

Caltrans/CTC June 2023 Project Delivery Workshop

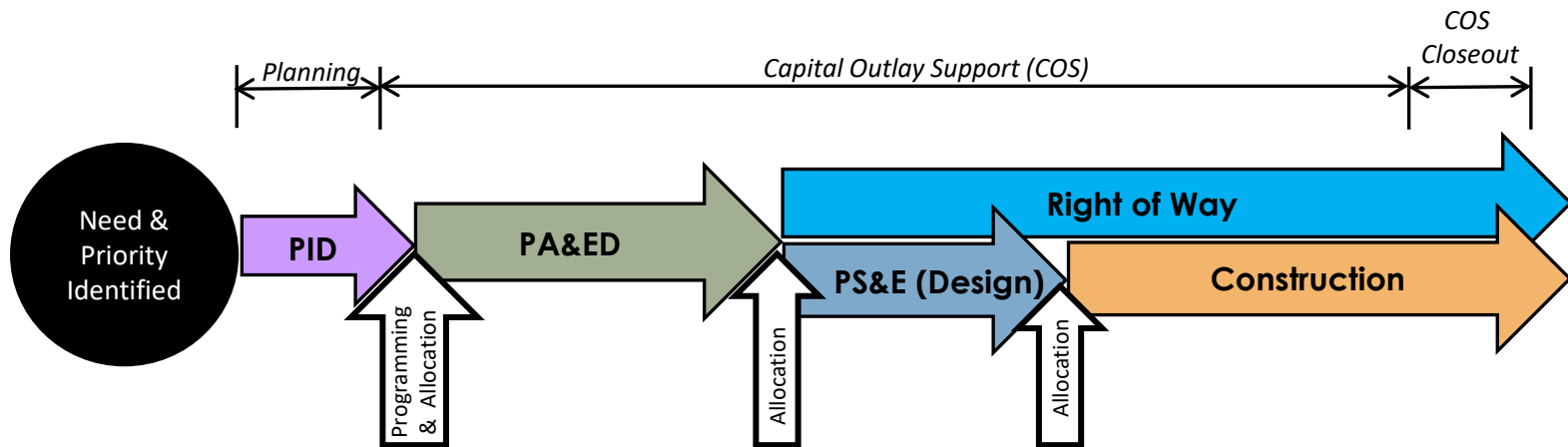
PROJECT DELIVERY AND CHANGE MANAGEMENT

Presented by:
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Division Chief, Project Management – Caltrans

