



CALIFORNIA
High-Speed Rail Authority

California High-Speed Rail: Construction Update

Brian Kelly
Chief Executive Officer

Central Valley

Initial Operating Segment

- 171 Miles
- 100% environmentally cleared
- 119 miles under construction
- 52 miles starting advanced design (pre-construction work)
- Design for Central Valley Stations
- Track and Systems procurements in 2023
- Train procurement in 2024

Goal: Initial operations between 2030 to 2033



Central Valley Update

Where We Are & Where We Are Going

Achieving Construction Management in 2023

- Instituting a complete project definition
 - » Executing major change orders to capture full project scope.
Status Update: 12 out of 13 outstanding major commercial issues have been resolved. Remaining commercial issue in arbitration.
- *Completing right-of-way (ROW) acquisitions*
 - » Improved ROW planning and management to exceed delivery forecasts.
Status Update: 96.6% of parcels delivered to contractors.
- Focused efforts on finalizing third-party approvals
 - » Increased executive engagement and Third-Party Task Force efforts to complete third-party agreements & design approvals.
Status Update: 64 out of 67 (96%) have been resolved through Third-Party Task Force.
- Updating design and construction activities
 - » Working with Design-Build Contractors to re-sequence work and mitigate schedule impacts.
Status Update: Finalize revised baseline schedules for all CP and increased focus on program-wide quality inspections.



Right-of-Way Status Update



PROGRAM UPDATE

Central Valley Right of Way

2018 to 2023:

- 841 Parcels Delivered
- 410 Additional parcels added due to refined design

Parcels Required 2,300



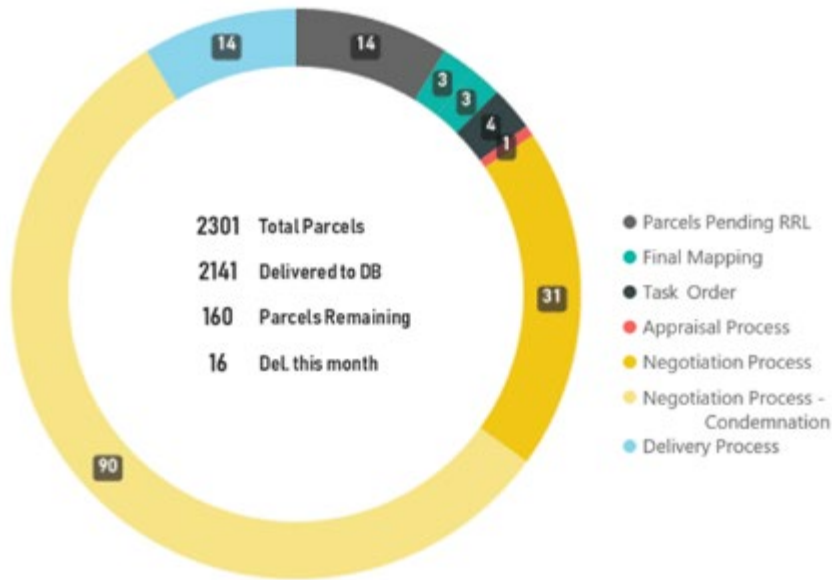
Data Date: 3/31/2023

PROGRAM UPDATE

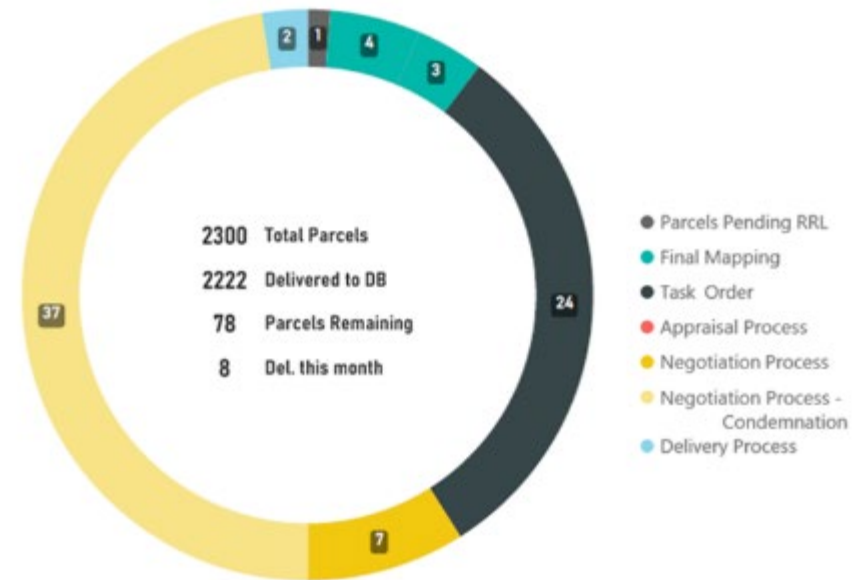
Central Valley Right of Way

Right of Way Production Graph

September 30, 2022



March 31, 2023



Data Date: 3/31/2023



Construction Package 4



Central Valley Update

Construction Package 4

Wasco Viaduct

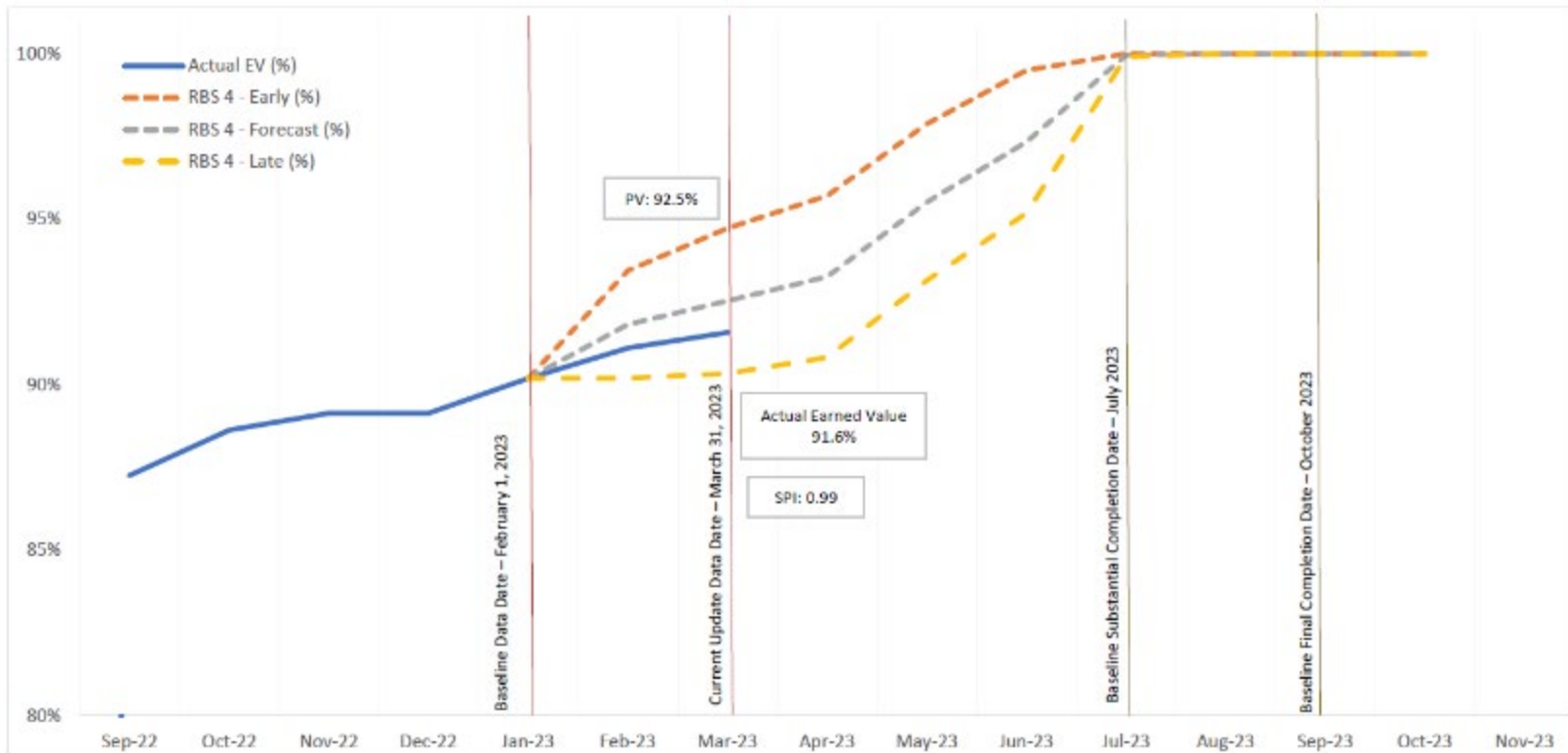


- Construction Package 4 (CP 4) is the third significant construction contract executed on the Initial Operating Section
- 22-mile stretch bounded by a point approximately one mile north of the Tulare/Kern County Line at the terminus of Construction Package 2-3 and Poplar Avenue to the south
- Will include construction of at-grade, retained fill and aerial sections of the high-speed rail alignment.
- **Substantial completion expected Summer 2023.**

Central Valley Update

Construction Package 4

Earned Value



Notes:

1. Forecast periods are based on a revised forecast as of April 1, 2023. The baseline schedule finalization is under negotiation with the contractor.
2. Earned Value represents physical progress of site activities, which is based on project team verification of site progress measurements.
3. Time contingency is not included in these forecasts. This is Authority owned contingency.
4. The schedule update received shows Substantial Completion in August 2023. Reviews and mitigation opportunities are being investigated with the Contractor to bring this date back to July 2023.

Central Valley Update

Construction Package 4

		CP 4
	Authority Approved Design Completed	100%
	Right-Of-Way Parcels Delivered to DB	96%
	Utility Relocation Complete/In-Progress	84%
