PROGRAM UPDATE
WHERE WE ARE NOW & WHERE WE ARE GOING

- STATUS OF DESIGN FOR CONSTRUCTION
- PROGRESS OF RIGHT-OF-WAY
- ANTICIPATED SCOPE RELATED CHANGE ORDERS
- ANTICIPATED DISCUSSION ON 2021 PROGRAM BASELINE BUDGET
  » Staff will bring 2021 Program Baseline budget to the Board of Directors mid-year
  » Revised budget will be necessary to get construction work done in the Central Valley
  • It will include program contingency, known cost increases (2020 Business Plan)
PROGRAM UPDATE

FUNDING BREAKDOWN

• **Proposition 1A (2008)**
  » $9.95 billion funding
  » Remaining 4.2 B requested in 2021
  » Governor’s May Revise Budget

• **Cap-and-Trade**
  » 25% of annual proceeds appropriated to HSR through 2030

• **American Recovery and Reinvestment Act**
  » $2.5 billion awarded by Obama Administration
  » Required construction to begin in the Central Valley
  » Required HSR to spend grant money by September 2017 (complete)
  » Pushed Authority into construction before design and right-of-way were complete
  » Required Authority to match funding by December 2022 (complete)

• **FY 10 grant**
  » $929 million
  » Entered litigation after Trump Administration rescinded money
  » In active settlement negotiations with Biden Administration
WHAT DOES GETTING TO 100% DESIGN MEAN

100% Design

Third-Party Requirements Determined

Design-Build **Scope Known**

Certainty

- RoW Footprint Finalized
- *Parcel Acquisition Absolute*

- Contract Change Orders Defined
  - *Known Scope incorporated into Contracts*

Construction Project Management Achieved

- Scope/Budget - Estimate at Completion
- Schedule – Reliable Contract Completion Date

*Move to earned-value metric for project monitoring*
• The three Design-Build contracts were awarded early in the design process – at the time design was only at about 15%

• Typical design-build contracts:
  » Design at 30% or greater
  » Key pre-construction activities are substantially complete before construction begins, including right-of-way acquisition

• Typical Design-Bid-Build Contract:
  » Design at 100% at time of contract award

• In 2021, with design now nearly 100% complete the number of right-of-way parcels is 2,304 (1,812 delivered)

• Authority’s Stage Gate process will:
  » Strengthen project development, risk management and oversight
  » Ensure design is well-advanced before construction contracts are award
OVERALL
PROGRAM UPDATE
119-MILES OF CONSTRUCTION

- **CONSTRUCTION PACKAGE 1**
  - 32 Miles
  - Avenue 19 in Madera County to just South of American Avenue in Fresno County

- **CONSTRUCTION PACKAGE 2-3**
  - 65 Miles
  - Just south of Fresno to 1 Mile North of the Tulare/Kern County Line

- **CONSTRUCTION PACKAGE 4**
  - 22 Miles
  - Tulare/Kern County Line to Poplar Avenue
DESIGN PROGRESS
BETWEEN START OF 2018 TO MARCH 2021 PROGRAM WIDE
– READY FOR CONSTRUCTION (RFC) DESIGN PACKAGES

All design packages will be complete Q3 2021
2018 to 2021:
- 487 Parcels Delivered
- 399 Additional parcels added due to refined design
Construction Package 1 (CP 1) is the first construction contract executed on the Initial Operating Section.

- Extends 32-miles between Avenue 19 in Madera County to East American Avenue in Fresno County.
- Includes 22 grade separations, 3 viaducts, a major river crossing over the San Joaquin River and 2 trenches. **Estimated Completion Date: December 2023**
# PROGRAM UPDATE
## CONSTRUCTION PACKAGE 1

<table>
<thead>
<tr>
<th></th>
<th>CP 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Completed</td>
<td>92.5%</td>
</tr>
<tr>
<td>Right-Of-Way Parcels Acquired</td>
<td>82.3%</td>
</tr>
<tr>
<td>Utility Relocation</td>
<td>57.3%</td>
</tr>
<tr>
<td>Structures Complete/In Progress</td>
<td>69.7%</td>
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<tr>
<td>Miles of Guideway Complete/In Progress</td>
<td>40.6%</td>
</tr>
<tr>
<td>Overall Contract</td>
<td>62.8%</td>
</tr>
</tbody>
</table>

Fresno River Viaduct
DESIGN PROGRESS
BETWEEN START OF 2018 TO MARCH 2021 CP1
– READY FOR CONSTRUCTION (RFC) DESIGN PACKAGES

CP 1 Design to be completed in Q3 2021
**PROGRAM UPDATE**

**CONSTRUCTION PACKAGE 1**

<table>
<thead>
<tr>
<th>Design Packages</th>
<th>2018</th>
<th>2021</th>
<th>100% Designed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ready for Construction</td>
<td>9 of 38</td>
<td>VS.</td>
<td>37 of 40</td>
</tr>
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</table>