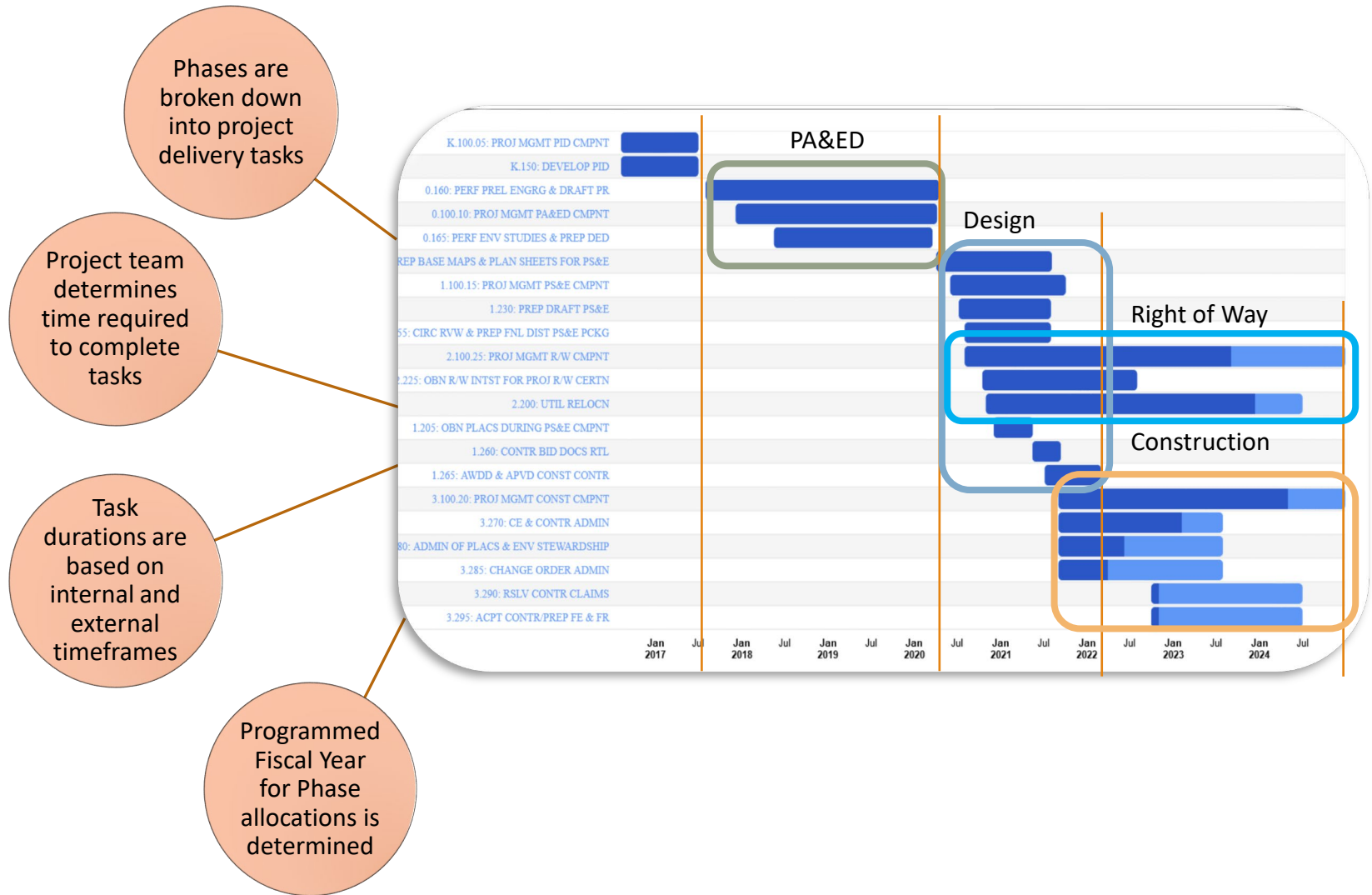
What Will Be Covered

- Project Delivery – Project Development and Risks Perspective
- Scheduling – Planning, Execution, and Risk Management
- Estimating – Process, Timing, and Risk Management Tools

Phases of Project Development



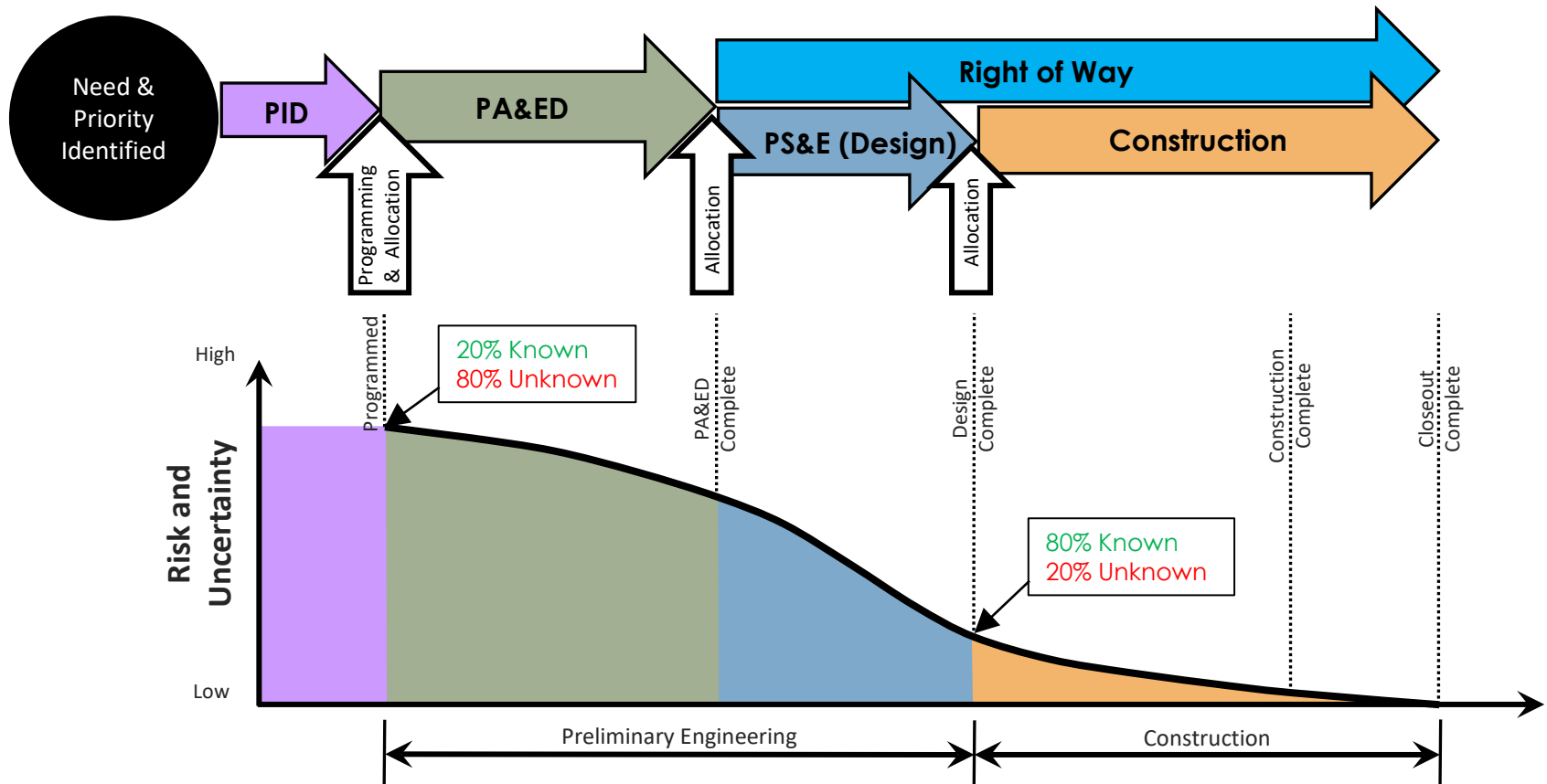
Project Delivery Tasks Drive the Schedule