	Structures Complete/In Progress	100%
	Miles of Guideway Complete/In Progress	100%
	Overall Contract	90%



Data Date: 3/31/2023

McCombs Avenue

Central Valley Update

Construction Package 4

Primary Risk Areas – Unmitigated Risks Could Adversely Affect Schedule

1. Resolution of design issues impacting construction of Semitropic conflicts.

Risk Mitigations Underway

1. Semitropic - Executed agreement with Semitropic in August 2021 to execute design approvals and ROW acquisition.

Status Update: Seven of eight utility designs have been approved for construction by Semitropic. Final approval is imminent.

Central Valley Update

Construction Package 4

High Level Utility Summary

Status	Number	Percentage
Total Utilities Not Started	23	16%
Total Utilities in Progress	13	9%
Total Utilities Relocated	107	75%
Total Utilities	143	100%

Data Date: 3/31/2023

Central Valley Update

Construction Package 4

Utility Relocation Summary by Utility Type

Utility Type	Status	Number	Percentage
Electric	Not Started	2	3%
	In Progress	6	10%
	Relocated	54	87%
	Total Electric Utilities	62	100%
Gas	Not Started	0	0%
	In Progress	0	0%
	Relocated	7	100%
	Total Gas Utilities	7	100%
Telecom	Not Started	0	0%
	In Progress	4	12%
	Relocated	29	88%
	Total Telecom Utilities	33	100%
Wet	Not Started	21	51%
	In Progress	3	7%
	Relocated	17	42%
	Total Wet Utilities	41	100%

Data Date: 3/31/2023



Construction Package 1

Central Valley Update

Construction Package 1

Belmont Avenue



- 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 19 grade separations, 3 viaducts (a major river crossing over the San Joaquin River) and 2 trenches.
- **Estimated substantial completion 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