Cedar Viaduct
• **Change Orders**
  » Total number of change orders 383 (executed through Feb 2021)
  • Percent of change orders (dollar value) that are **time impact 16%** (Executed)
  • Percent of change orders (dollar value) that are **scope 84%** (Executed)

• **Most due to 5 major change orders**
  » Intrusion Protection Barriers $280M
  » Northern Extension $202M
  » Third Party Utility Relocations $250M
  » Herndon Ave Grade Separation $85M
  » Time Related Change Orders $190M
CP 1 ORIGINAL -v- REVISED CONTRACT VALUE

Values in hundreds of millions of dollars

- **Original Contract Value**: $1.023bn
- **Present Contract Value**: $2.362bn

**Year** | **Value (in millions)**
--- | ---
2014 | $1,023
2016 | $1,307
2017 | $1,449
2018 | $1,549
2019 | $1,823
2020 | $2,262
END MARCH 2021 | $2,362

*Values rounded to the nearest Million*
**PROGRAM UPDATE**
**CONSTRUCTION PACKAGE 1**

**Significant Pending Change Orders to Complete Construction**

» **Golden State Boulevard (Fresno)**
  - Realignment – North/South: 3.8 miles total realignment; increase from 2-4 lanes, widen sidewalk and add bicycle lanes
  - Utilities: Add water, sewer and storm water utilities to accommodate realignment
  » Purpose: Agreement with City of Fresno to avoid impact on existing businesses

» **McKinley Avenue – North Weber Avenue Junction Configuration**
  - Change configuration to increase bridge length, relocate traction power substation, City of Fresno traffic control system and utility work
  » Purpose: City of Fresno changed designation of the road

» **Belmont Avenue Overcrossing and Grade Separation**
  - Relocate proposed bridge to deconflict with AT&T line, including demolition of UPRR bridge, increasing bridge length and width and changing the Fresno Trench design under Belmont overpass
  » Purpose: City of Fresno requested design refinement
PROGRAM UPDATE
CONSTRUCTION PACKAGE 1

Significant Pending Change Orders to Complete Construction

» BNSF/UPRR Maintenance Roads
  • Construct access roads for adjacent railroad maintenance (10.5 miles for UPRR and 11.2 miles for BNSF)
  » Purpose: Included as a commitment in the agreements with the railroads

» Guideway Construction for Caltrans SR-99 (Between Clinton and Ashlan Avenues)
  • Construct additional 2.5 miles of at-grade guideway plus Intrusion Protection Barrier walls between Clinton and Ashlan Avenues
  » Purpose: Scope was unassigned prior to October 2019 and was not included in original scope to be constructed by Caltrans.
CONSTRUCTION PACKAGE 2-3
Construction Package 2-3 (CP 2-3) is the second significant construction contract executed on the Initial Operating Section.

- Extends approximately 65 miles from the terminus of Construction Package 1 at East American Avenue in Fresno to one mile north of the Tulare-Kern County line.
- Includes approximately 36 grade separations in the counties of Fresno, Tulare and Kings, including viaducts, underpasses and overpasses.

**Estimated Completion Date: December 2023**
## PROGRAM UPDATE
### CONSTRUCTION PACKAGE 2-3

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Design Completed</td>
<td>91.7%</td>
</tr>
<tr>
<td>Right-Of-Way Parcels Acquired</td>
<td>72.2%</td>
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<tr>
<td>Utility Relocation</td>
<td>49.1%</td>
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<tr>
<td>Structures Complete/In Progress</td>
<td>53.1%</td>
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<tr>
<td>Miles of Guideway Complete/In Progress</td>
<td>70.8%</td>
</tr>
<tr>
<td>Overall Contract</td>
<td>62.3%</td>
</tr>
</tbody>
</table>
DESIGN PROGRESS
BETWEEN START OF 2018 TO MARCH 2021 CP2-3
– READY FOR CONTRUCTION (RFC)
DESIGN PACKAGES

We anticipate final design on the remaining 4 Structure Packages will be complete by Q3, 2021.
**PROGRAM UPDATE**

**CONSTRUCTION PACKAGE 2/3**

Design Packages Ready for Construction (of 109)

<table>
<thead>
<tr>
<th>Year</th>
<th>2018</th>
<th>2021</th>
<th>100% Designed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>100</td>
<td>Q3 2021</td>
</tr>
</tbody>
</table>

Peach Ave
PROGRAM UPDATE
CONSTRUCTION PACKAGE 2/3

• **Change Orders**
  » Total number of change orders 297 (executed through Feb 2021)
  • Percent of change orders (dollar value) that are **time impact** 29% (Executed)
  • Percent of change orders (dollar value) that are **scope** 71% (Executed)

• **Most due to the following change orders**
  » Agreement Settlement/Time Impact $185M
  » Hanford Viaduct Substructure $109M
  » Third Party Utility Relocations $90M
  » Subsidence and Loss of Ditch Excavation $61M
CP2/3 Original -v- Revised Contract Value