Caltrans Approach to Project Risk

- Acknowledge there is inherent uncertainty in projects
- Take “reasonable and intelligent” risks and put dollars to work
- Each project utilizes a Risk Register
- Risks that may impact programming are included in the Watch List
- Manage all risks to reduce negative impacts and increase positive impacts

Phases of Project Development w/Risk



Schedule Risks and Uncertainty

PROJECT APPROVAL AND ENVIRONMENTAL DOCUMENT

- Obtaining Engineering and Environmental Studies data
- Providing Survey Data
- Requested Scope addition
- Changes to Environmental Footprint

DESIGN

- Permit requirements require design changes.
- Unanticipated scoping changes
- Coordination with Adjacent or Overlapping Projects

RIGHT OF WAY

- Utility Reviews and Relocation
- Railroad Agreements and Approvals
- Property Negotiations (Entry or Acquisition)

CONSTRUCTION

- Site Conditions
- Weather (# of Seasons)
- Logistics of Materials
- Adjacent/Overlapping Projects

Tools for Managing Schedule Risks

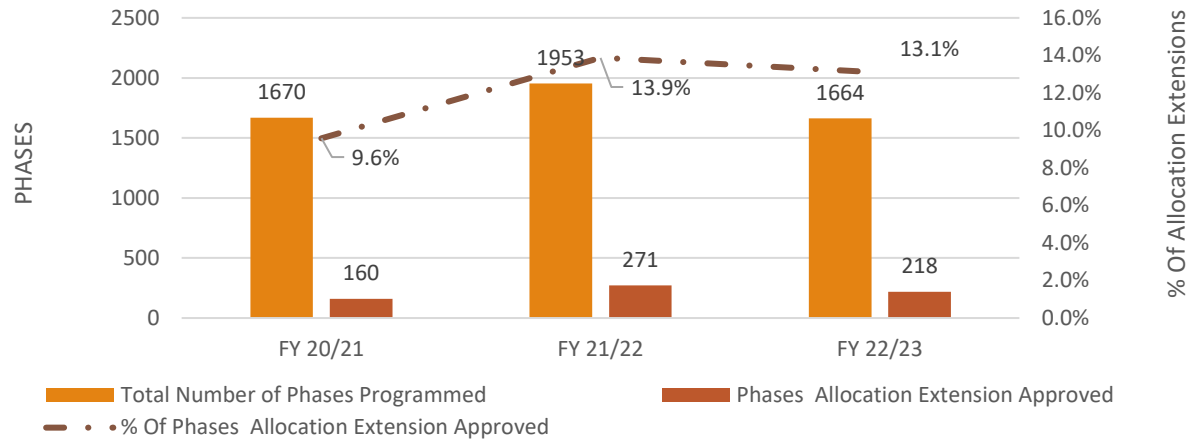
- Adjusting resources or scope.
- Adjusting the task in which the work is done
- Programming adjustments (unallocated and outside the FY of allocation)
- Time Extensions (allocated or in the FY of allocation):
 - “Allocation Time Extension” – Tab 2.8a
 - “Contract Award Time Extension” – Tab 2.8b
 - “Project Completion Time Extension” – Tab 2.8c
 - To complete construction or construction support
 - “Project Development Expenditure Time Extension” – Tab 2.8d
 - To begin expenditures or complete a phase other than construction