78%



Structures
Complete/In Progress

79%



Miles of Guideway
Complete/In Progress

63%



Overall Contract

65%



Data Date: 3/31/2023

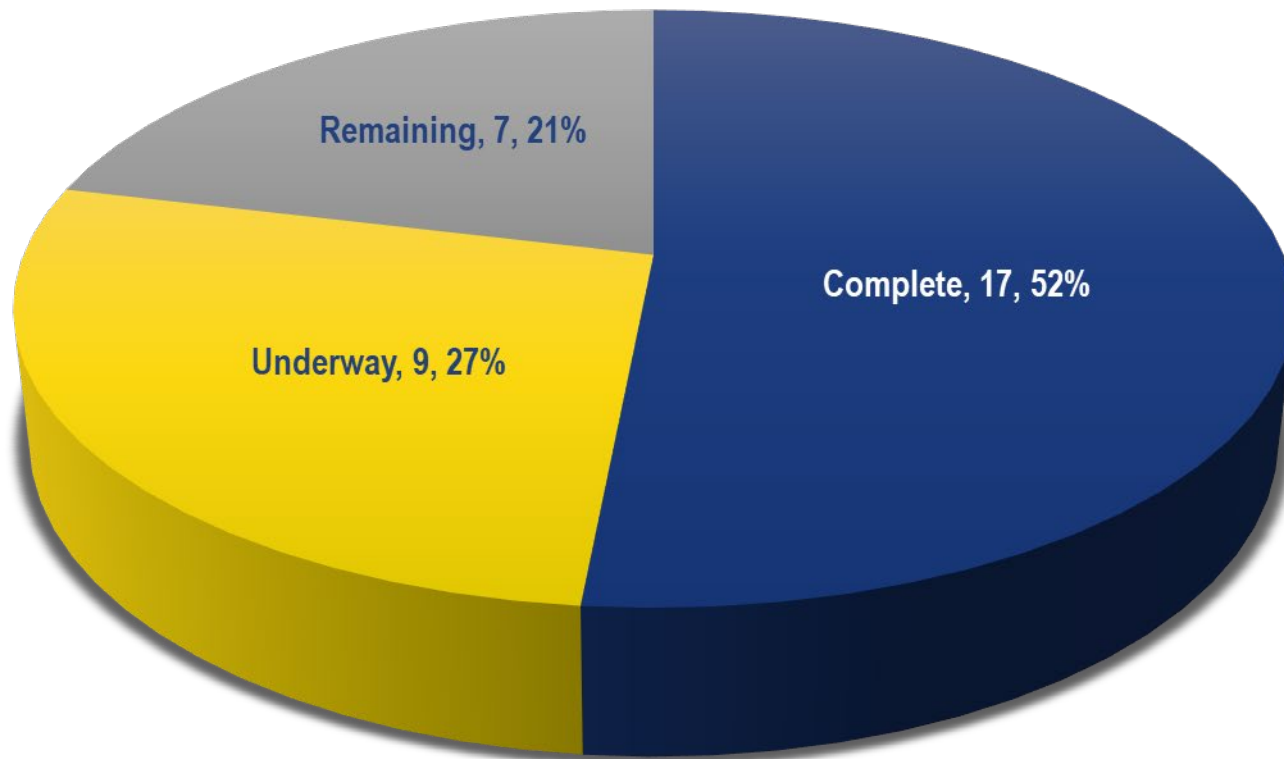
Cedar Viaduct

Central Valley Update

Construction Package 1

Number of Structures in Progress

- » Total Structures: 33
- » By end of 2023, a total of 3 additional structures will have commenced construction, and 1 additional will be completed for a total of 18 structures complete.



