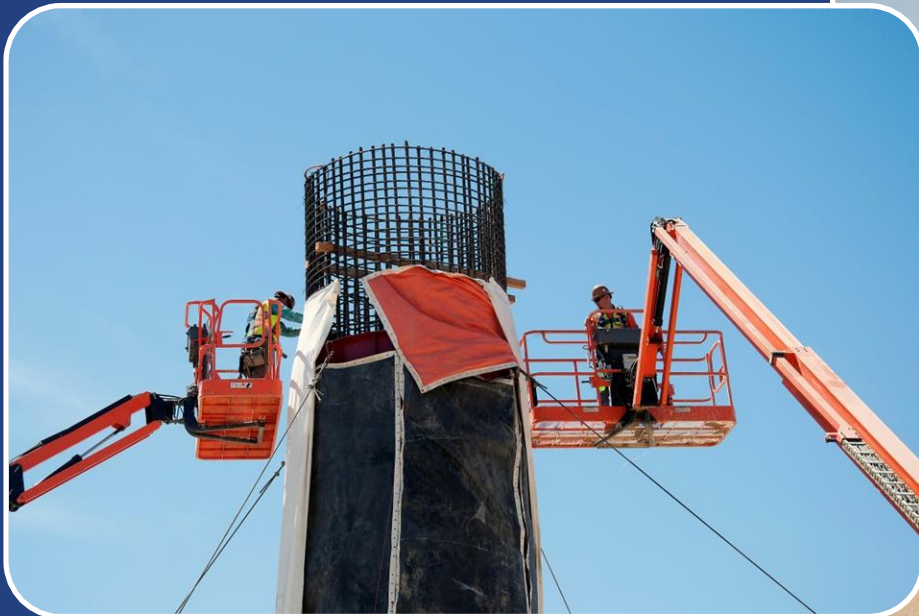
# CONNECTING CALIFORNIA: Southern California

- **Connections within Southern California**
  - Palmdale to Burbank = 15-20 Minutes
  - Burbank to LAUS = 10 Minutes
  - LAUS to Anaheim = 30 Minutes
  - LAUS to San Diego = 80 Minutes
- **Closes Passenger Rail Gap between Central Valley and Southern California**
- **Multi-Modal Transportation Hubs**
  - Palmdale Transportation Center
  - Burbank
  - LA Union Station
  - ARTIC (Anaheim)



# IT'S HAPPENING!

- Approximately 119 Miles
- Madera to North of Bakersfield
- Approximately \$3 Billion Investment
- Three Construction Packages
  - » CP 1, CP 2-3 & CP 4

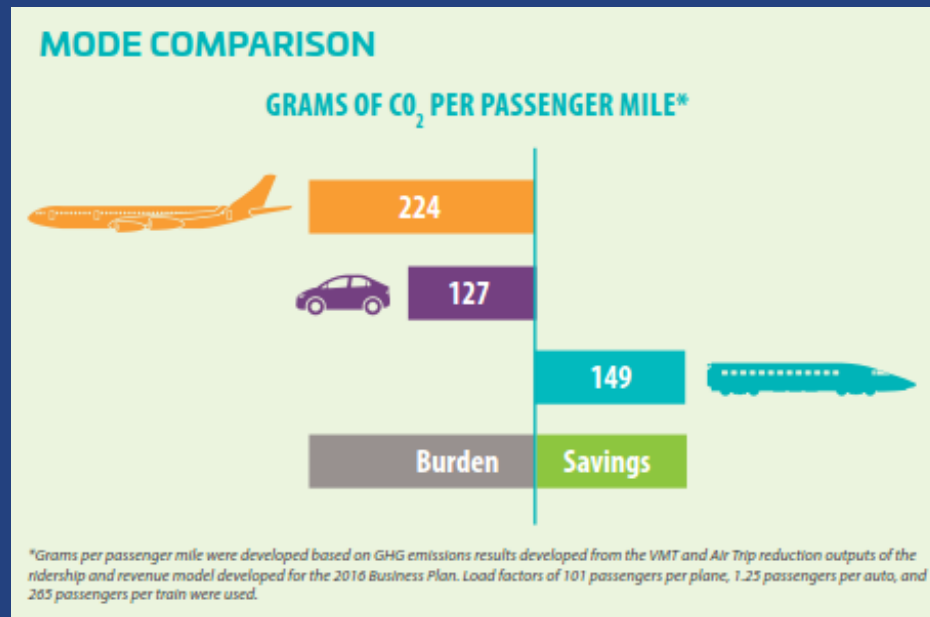




# SET A NEW MODEL FOR INFRASTRUCTURE DELIVERY

- **Delivery Sets a New, Green Standard for Infrastructure**

- » Operate with 100 percent renewable energy
- » Require all steel and concrete from demolition and construction is recycled
- » Invest in clean agricultural equipment to offset emissions
- » Require the cleanest equipment on site
- » Grade separate rail in communities to improve safety and access





# HOW DO WE GET THESE BENEFITS?

- **Policy**

- » Sustainable Design
- » Net-Zero Emissions
- » Renewable Energy
- » Comprehensive Mitigation

- **Implementation:**

- » Planning at Scale/MOUs
- » Design/Construction Contract Conditions
- » Mitigation Measures/Permit Conditions

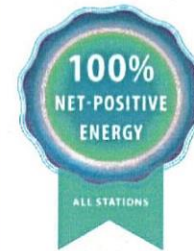


# SUSTAINABILITY IS A CORE MISSION AND DRIVER

100% RENEWABLE ENERGY



100%  
Recycled  
Steel



Durable  
Concrete = 100  
YEARS



# STAKEHOLDER ENGAGEMENT

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- **Avoid Impacts to Communities and the Environment**

- » Downtown areas, schools
- » Green energy generation
- » Ranches and natural lands
- » Agricultural activities and businesses
- » Mining activities
- » Operations noise
- » Cultural resources