Use of Time Extensions

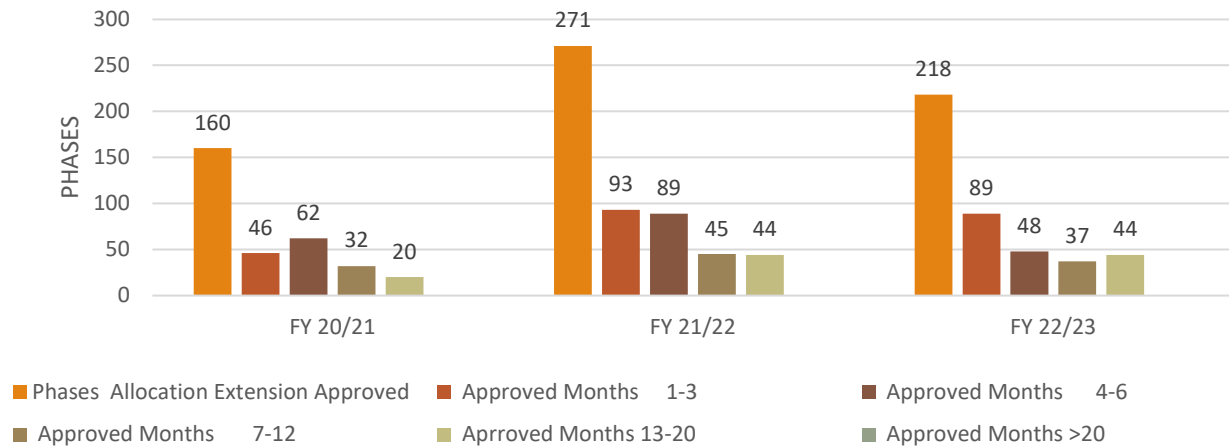
Allocation Time Extensions

Requested when the start of the phase needing an allocation is delayed outside of the fiscal year due to a schedule risk being triggered.