Structure completion is defined as all concrete work complete

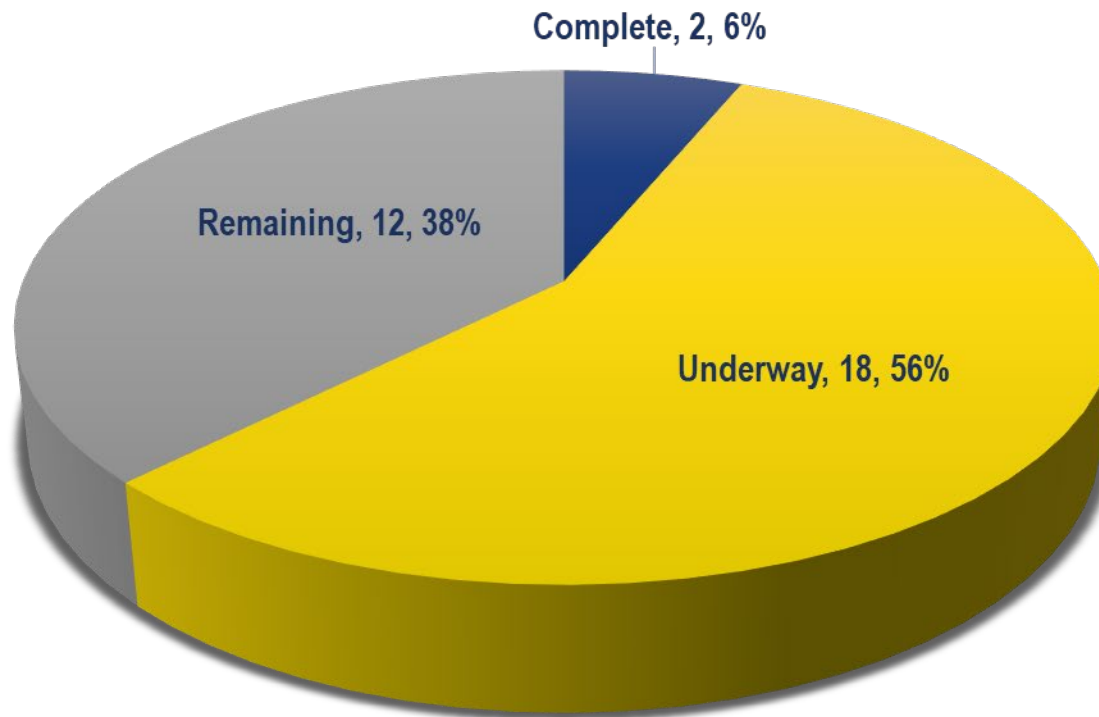
Data Date: 3/31/2023

Central Valley Update

Construction Package 1

Miles of Guideway in Progress

- » Guideway is the riding surface that will support and physically guide the high-speed train.
 - *Total Guideway Miles: 32*



Guideway completion is defined as earthworks complete with rough grading.

Data Date: 3/31/2023

Central Valley Update

Construction Package 1

Primary Risk Areas – Unmitigated Risks Could Adversely Affect Schedule

1. Delays with City of Fresno (COF) approvals regarding road closures.
2. Construction progress delays due to spring snow melt impacts on Fresno Irrigation District (FID) dry-up windows.
3. Delays with railroad submittal approvals (i.e., crossing applications / work plans / design packages).
4. Significant utilities requiring third party approvals and participation could impact construction delivery schedules.

Risk Mitigations Underway

1. Partnered with COF to close Church Avenue for 2 ½ years to achieve schedule.
2. Close coordination with FID at Dry Creek to understand flows and develop a mitigation plan for water diversions needed to allow construction to proceed.
3. Conducted partnering meetings (including escalation ladder) and executive engagement with UPRR to enhance relationships, outline project priorities, and completion schedule.
4. Engaging with third-party executives and management teams to host partnering workshops focused on process improvements and relationship building with AT&T, PG&E, and railroads to improve communications and review and approval processes, etc.