- **Improve Safety around Existing Rail Corridor**

- » Grade separations
- » Earthquake early warning system
- » Intrusion barriers



- **Work Closely with Project Partners**



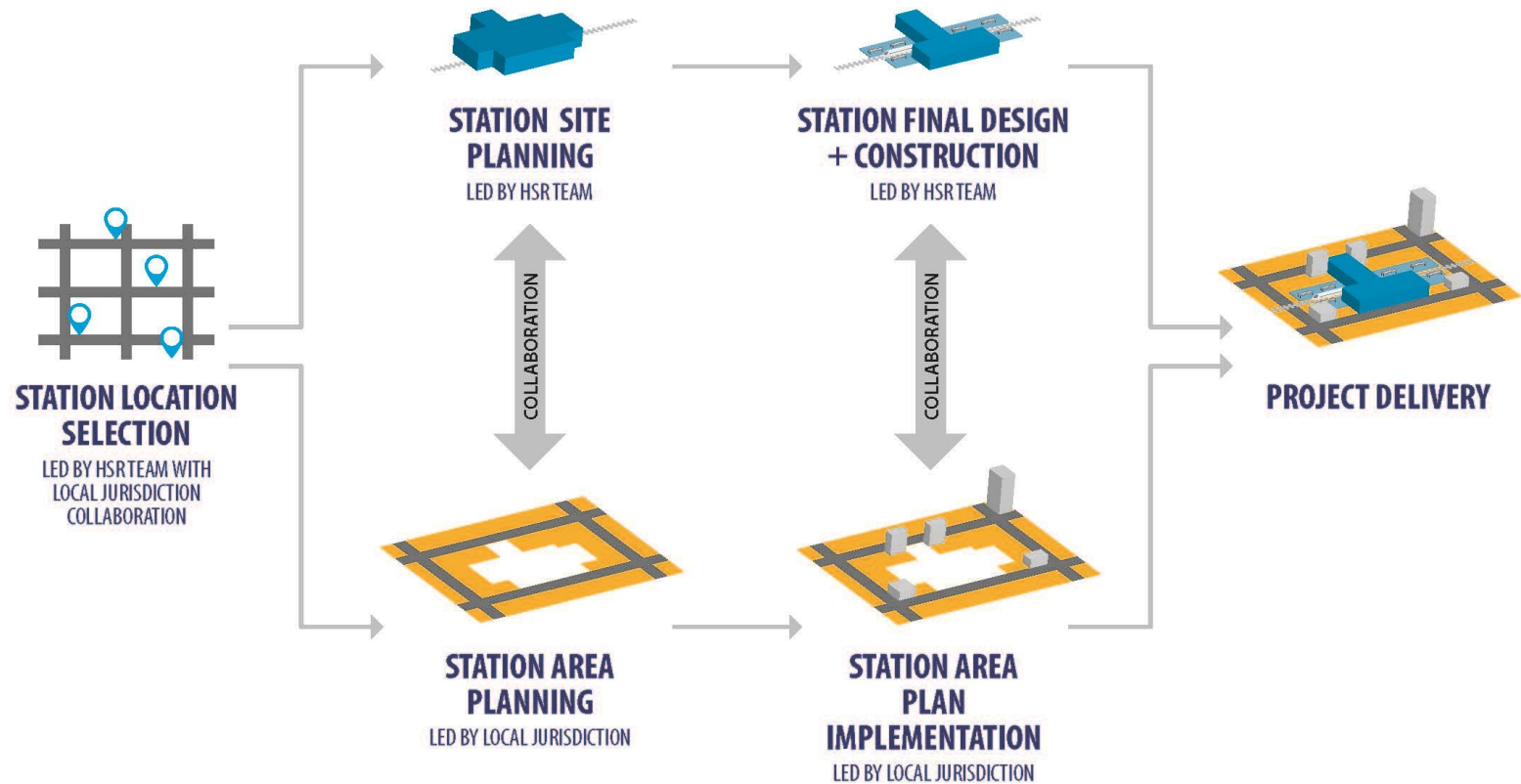
# STAKEHOLDER ENGAGEMENT

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- **Community Open Houses**
  - » Rounds of public meetings & webcasts
  - » Translation services provided
- **Community Working Groups**
  - » Rounds of meetings
  - » Multi-lingual meetings
- **Ongoing Agency/Stakeholder Meetings**
- **Ongoing Community Activities**
  - » More community meetings, presentations and briefings
  - » Information booths at community events
  - » Multi-faceted, multi-lingual approach focused on reaching all communities



# STATION COMMUNITIES: Working with Our Partners





# STATION AREA DEVELOPMENT: GENERAL PRINCIPLES AND GUIDELINES<sup>1</sup>

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- Select station locations that are multi-modal transportation hubs
- Adopt HSR station area development policies that require TOD, and promote value-capture at and around stations
- Provide incentives for local governments in which potential HSR stations would be located to prepare and adopt station area plans
  - » Amend city and county general plans
  - » Encourage TOD in the vicinity of HSR stations



<sup>1</sup> California High-Speed Rail Authority, HST Station Area Development: General Principles and Guidelines, February 3, 2011

# STRATEGIES TO IMPLEMENT PROGRAM

- Initiate high-speed rail passenger service as soon as possible.
  - » Demonstrate benefits
  - » Begin generating revenues
  - » Attract private sector participation



## Connecting and Transforming California

2016 BUSINESS PLAN

MAY 1, 2016



# STRATEGIES TO IMPLEMENT PROGRAM

- Make strategic, concurrent investments throughout the system that will be linked together over time.
  - » Provide immediate mobility, environmental, economic and community benefits



*Connecting and Transforming California*

2016 BUSINESS PLAN

MAY 1, 2016



# STRATEGIES TO IMPLEMENT PROGRAM

- Position ourselves to construct additional segments as funding becomes available.
  - » Completing the required environmental analyses for every mile of the program
  - » Securing environmental approvals as soon as possible



Connecting and Transforming California  
2016 BUSINESS PLAN  
MAY 1, 2016



# IMMEDIATE FOCUS: ENVIRONMENTAL CLEARANCE

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- **Accomplishments to date:**
  - » Two major clearances achieved (both are under supplemental EIR/EIS process):
    - Merced to Fresno
    - Fresno to Bakersfield
  - » Established framework for Federal and State high level working group for coordination to expedite reviews and clearance
- **Aggressive goal established to clear the remainder of the Environmental Sections and Projects by 2017-2018.**



# IMMEDIATE FOCUS: PROCUREMENT PLAN

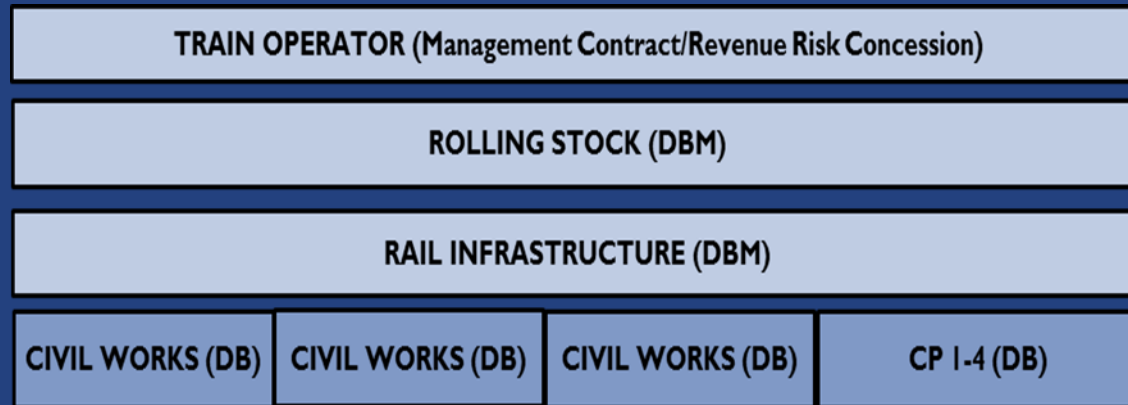
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- **Develop Procurement Plan**
  - » Structure packages to stimulate competition
  - » Availability of funding and financing
  - » Secure environmental approvals
  - » Incentivize innovation by the private sector



# PROGRAM DELIVERY STATUS: MOVING FORWARD

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- Early Train Operator – Phase I (HSR 16-13)
- High-Speed Trains (Rolling Stock)
- Track and Systems
- Stations – Design
- San Jose to Merced – Multiple Civil Packages

# PROGRAM DELIVERY STATUS: MOVING FORWARD

- **Early Train Operator**

- » Advise the Authority on strategies to build future enterprise
- » 5 teams shortlisted – April 2017



- **High-Speed Trains (Rolling Stock)**

- Design-Build-Maintain Contract (30 years)
- Build in United States with California preference
- Creating a new manufacturing market



# PROGRAM DELIVERY STATUS: MOVING FORWARD

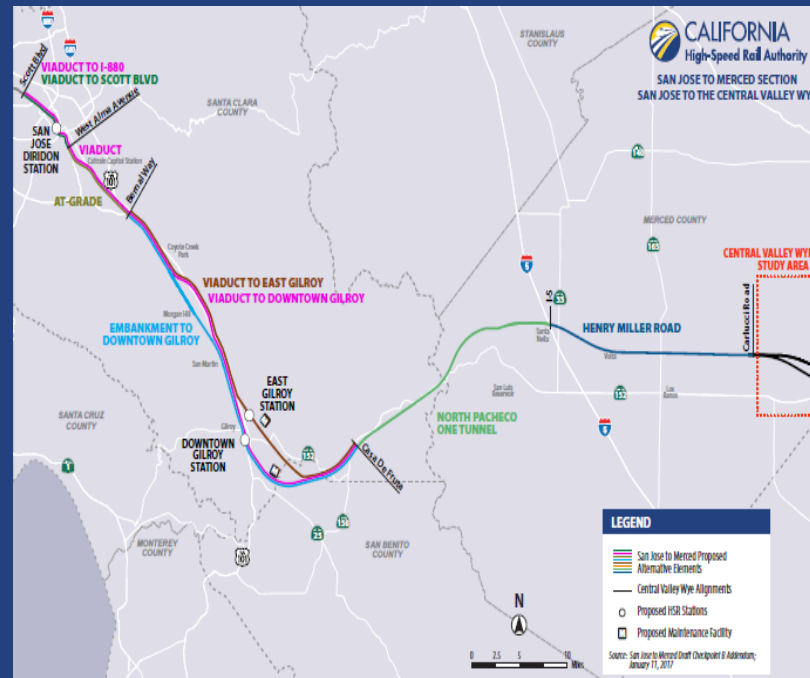
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- **Track and Systems**
  - » Track
  - » Railroad Infrastructure
  - » Signaling
  - » Overhead Catenary System
  - » Communications System
  - » Positive Train Control
  
- **Stations (Design/Bid/Build)**
  - » Fresno
  - » Kings/Tulare



# PROGRAM DELIVERY STATUS: MOVING FORWARD

- San Jose to Merced
  - » Multiple Civil Packages (Draft)
    - San Jose Approach
    - San Jose to Pacheco Pass
    - Pacheco Pass
    - Foothills