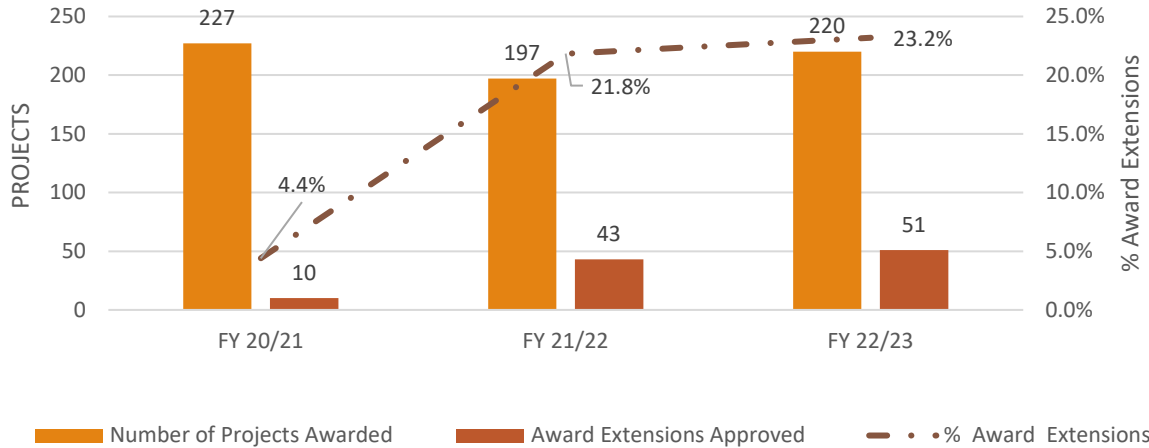
PHASES PROGRAMMED VS ALLOCATION EXTENSION REQUESTED



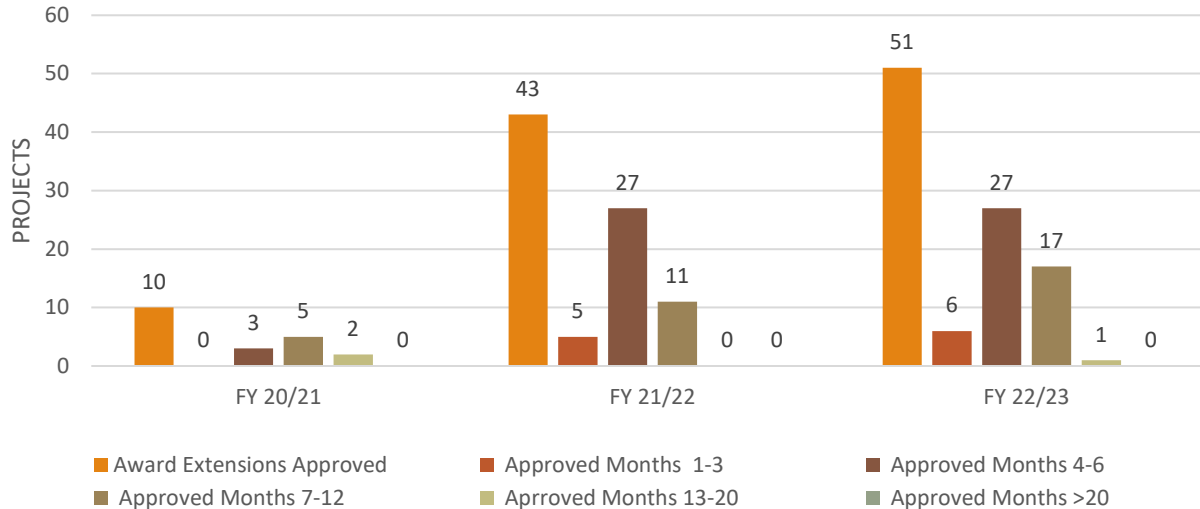
BREAKDOWN OF EXTENSIONS APPROVED BY NUMBER OF MONTHS



PROJECTS AWARDED VS AWARD EXTENSIONS REQUESTED



BREAKDOWN OF EXTENSIONS APPROVED BY NUMBER OF MONTHS



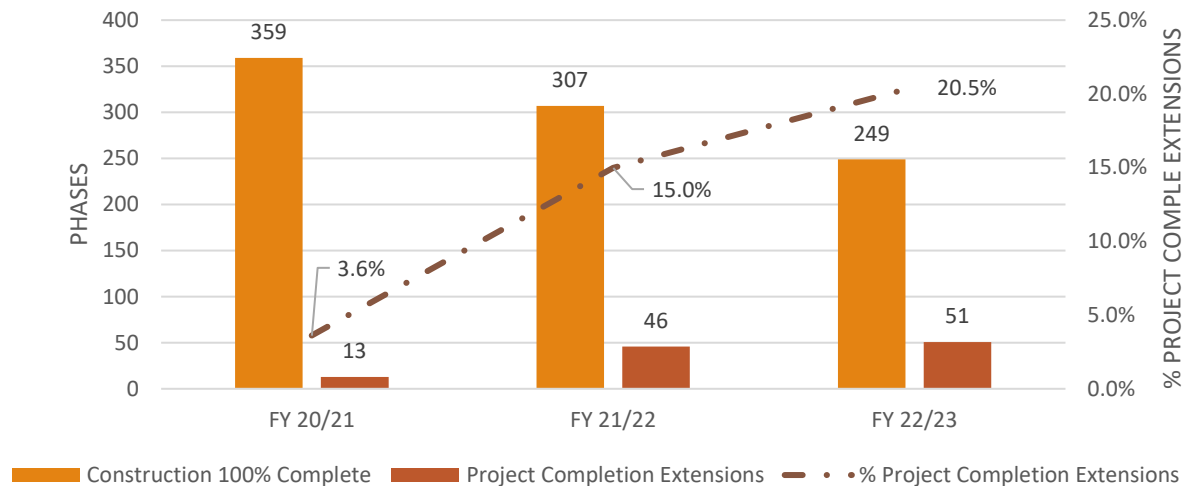
Contract Award Time Extensions

These are used when a risk related to the timing of project award occurs and causes the duration between the construction allocation and the award to go beyond the six months allowed.