Central Valley Update

Construction Package 1

High Level Utility Summary

Status	Number	Percentage
Total Utilities Not Started	218	22%
Total Utilities in Progress	303	31%
Total Utilities Relocated	471	47%
Total Utilities	992	100%

Data Date: 3/31/2023

Central Valley Update

Construction Package 1

Utility Relocation Summary by Utility Type

Utility	Status	Number	Percentage
Electric	Not Started	93	43%
	In Progress	23	11%
	Relocated	99	46%
	Total Electric Utilities	215	100%
Gas	Not Started	25	28%
	In Progress	22	24%
	Relocated	44	48%
	Total Gas Utilities	91	100%
Telecom	Not Started	46	11%
	In Progress	153	37%
	Relocated	216	52%
	Total Telecom Utilities	415	100%
Wet	Not Started	54	20%
	In Progress	105	39%
	Relocated	112	41%
	Total Wet Utilities	271	100%

Data Date: 3/31/2023



Construction Package 2-3



Central Valley Update

Construction Package 2-3

Conejo Viaduct



- 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 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

95%



Utility Relocation
Complete/In-Progress

71%



Structures
Complete/In Progress

67%



Miles of Guideway
Complete/In Progress

74%



Overall Contract

67%



Hanford Viaduct

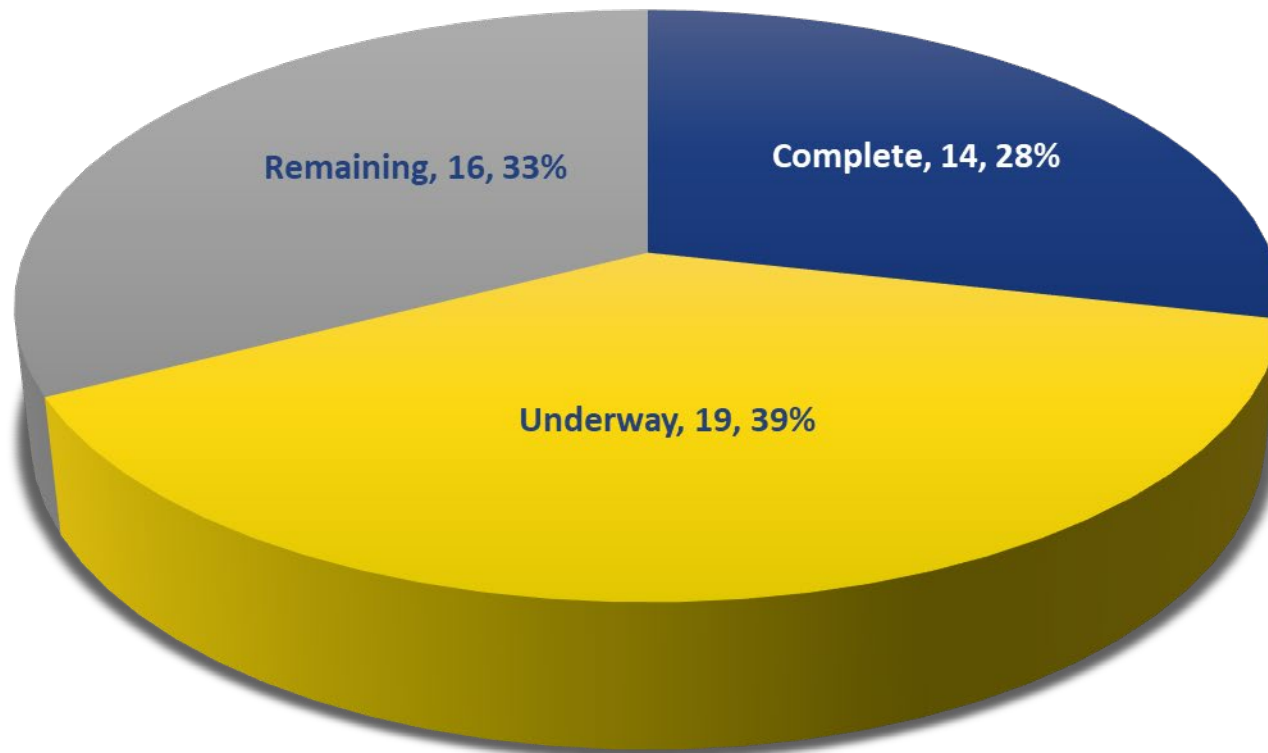
Data Date: 3/31/2023

Central Valley Update

Construction Package 2-3

Number of Structures in Progress

- » Total Structures: 49
- » **By end of 2023, 8 additional structures will begin construction, and 7 additional structures will be completed.**



Structure completion is defined as all concrete work complete.