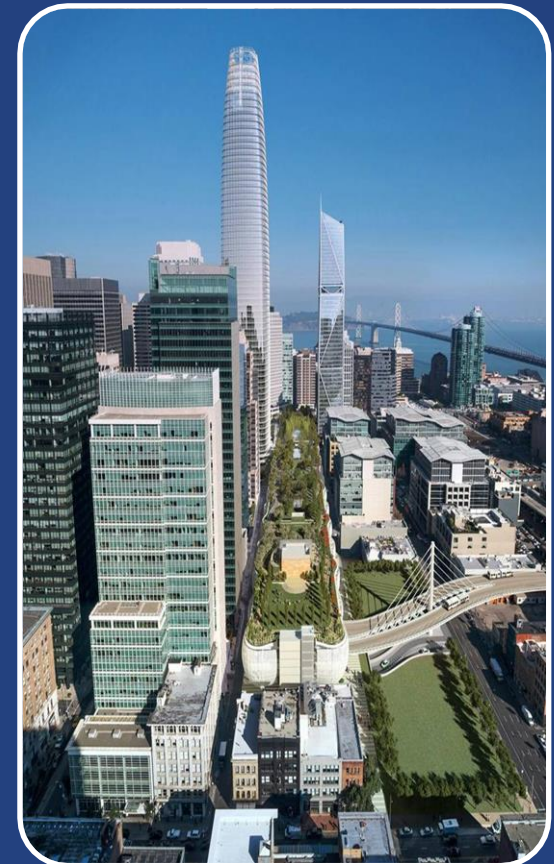




# SCOPE OF WORK ELEMENTS: FUTURE OPERATIONS

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- **Rolling Stock, Stations and Heavy and Light Maintenance Facilities**
- **Maintenance**
  - » Once completed, above work elements will require maintenance.
- **Operations – train operations, ticketing, dispatch etc.**
- **Project Delivery Models**
  - » Design-Build (DB)
  - » Design-Bid-Build
  - » Design-Build-Maintain
  - » Public-Private Partnership (P3)



# PROGRAM DELIVERY STATUS: MOVING FORWARD

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- **Requests for Expressions of Interest**

- » Tier III Trainsets

- Up to 95 Trainsets
- One (1) Heavy Maintenance Facility possibly located in the Central Valley.
- Two (2) light maintenance facilities each possibly located in the Central Valley, Northern California and Southern California.

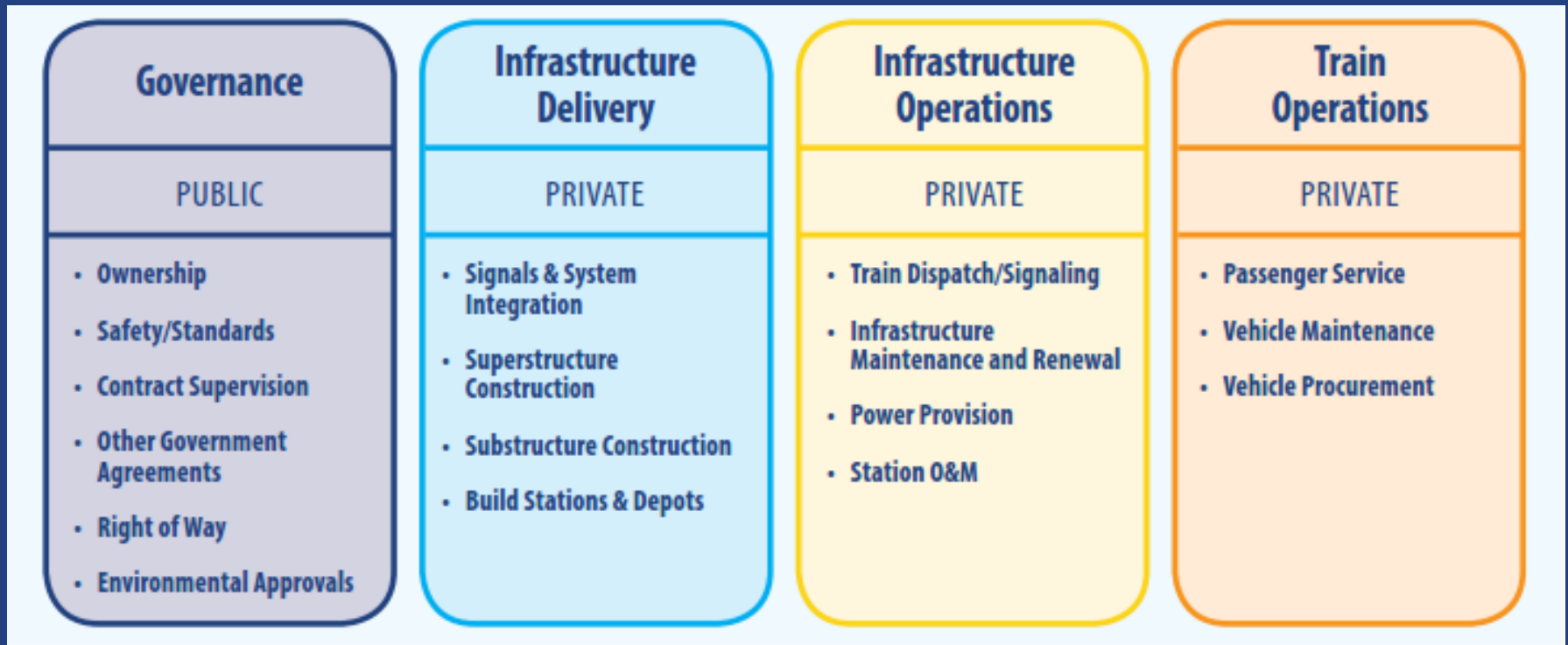


# OVERALL ORGANIZATIONAL APPROACH

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- **Maintain a Lean Authority Structure**
  - » Governance and Oversight
  
- **Utilize Private Sector Partners to Deliver & Support:**
  - » Program Management
  - » Financial Management
  - » Commercial Planning
  - » Transportation Planning
  - » Environmental Planning
  - » Right of Way
  - » Third Party
  - » Engineering
  - » Contract Procurement
  - » Design and Construction
  - » Construction Management
  - » Operations and Maintenance
  