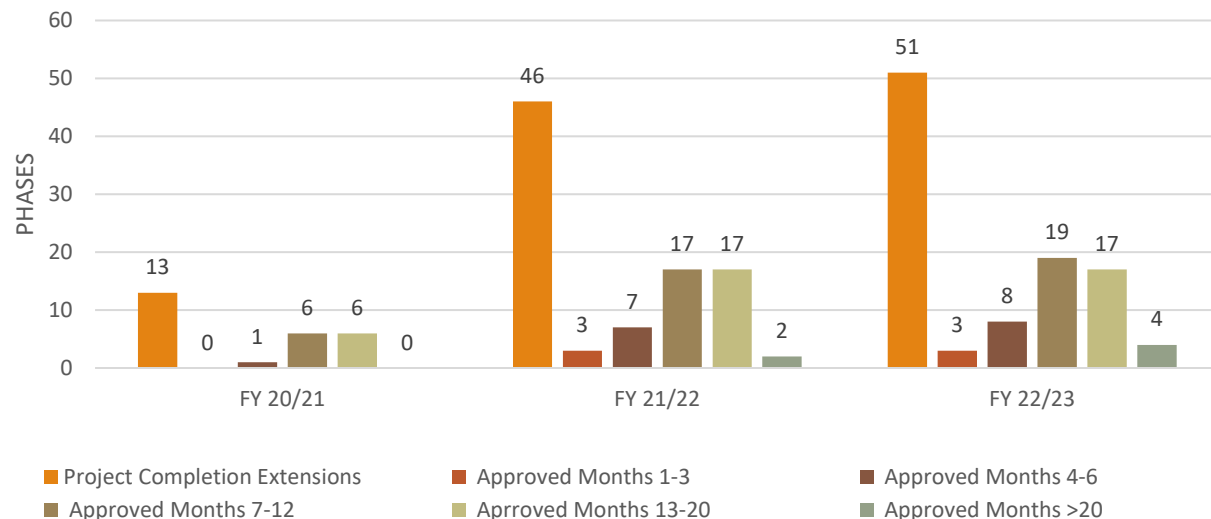
Project Completion Time Extensions

Requested when triggered risks cause the completion of the Construction to extend beyond the allowed 36 months, or approved duration of construction given at allocation vote.