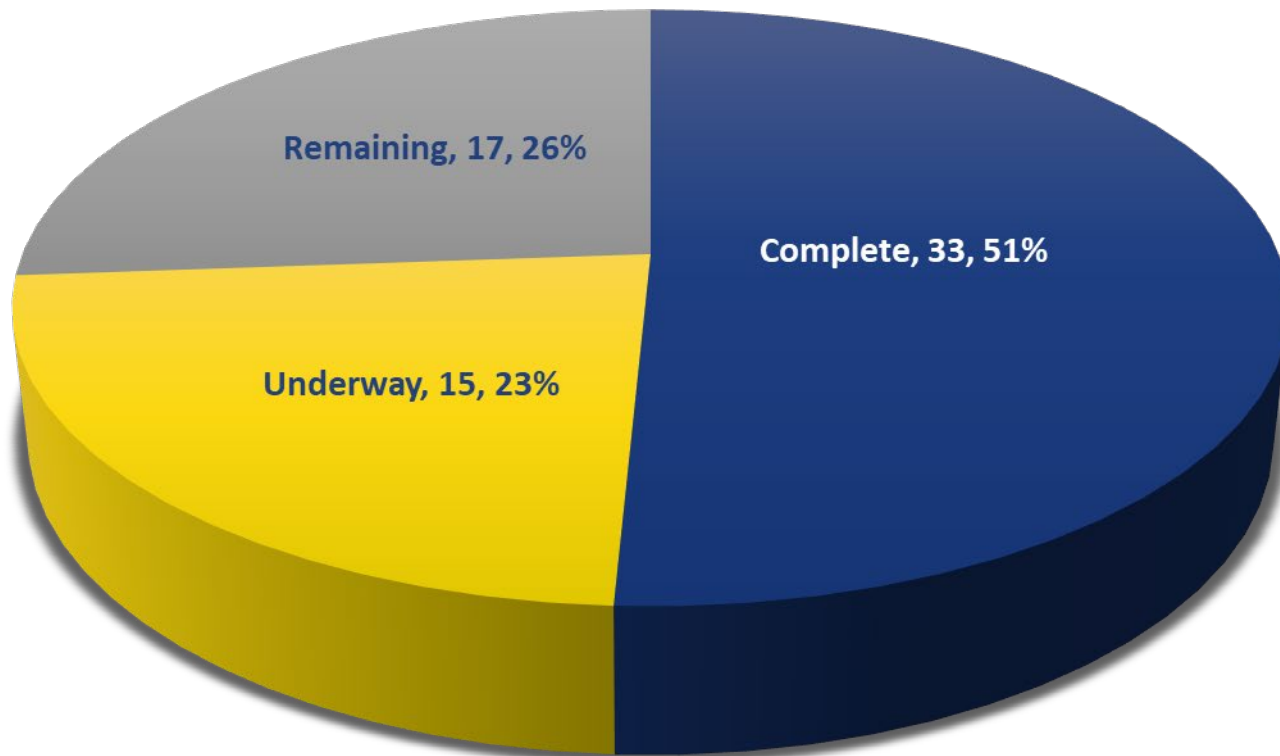
Data Date: 3/31/2023

Central Valley Update

Construction Package 2-3

Miles of Guideway in Progress

- » Guideway is the riding surface that will support and physically guide the high-speed train.
 - *Total Guideway Miles: 65*



Guideway completion is defined as earthworks complete with rough grading.