- **Integrated Approach**

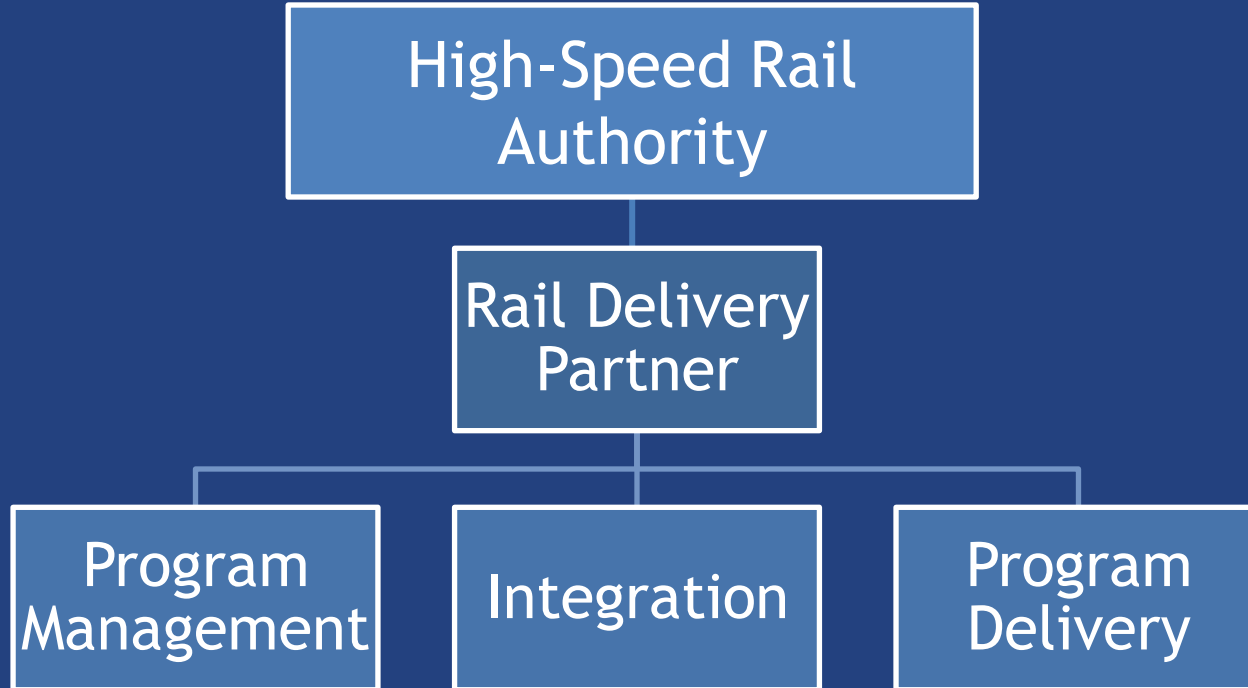
# HIGH-SPEED RAIL PROGRAM ROLES



# RAIL DELIVERY PARTNER (RDP)

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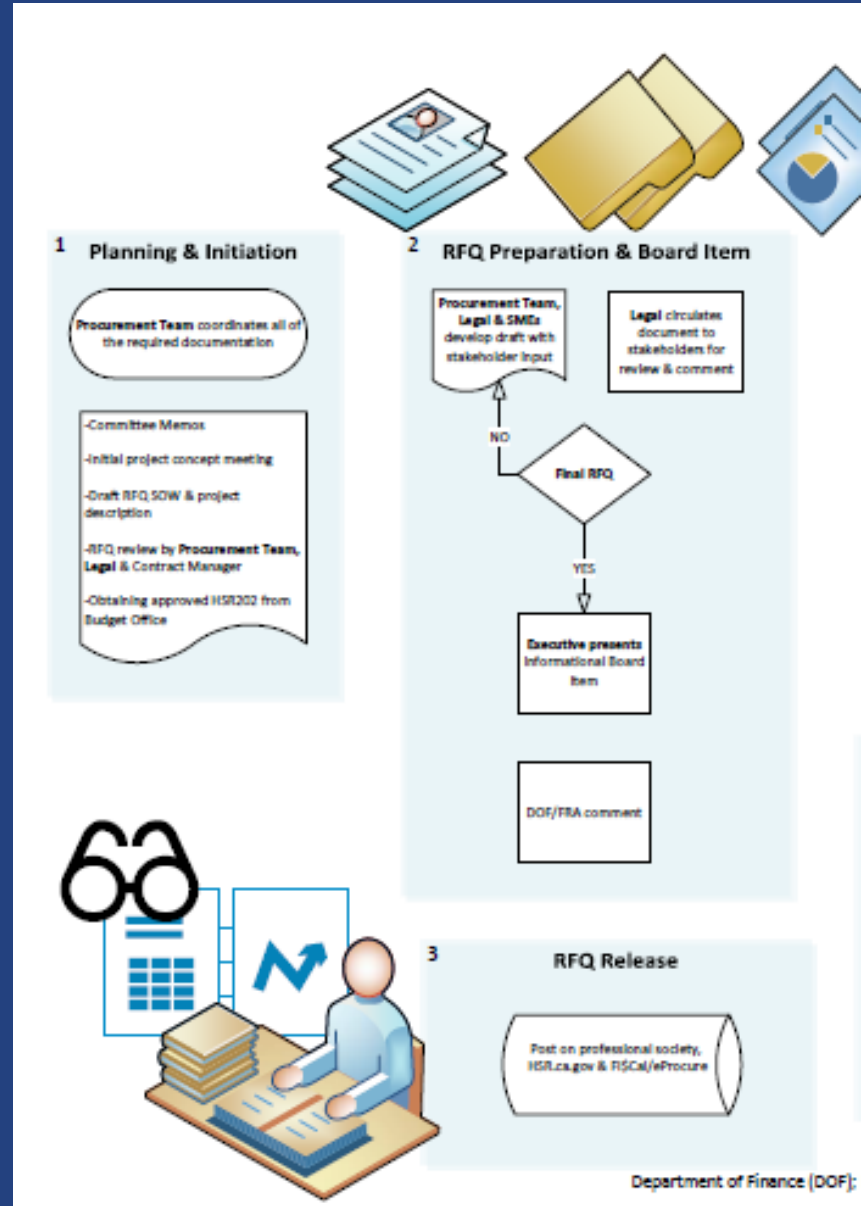
- Lead Role in Program Management and Program Delivery
- Supports Authority in a Strong Partnership and Integrated Working Relationship





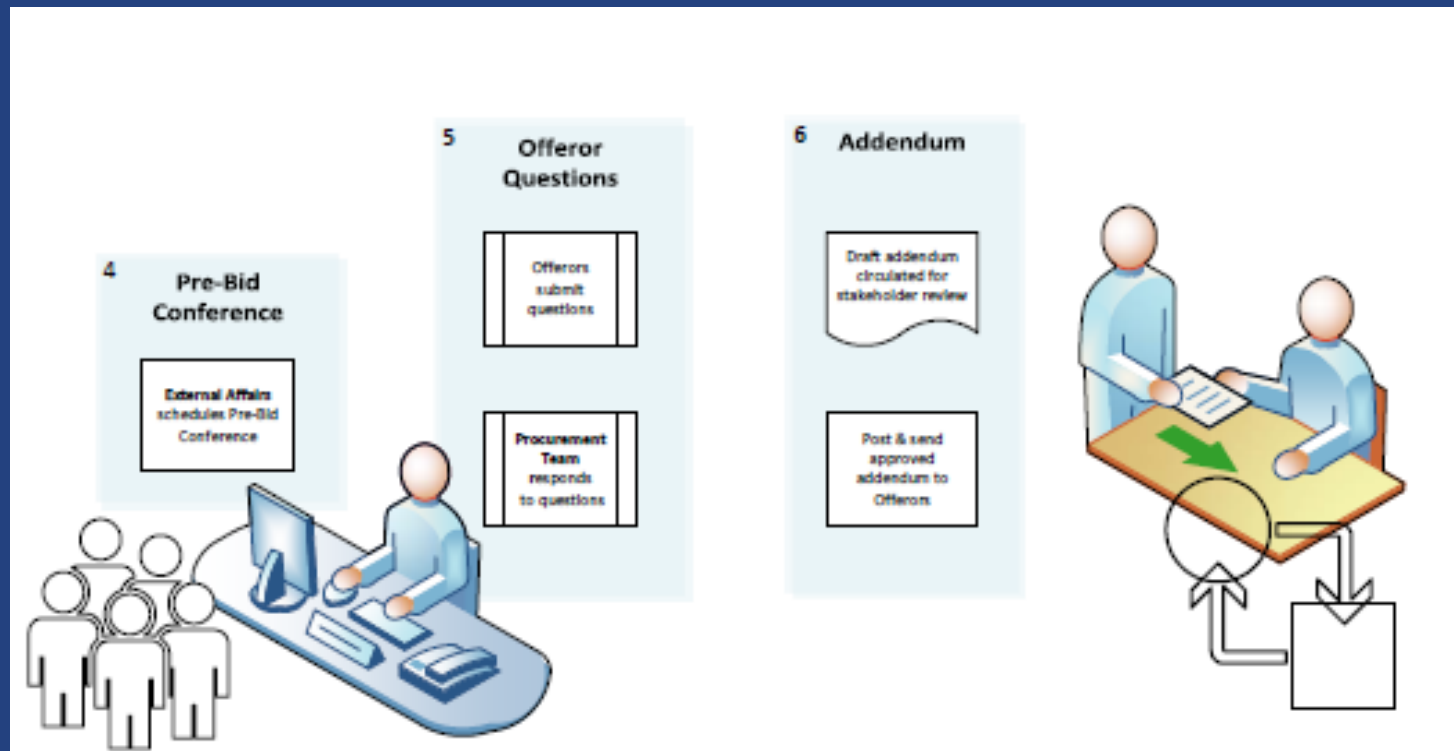
# DESIGN-BUILD PROCUREMENT PROCESS

- **Phase I – Request for Qualifications (RFQ)**
  1. Planning and Initiation
  2. RFQ Preparation and Board Item
  3. RFQ Release
- **Phase II – Request for Proposals (RFP)**



# DESIGN-BUILD PROCUREMENT PROCESS

- Phase I – Request for Qualifications (RFQ)
  4. Pre-Bid Conference
  5. Offeror Questions
  6. Addendum