Values in hundreds of millions of dollars

Original Contract Value $1.365bn

Present Contract Value $2.123bn

*Values rounded to the nearest Million
PROGRAM UPDATE
CONSTRUCTION PACKAGE 2/3

Significant Pending Change Orders/ Dispute Resolution to Complete Construction

» Hanford Viaduct Superstructure
  • Finish superstructure of 6000-foot elevated guideway, configuration change due to Alternative Technical Concept accepted during original procurement

» BNSF Intrusion Protection Barrier
  • Construct 15 miles of barrier
    » Purpose: Commercial issue related to how the contractor interpreted the RFP requirements from draft railroad agreement at the time of proposals
Significant Pending Change Orders/ Dispute Resolution to Complete Construction

» Deer Creek Viaduct
  • Contractor redesigned to 3000-foot viaduct to minimize elevated guideway
    » Purpose: Commercial issue pending dispute resolution

» Cross Creek Viaduct
  • Contractor redesigned to 2500-foot viaduct to minimize elevated guideway
    » Purpose: Commercial issue pending dispute resolution
CONSTRUCTION PACKAGE 4
Construction Package 4 (CP 4) is the third significant construction contract executed on the Initial Operating Section.

- 22-mile stretch bounded by a point approximately one mile north of the Tulare/Kern County Line at the terminus of Construction Package 2-3 and Poplar Avenue to the south.
- Will include construction of at-grade, retained fill and aerial sections of the high-speed rail alignment and the relocation of four miles of existing Burlington Northern Santa Fe (BNSF) tracks.

Estimated Completion Date: April 2022
## PROGRAM UPDATE
### CONSTRUCTION PACKAGE 4

<table>
<thead>
<tr>
<th>Category</th>
<th>Progress</th>
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</thead>
<tbody>
<tr>
<td>Design Completed</td>
<td>100%</td>
</tr>
<tr>
<td>Right-Of-Way Parcels Acquired</td>
<td>77.2%</td>
</tr>
<tr>
<td>Utility Relocation</td>
<td>28.6%</td>
</tr>
<tr>
<td>Structures Complete/In Progress</td>
<td>90.9%</td>
</tr>
<tr>
<td>Miles of Guideway Complete/In Progress</td>
<td>100%</td>
</tr>
<tr>
<td>Overall Contract</td>
<td>65.9%</td>
</tr>
</tbody>
</table>
DESIGN PROGRESS BETWEEN START OF 2018 TO MARCH 2021 CP4 – READY FOR CONSTRUCTION (RFC) DESIGN PACKAGES

March 2021, all 15 design packages were ready for construction

The total of Ready for Construction packages for CP4 from End of 2017 through the End of 2021 was 15
## PROGRAM UPDATE

### CONSTRUCTION PACKAGE 4

<table>
<thead>
<tr>
<th>Design Packages Ready for Construction (of 15)</th>
<th>2018</th>
<th>2021</th>
<th>100% Designed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>15</td>
<td>Complete</td>
</tr>
</tbody>
</table>

*Garces Highway*
• **Change Orders**
  » Total number of change orders 94 (executed through Feb 2021)
  • Percent of change orders (dollar value) that are **time impact** 35% (Executed)
  • Percent of change orders (dollar value) that are **scope** 65% (Executed)

• **Most due to the following change orders**
  » Agreement Settlement/Time Impact $51M
  » Intrusion Protection Barrier $51M
  » Wildlife Crossings $17M
CP4 Original -v- Present Contract Value

Values in hundreds of millions of dollars

$454  $456  $457  $458  $535  $633  $639

Original Contract Value $454.6m
Present Contract Value $639.3m

*Values rounded to the nearest Million
Pending Change Orders to Complete Construction

» **SR 46 Construction**
  
  • Lengthen and widen BNSF bridge to accommodate future SR 46 widening to 4 lanes plus associated Wasco roadway realignments (this segment is not required to fulfill the ARRA grant agreement scope/schedule)

  » Purpose: Result of an agreement made with Kern County
PROGRAM UPDATE
CALIFORNIA HIGH-SPEED RAIL TODAY

• 5,500 + construction jobs created since construction began
  » 3,700 National Targeted Worker hiring (disadvantaged communities)
• 609 small businesses employed
  » 192 are Disabled Business Enterprises
  » 129 located in disadvantaged communities
  » 67 Disabled Veteran Business Enterprises
• CA High-Speed Rail spurring the economy
  » 60,000 job years created to date
  » $11.4 billion total economic output through January 2021
PROGRAM UPDATE
LOOKING AHEAD

Over the next 12-15 months:

» Appropriation of remaining Proposition 1A funds (2021 Budget Act)
» Environmental clearance of first two segments into Los Angeles County
  » Bakersfield to Palmdale
  » Burbank to Los Angeles
» Award Track and Systems contract, commence work in 2022
» Complete negotiations with Federal Railroad Administration on grant schedule and FY 10 funding
» Award contracts to advance design work on Merced and Bakersfield extensions
» Procurement for trainsets – 2022
Questions?