Data Date: 3/31/2023

Central Valley Update

Construction Package 2-3

Primary Risk Areas – Unmitigated Risks Could Adversely Affect Schedule

1. Delays with right-of-way (ROW) Acquisition for critical utility relocations (electric transmission and irrigation).
2. Delays with Third-Party design reviews/approvals, negotiation of work windows (irrigation season, transmission black-out periods, railway moratoriums), and negotiation of maintenance agreements.

Risk Mitigations Underway

1. Working to finalize ROW for utility relocations.
Status Update: Actively pursuing the remaining acquisitions impacting utility relocations. 95% of parcels overall have been delivered to the Design-Builder.
2. Established Third-Party Task Force for more focused effort to negotiate resolutions.
Status Update: 96% of issues resolved by the Third-Party Task Force for CP1-4.

Central Valley Update

Construction Package 2-3

High Level Utility Summary

Status March 31, 2023	Number March 31, 2023	Percentage March 31, 2023
Total Utilities Not Started	201	29%
Total Utilities in Progress	60	8%
Total Utilities Relocated	440	63%
Total Utilities	701	100%

Central Valley Update

Construction Package 2-3

Utility Relocation Summary by Utility Type

Utility	Status March 31, 2023	Number March 31, 2023	Percentage March 31, 2023
Electric	Not Started	115	30%
	In Progress	52	13%
	Relocated	217	57%
	Total Electric Utilities	384	100%
Gas	Not Started	12	44%
	In Progress	0	0%
	Relocated	15	56%
	Total Gas Utilities	27	100%
Telecom	Not Started	43	19%
	In Progress	3	1%
	Relocated	187	80%
	Total Telecom Utilities	233	100%
Wet	Not Started	31	54%
	In Progress	5	9%
	Relocated	21	37%
	Total Wet Utilities	57	100%



CP 2-3 Storm/Flooding Impacts



Central Valley Update

CP1-4 Storm/Flood Impacts

- Significant weather in the Central Valley caused heavy rainfall and snowpack buildup in March 2023.
- Approximately 30 miles of alignment impacted.
- Authority partnered with Tulare and Kings County, and local agencies to provide support to impacted communities.



Central Valley Update

CP 2-3 Storm/Flood Impacts

March 15, 2023

Deer Creek Viaduct Construction



Central Valley Update

CP 2-3 Storm/Flood Impacts

March 28, 2023

Deer Creek Viaduct Construction



Central Valley Update

CP 2-3 Storm/Flood Impacts

April 26, 2023

Deer Creek Viaduct Construction



Central Valley Update

CP 2-3 Storm/Flood Impacts

Storm/Flooding Impacts

- 11 sites halted/delayed due to flooding/significant water flows.
 - » 1 site has resumed construction
 - » 6 sites expected to resume construction by June 2023
 - » 4 sites expected to resume construction by September 2023
- 7 irrigation facility relocations impacted.
- Coordinating with Local Water Agencies on available work windows/mitigations to resume construction and reduce delays.
- Long term impacts under evaluation.
- Coordinating with Department of Water Resources to aid in our planning and mitigation efforts.

Central Valley Update

CP1 & 4 Storm/Flood Impacts

CP 1 Flooding Impact

- No significant impacts to construction sites.
 - » Impact limited to Dry Creek.

CP 4 Flooding Impact

- No significant impacts to construction.
 - » Coordinating with Semitropic Water Storage District on available work windows.
 - » Work window reduced due to flood releases.

Central Valley Update

CP 2-3 Storm/Flood Impacts

Assistance provided to impacted communities in Tulare/Kings County:

- Avenue 56 HSR embankment to create an elevated roadway to maintain access to the Community of Alpaugh in Tulare County.
- Reopened Whitley Avenue to be used as an evacuation route for the Community of the City of Corcoran in Kings County.
- Utilized k-rail for road closures in Kings County.
- DFJV's equipment utilized to repair levees.
- Defer Angiola Canal Irrigation relocation.
- Made HSR excess land available for evacuation of livestock.
- HSR right of way utilized for BNSF staging area.

Questions?



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