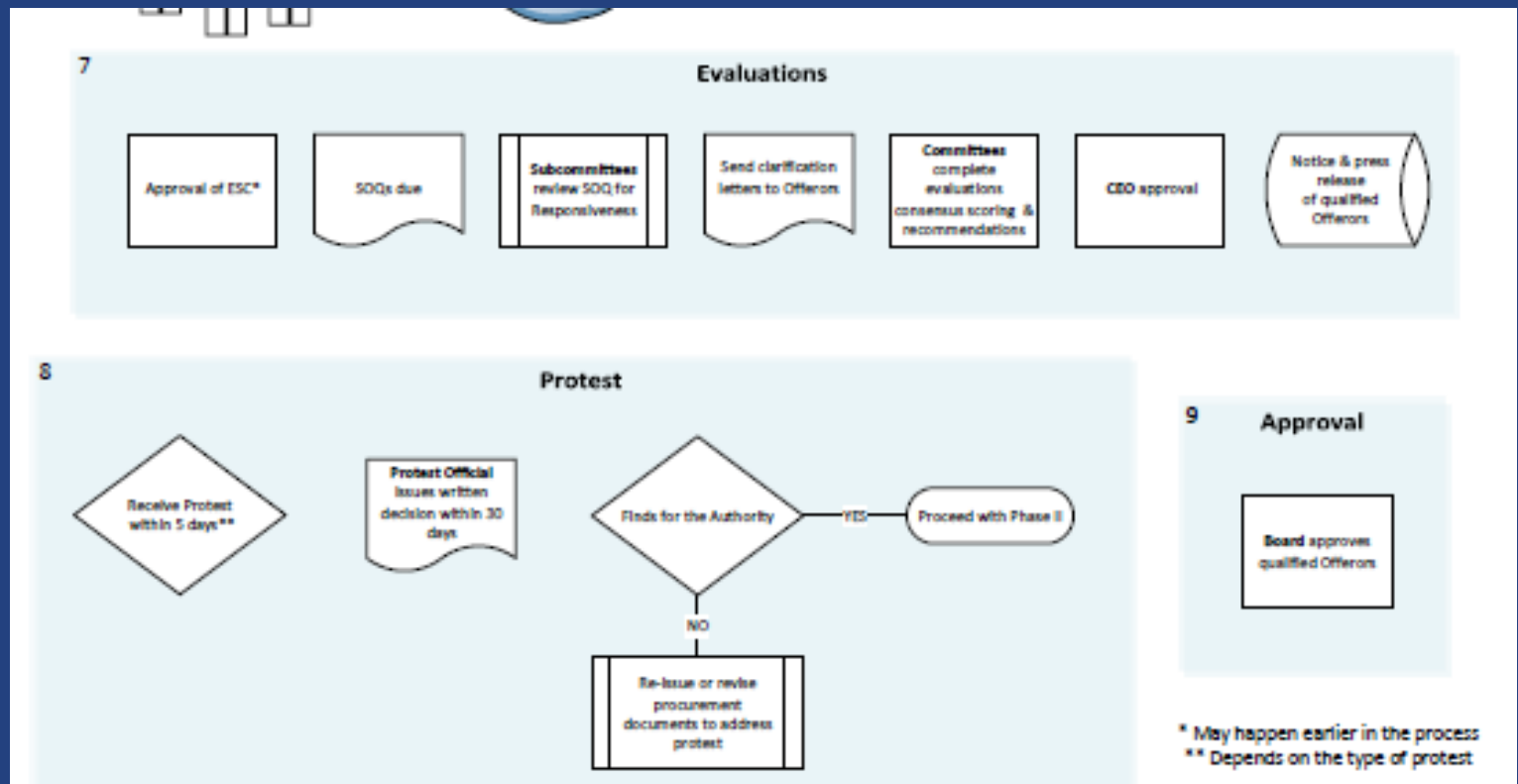
# DESIGN-BUILD PROCUREMENT PROCESS

- Phase I – Request for Qualifications (RFQ)

- 7. Evaluations

- 8. Protest

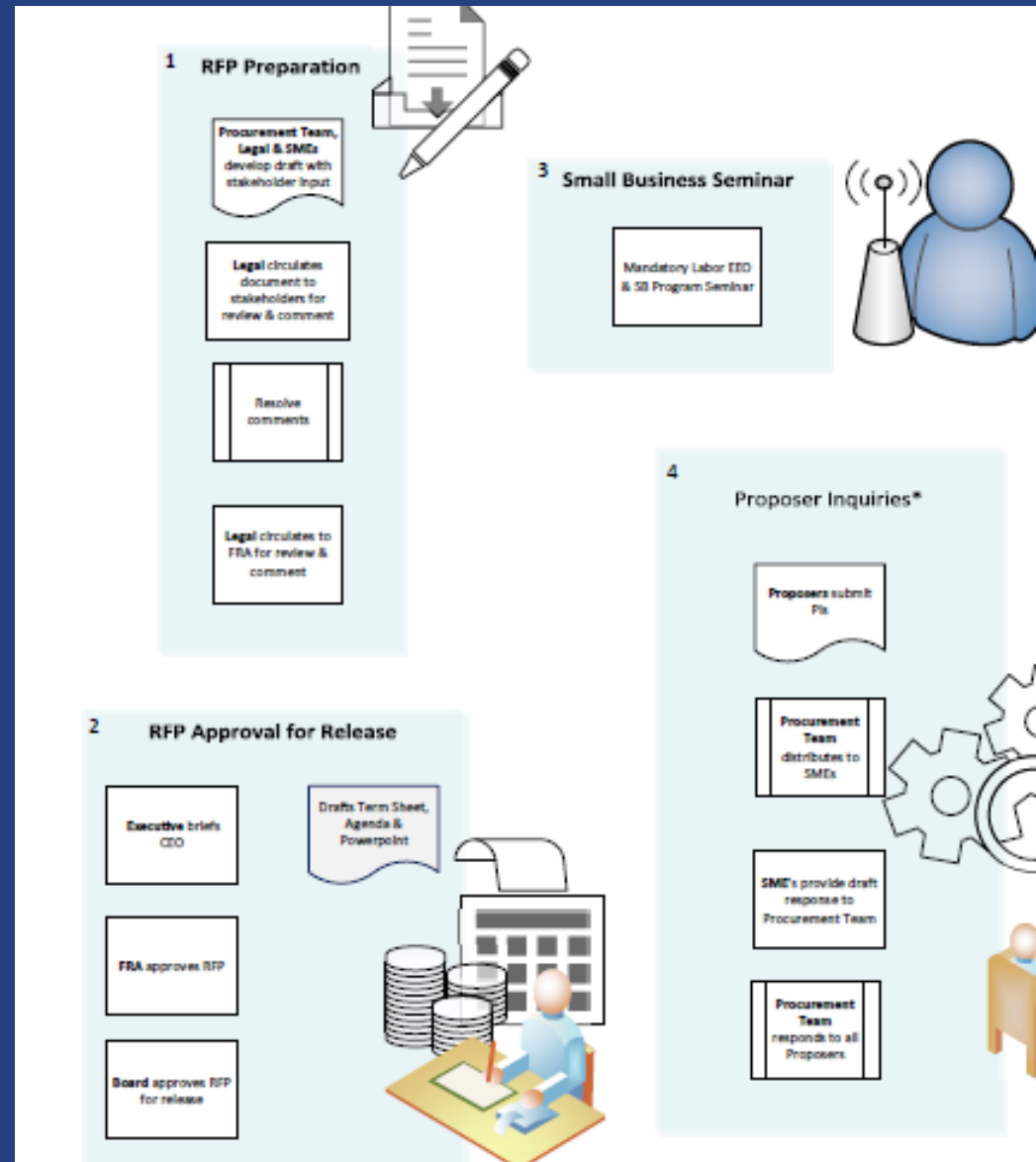
- 9. Approval



# DESIGN-BUILD PROCUREMENT PROCESS

- Phase II – Request for Proposals (RFP)

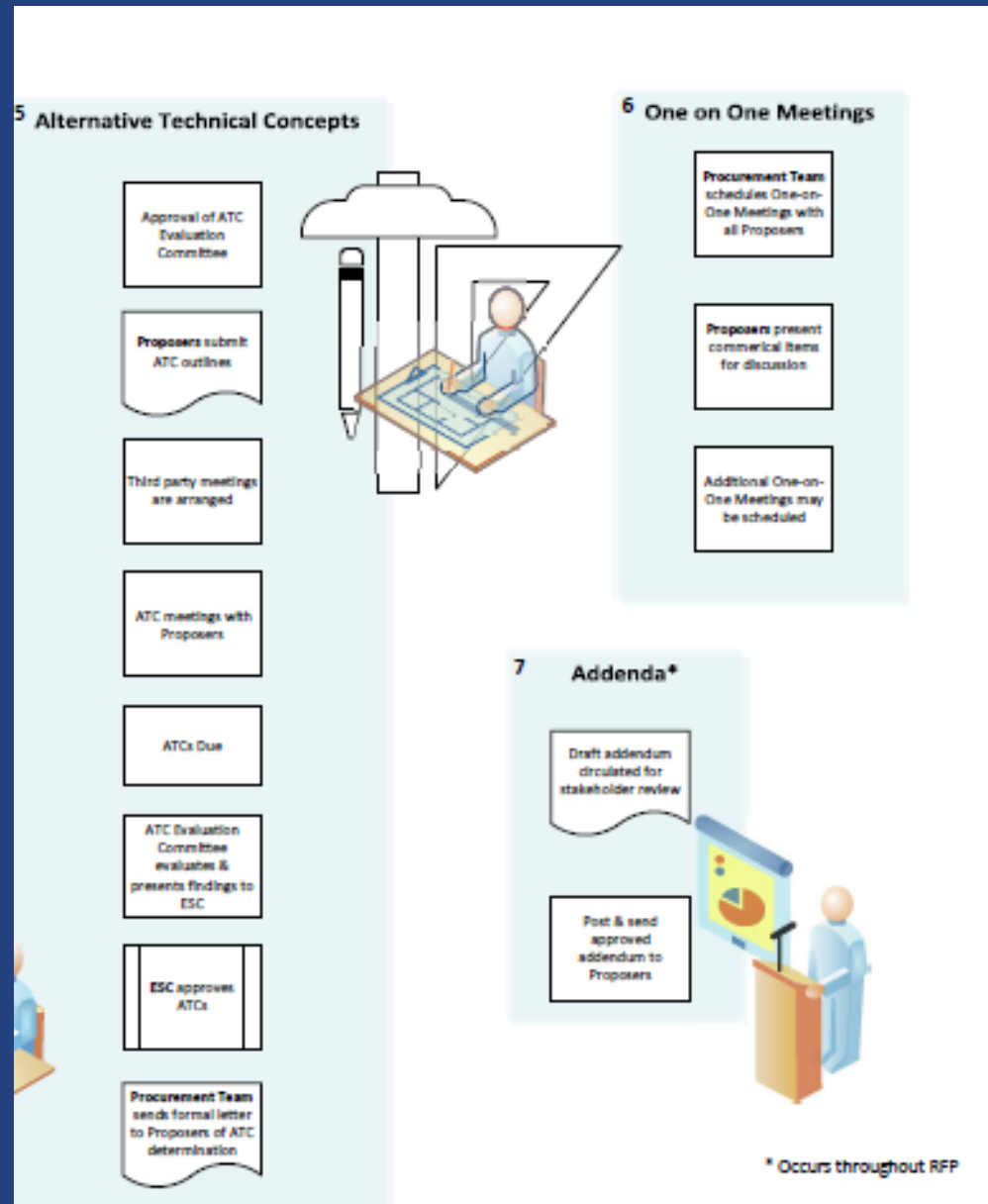
1. RFP Preparation
2. RFP Approval for Release
3. Small Business Seminar
4. Proposer Inquiries (PI)