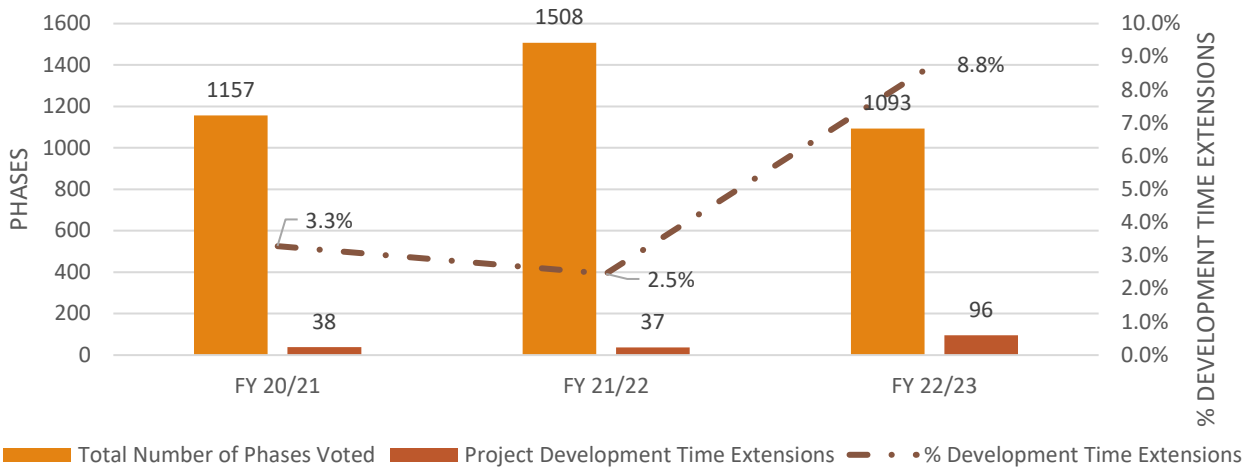
PROJECTS COMPLETED VS COMPLETION EXTENSION APPROVED



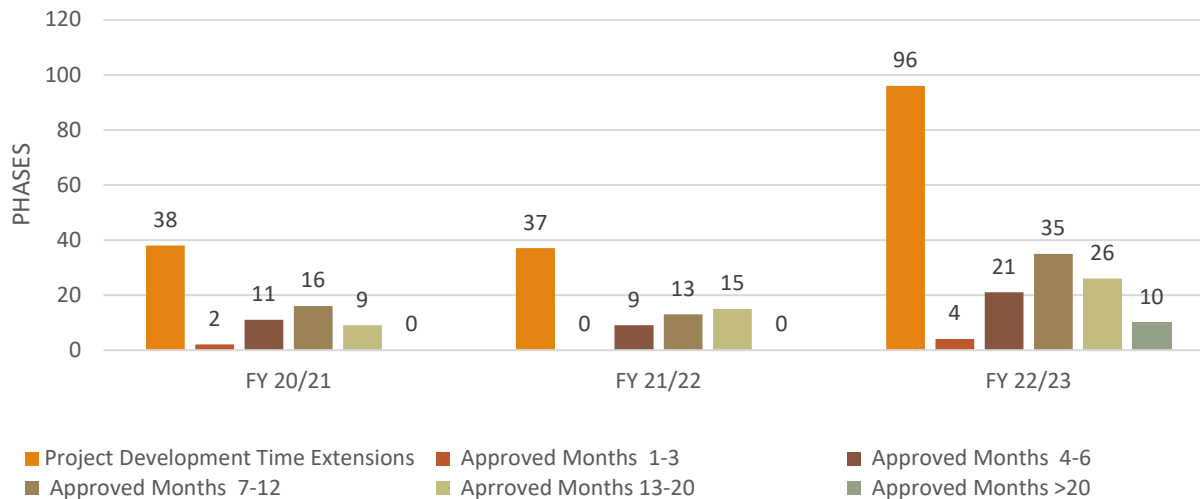
BREAKDOWN OF EXTENSIONS APPROVED BY NUMBER OF MONTHS



PROJECT PHASES VOTED VS TIME EXTENSION REQUESTED



BREAKDOWN OF EXTENSIONS APPROVED BY NUMBER OF MONTHS



Project Development Expenditure Time Extensions

These are used in two instances:

1. When a risk triggers after the phase is allocated and prevents us from being able to work on (expend against) the phase before six months.
- OR
2. When a risk triggers during the allocated phase and we need to work beyond the allocated time. (36 months by default).

Timely Use of Funds Improvements

The time required to establish the data sources and code the guidelines into the improved reporting has taken longer than anticipated.

We have:

- Established data systems of record for use in report generation.
- Established interim data collection tools to better share data between the involved functions Caltrans (Districts, Financial Programming and Project Management).
- Continue to meet and review data and potential issues with Districts and commission staff.