# DESIGN-BUILD PROCUREMENT PROCESS

- Phase II – Request for Proposals (RFP)

5. ATC
6. One-on-One Meetings
7. Addenda

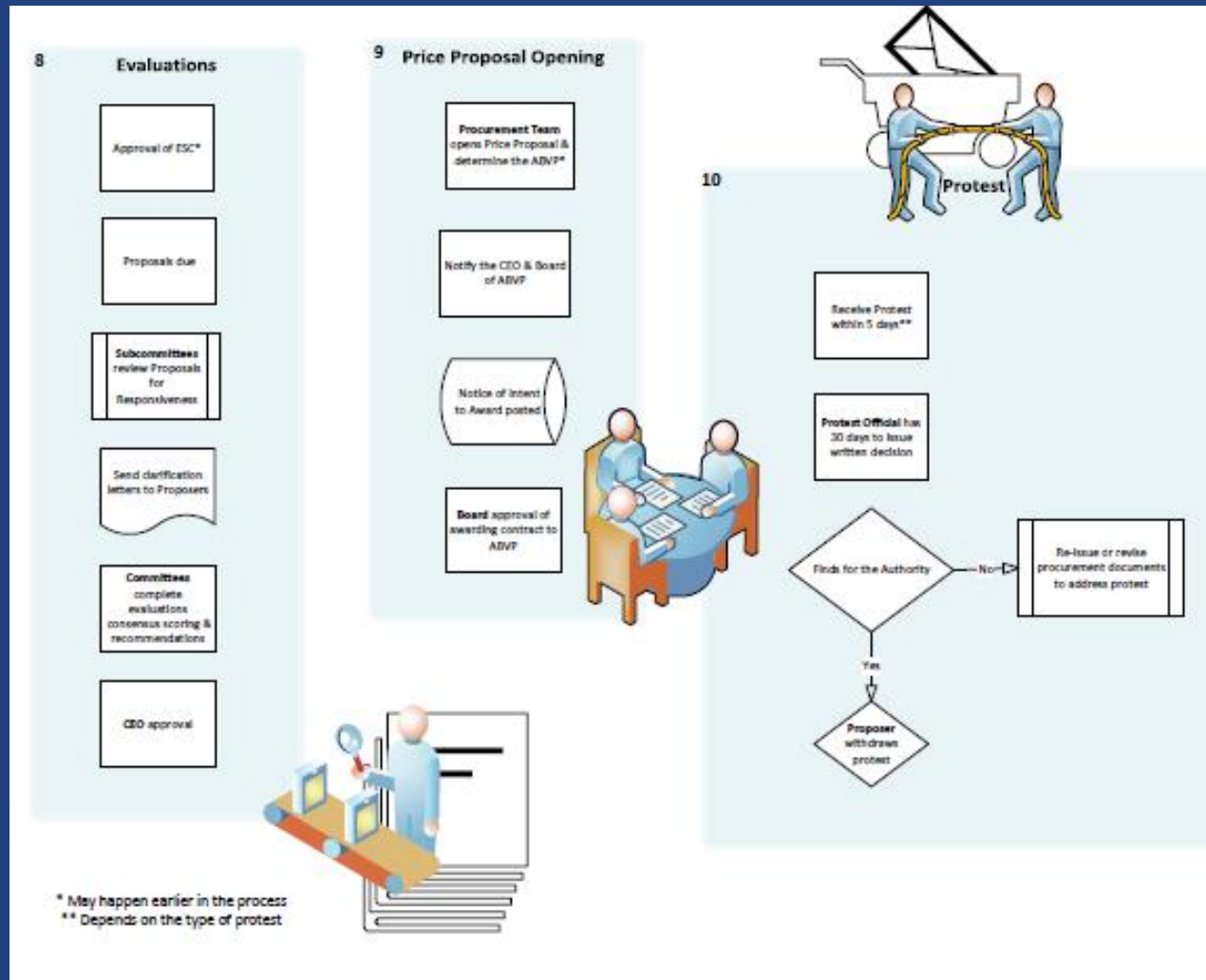




# DESIGN-BUILD PROCUREMENT PROCESS

- Phase II – Request for Proposals (RFP)

- 8. Evaluations
- 9. Price Proposal Opening
- 10. Protest

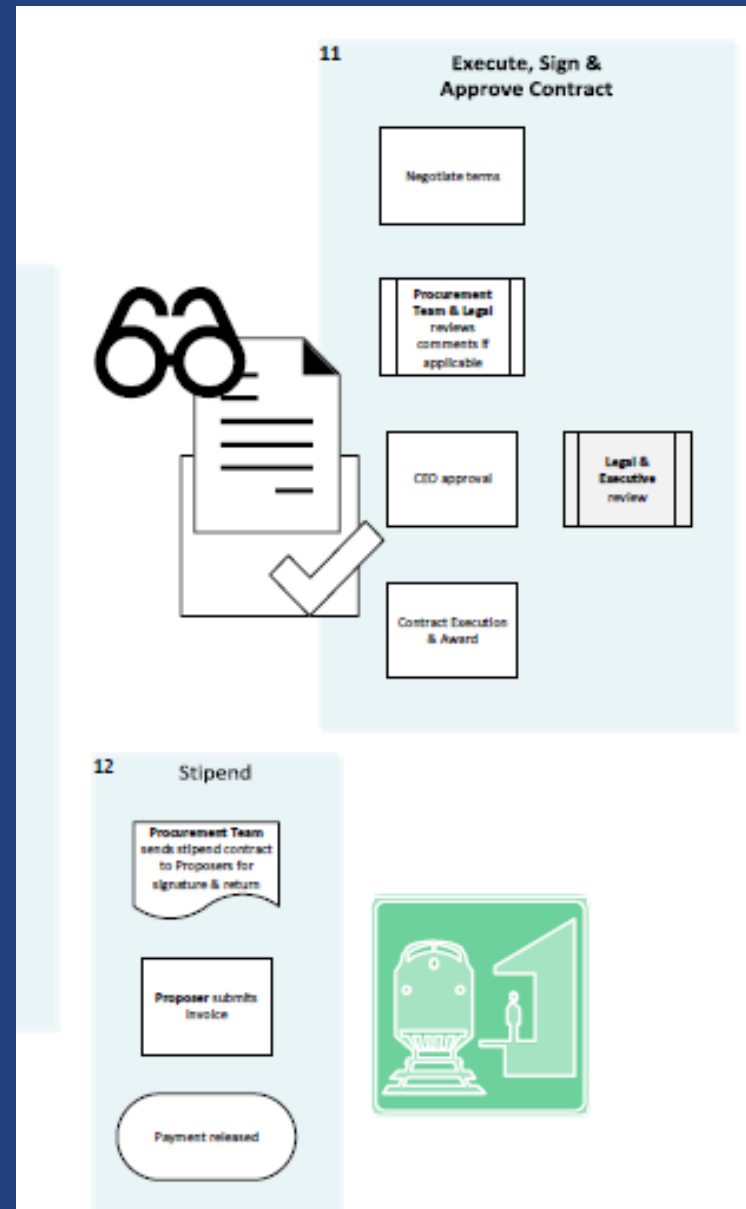


# DESIGN-BUILD PROCUREMENT PROCESS

- Phase II – Request for Proposals (RFP)

11. Execute, Sign and Approve Contract

12. Stipend



# DESIGN-BUILD STRATEGIES

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- Evaluation Process for CP-1, CP2-3 and CP-4 Design-Build Projects
- Two-Step Best Value Procurement Process:
  - » Pass/Fail and Responsiveness Evaluation
  - » Technical Proposal Evaluation by the Technical Advisory Committee
  - » Separate evaluation of Technical and Price Proposals
  - » Final Evaluation of the Technical Proposal by the Evaluation Selection Committee

<u>Technical Proposal Evaluation Criteria</u>	<u>Maximum Point Value</u>
Project Management	25 points
Design and Design Oversight	30 points
Construction and Construction Oversight	30 points
Small Business Participation	15 points
<b>Raw Score for Technical Proposal</b>	<b>100 points possible</b>

- A Total Score calculated by combining Weighted Scores for:
  - » Technical Proposals (30 percent weighting)
  - » Price Proposals (70 percent weighting)

# CONSTRUCTION UPDATES

- **Construction Package 1: 32 Miles**

- » DB: Tutor Perini/Zachry/Parsons
- » PCM: Wong+Harris



- **Construction Package 2-3: 65 Miles**

- » DB: Dragados/Flatiron
- » PCM: Arcadis



- **Construction Package 4: 22 Miles**

- » DB: California Rail Builders
- » PCM: HNTB



# CONSTRUCTION PACKAGE 1

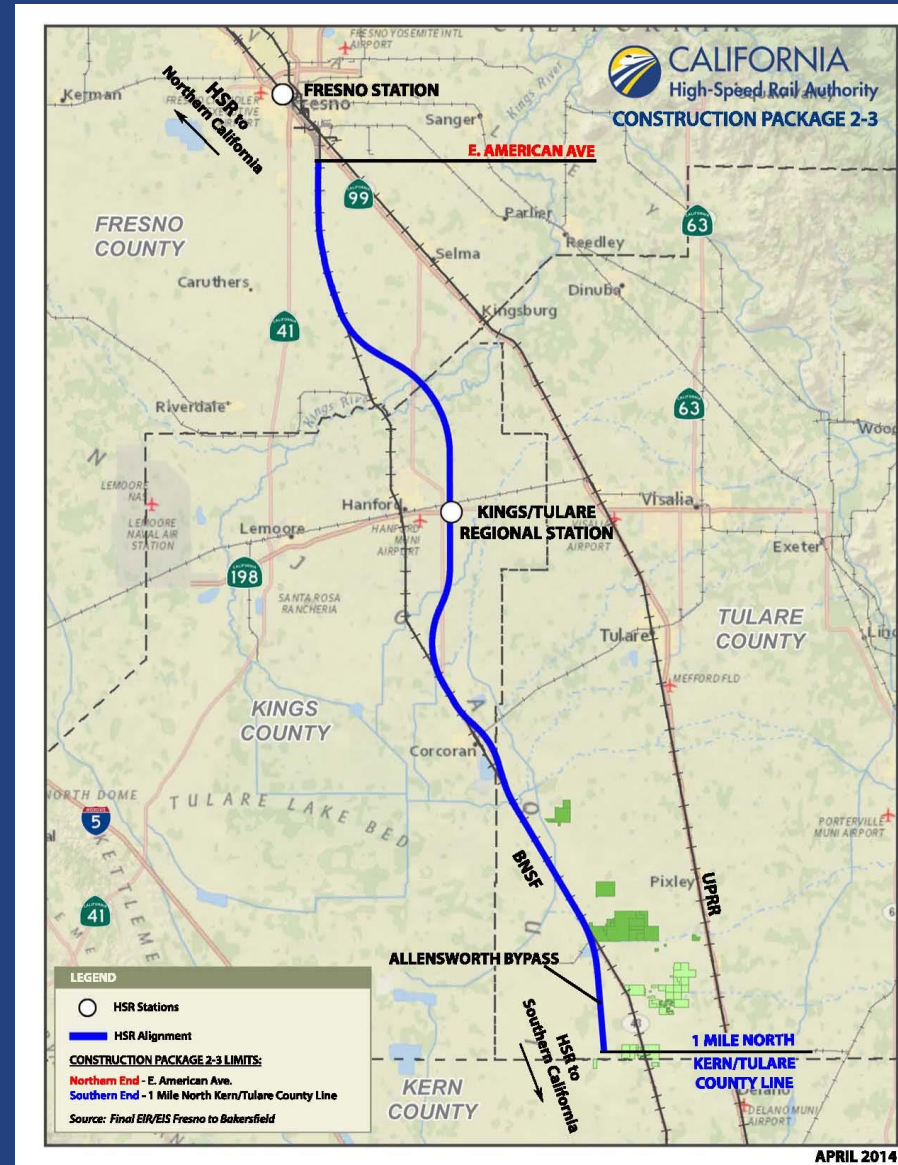
- Approximately 32 Miles
- Avenue 17 near Madera to East American Avenue South of Fresno
  - » **August 2013:** Contract Executed with Tutor Perini/Zachry/Parsons
  - » **Contract Price** – Approximately \$1 Billion
    - Scope of Work Involves 12 Grade Separations, 2 Viaducts, 1 Tunnel And A Major River Crossing Over The San Joaquin River in Madera And Fresno Counties
  - » **PCM: Wong-Harris**





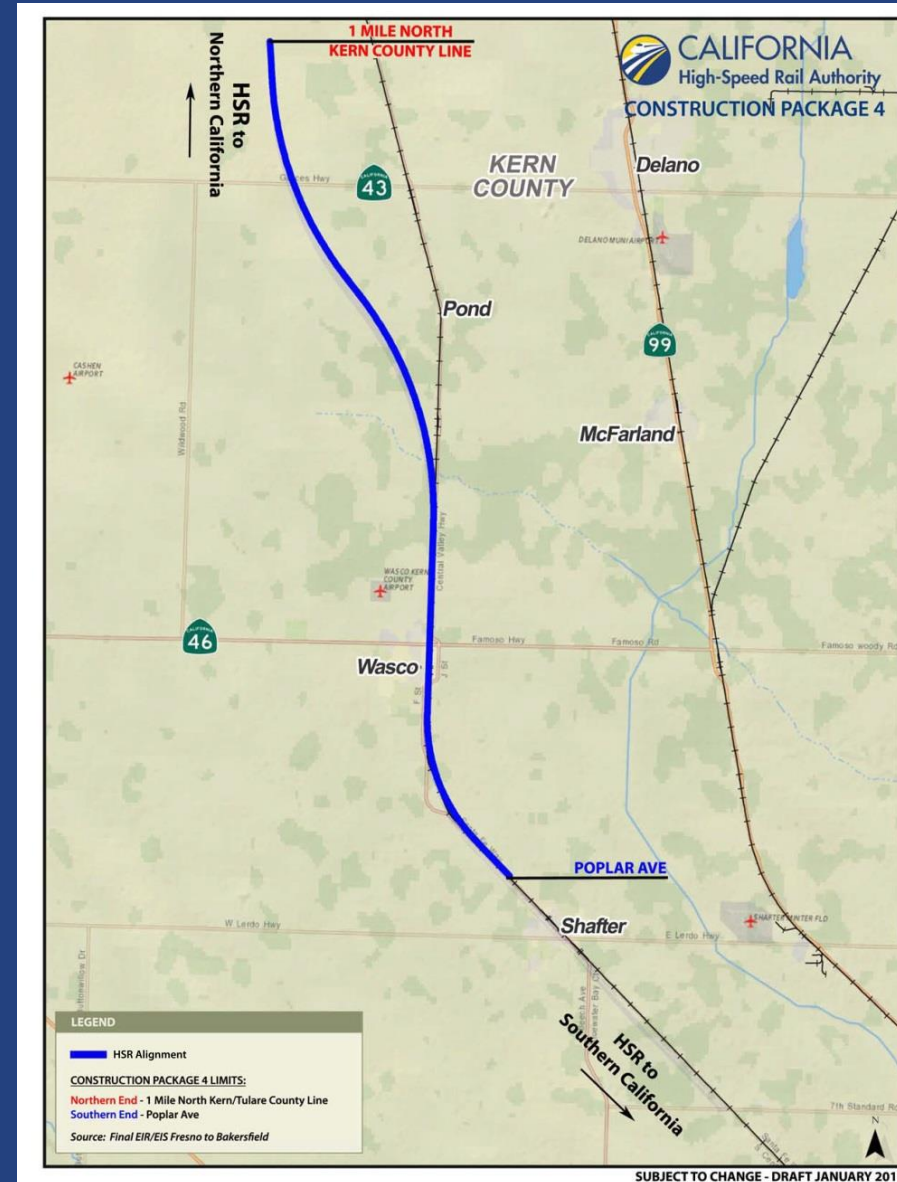
# CONSTRUCTION PACKAGE 2-3

- Approximately 65 Miles
- East American Avenue in Fresno to One Mile North of the Kern/Tulare County Line
- Design-Build: Dragados/Flatiron
- PCM: Arcadis
- Pre-Construction Work



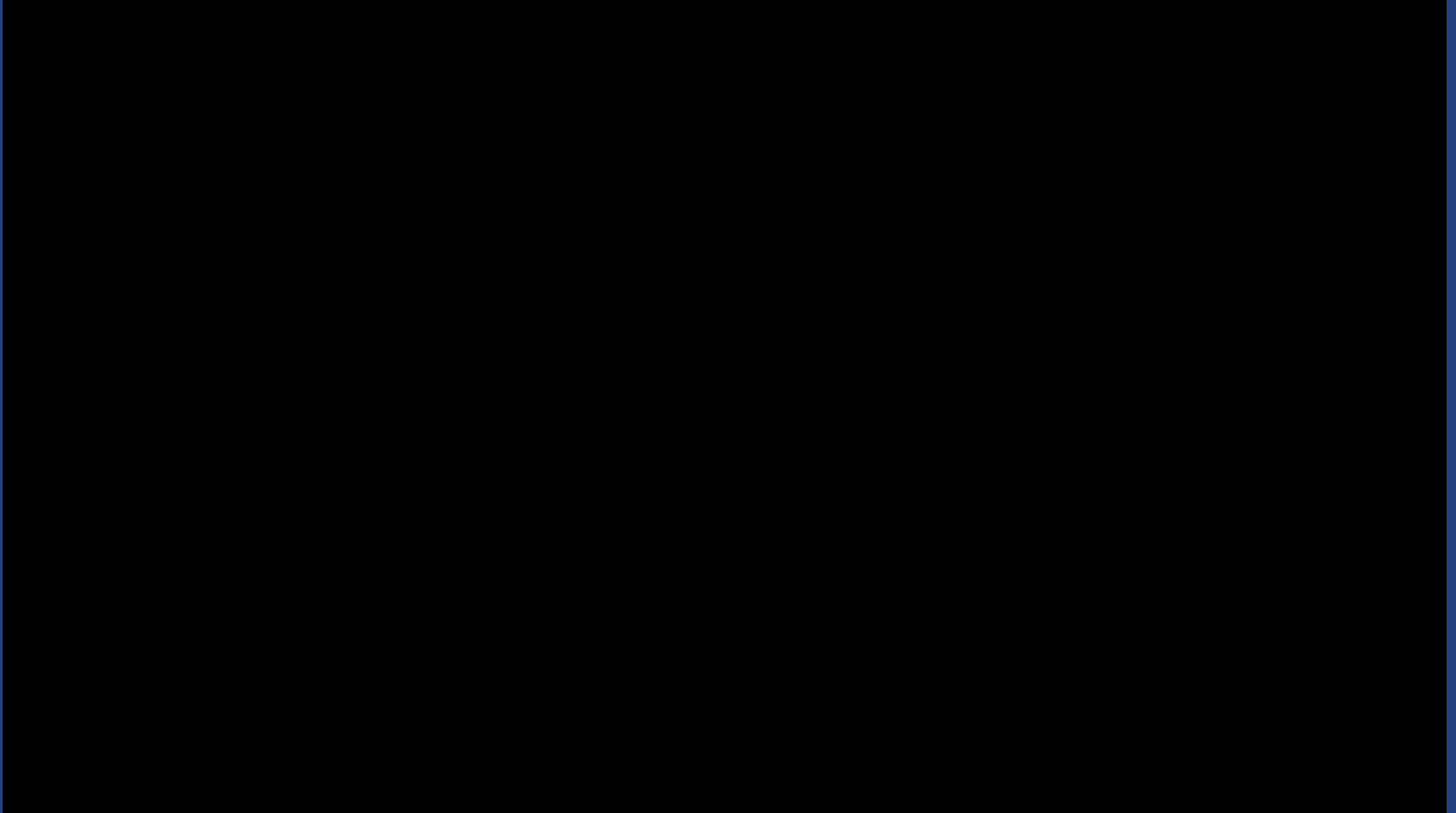
# CONSTRUCTION PACKAGE 4

- Approximately 22 Miles
- One Mile North of Kern/Tulare County Line to Poplar Avenue
- Design-Build: California Rail Builders
- PCM: HTNB
- Pre-Construction Work



# CONSTRUCTION UPDATE ON HIGH-SPEED RAIL

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# CONSTRUCTION PACKAGE 4

- BIM Modelling
- Currently not in Contract requirements
- Often used by Contractors to effectively address conflicts
- Specifically useful
  - » Utility conflicts
  - » Reinforcement congestion
  - » Cost
  - » Schedule
- Currently used by CP 4 Contractor





# CONSTRUCTION PACKAGE 4 – WASCO VIADUCT

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# *The Economic Impact of California High-Speed Rail*

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**JOB-YEARS OF  
EMPLOYMENT**

**19,900 - 23,600**



**LABOR  
INCOME**

**\$1.38B - \$1.68B**



**ECONOMIC  
OUTPUT**

**\$3.5B - \$4.1B**

# SMALL BUSINESS PROGRAM

SMALL BUSINESS PARTICIPATION

OF JANUARY 31, 2017

**373** Certified Small Businesses  
working on the high-speed  
rail program statewide

**110** Certified Disadvantaged Business Enterprises  
**45** Certified Disabled Veteran Business Enterprises

**NORTHERN CALIFORNIA:**

**146** Certified  
Small  
Businesses

**CENTRAL VALLEY:**

**92** Certified  
Small  
Businesses

**SOUTHERN CALIFORNIA:**

**122** Certified  
Small  
Businesses

**OUTSIDE OF CALIFORNIA:**

**13** Certified  
Small  
Businesses

- **30% Goal for Small Business Participation**
  - » 10% Disadvantaged Business Enterprises (DBE)
  - » 3% Disabled Veteran Business Enterprises (DVBE)

# COMMITMENT TO DIVERSE SMALL BUSINESSES

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- **Certifications That Count Toward the Overall Goal:**
  - » **California Department of General Services**
    - Small & Micro Businesses
    - Disabled Veteran Business Enterprises
  - » **California Unified Certification Program**
    - Disadvantaged Business Enterprises
  - » **US Small Business Administration**
    - 8(a) Disadvantaged Business Program
- **All State Contracts are Advertised Through**  
<https://caleprocure.ca.gov>

# HIGH-SPEED RAIL: Creating Jobs & Workforce Development

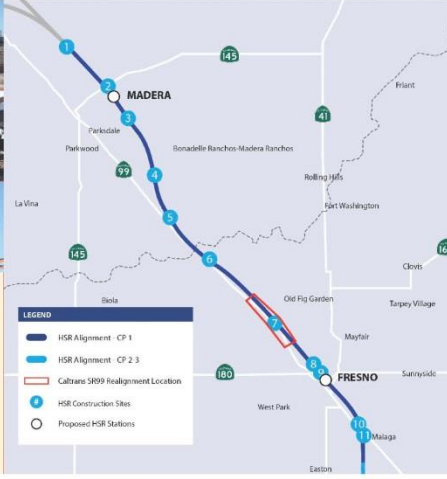
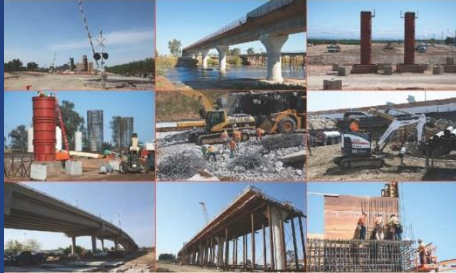
- Targeting: California
- Construction: Direct, Indirect Jobs in Hard-Hit Sectors
- **Over 350** Construction Workers Dispatched in Central Valley
- **Over 250** Pre-Apprentice Graduates





## CONSTRUCTION *update*

MAY  
2017



### MORE WORK, RAPID PROGRESS

A lot can change in just a month's time on a project like California High-Speed Rail. In this month's construction update not only will you see rapid progress at the various work sites, you'll also see a new site has come online in the southern most area of Construction Package 1. All of this work is being carried out by more than 180 small businesses and 1100 construction workers.

### 1. ROAD 27 | MADERA COUNTY

Concrete column forms have been erected at Road 27 north of Madera, where an overcrossing is being built that will take traffic over an existing BNSF corridor and a future high-speed rail line. The majority of the substructure is complete and construction has begun on the abutment.



BUILDHSR.COM





## QUESTIONS?

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### Ofelia Alcantara, PE

Acting Director of Engineering

(916) 669-6613 [ofelia.alcantara@hsr.ca.gov](mailto:ofelia.alcantara@hsr.ca.gov)

### Noopur Jain, PE, SE

Engineering Manager

(213) 457-8416 [noopur.jain@hsr.ca.gov](mailto:noopur.jain@hsr.ca.gov)



### Headquarters

California High-Speed Rail Authority

770 L Street, Suite 660

Sacramento, CA 95814

[www.hsr.ca.gov](http://www.hsr.ca.gov)



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Integration +  
Collaboration =  
Success