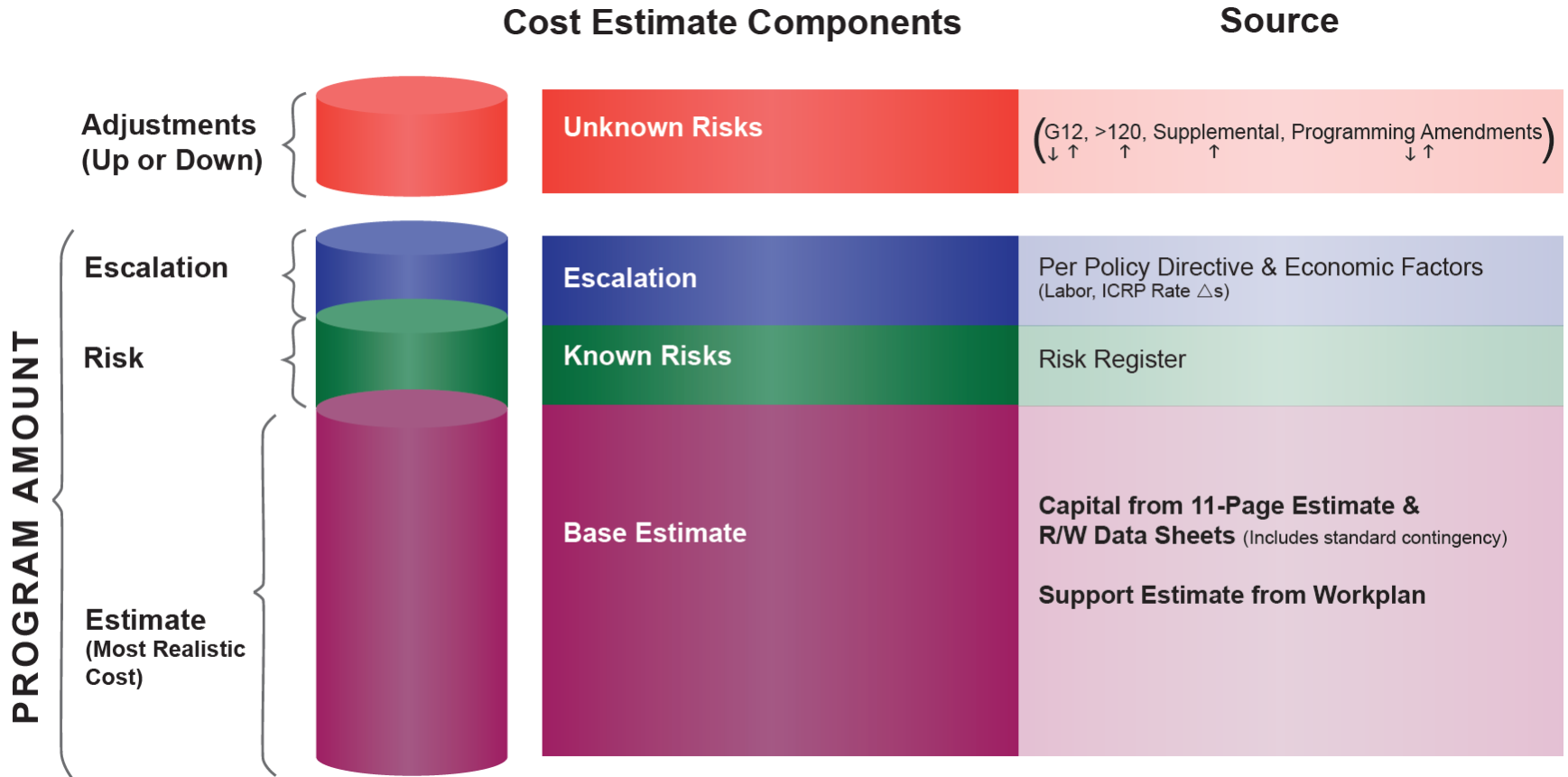
	District	PPN	EA	Project	Program	Implementing Agency	TUF Category	Phase	Original Deadline	Requested Month	Approved Month	Extended Deadline	CTC Meeting Date	Ref	Entered by
3	04	0040	1683	041000035	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	Con(Sup and Cap)	8/31/2021	6	6	4/30/2022	8/16/2018	2.5b.(1)	SHOPP
4	05	2548	1750	051000050	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	Con(Sup and Cap)	8/31/2021	48	48	8/31/2025	8/16/2018	2.5b.(1)	SHOPP
5	05	2673	11620	0516000104	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	Con(Sup and Cap)	8/31/2021	48	48	8/31/2025	8/16/2018	2.5b.(1)	SHOPP
6	05	2454	13680	051300019	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	Con(Sup and Cap)	8/31/2021	48	48	8/31/2025	8/16/2018	2.5b.(1)	SHOPP
7	05	2426	13621	051700082	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	8/31/2024	20	20	4/30/2026	8/16/2018	2.5b.(b)	SHOPP
8	05	2426A	13622	051700083	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	8/31/2024	20	20	4/30/2026	8/16/2018	2.5b.(b)	SHOPP
9	05	2426C	13623	051700084	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	8/31/2024	20	20	4/30/2026	8/16/2018	2.5b.(b)	SHOPP
10	12	4793	01890	121300037	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	10/31/2024	81	81	7/31/2031	10/18/2018	2.5b.(2a)	SHOPP
11	05	2392	13420	051200041	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	10/31/2024	16	16	2/28/2028	10/18/2018	2.5b.(2b)	SHOPP
12	05	2870	16100	051800022	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	12/31/2024	12	12	12/31/2025	12/16/2018	2.5b.(2a)	SHOPP
13	12	4792	03360	121600033	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	12/31/2024	78	78	6/30/2031	12/6/2018	2.5b.(2b)	SHOPP
14	04	0490C	01570	041600014	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	Con(Sup and Cap)	1/31/2022	84	84	1/31/2028	1/31/2019	2.5b.(1)	SHOPP
15	05	2631	14000	051600011	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	1/31/2025	4	4	5/31/2025	1/31/2019	2.5b.(2b)	SHOPP
16	05	2630	13390	051600009	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	1/31/2025	18	18	7/31/2026	1/31/2019	2.5b.(2b)	SHOPP
17	02	3826	14720	021600033	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	3/31/2025	24	24	3/31/2027	3/14/2019	2.5b.(2a)	SHOPP
18	05	2765	13780	051800035	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	3/31/2025	24	24	3/31/2027	3/14/2019	2.5b.(2a)	SHOPP
19	12	4218	01030	121500024	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	3/31/2025	76	76	7/31/2031	3/14/2019	2.5b.(2a)	SHOPP
20	12	4373	03450	121700042	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	3/31/2025	3	3	6/30/2025	3/14/2019	2.5b.(2a)	SHOPP
21	05	2851	14650	051600015	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	3/31/2025	19	19	10/31/2028	3/14/2019	2.5b.(2a)	SHOPP
22	03	6177	01080	031500074	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	Con(Sup and Cap)	3/31/2022	52	52	7/31/2026	3/14/2019	2.5b.(4)	SHOPP
23	03	8912	12060	031200068	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	Con(Sup and Cap)	5/31/2022	24	24	5/31/2024	5/16/2019	2.5b.(1)	SHOPP
24	05	2855	16080	051800018	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	5/31/2025	37	37	6/30/2028	5/16/2019	2.5b.(2a)	SHOPP
25	05	2847	14220	051600041	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	5/31/2025	17	17	10/31/2028	5/16/2019	2.5b.(2a)	SHOPP
26	05	2648	14230	051600042	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	5/31/2025	8	8	1/31/2026	5/16/2019	2.5b.(2a)	SHOPP
27	05	2628	13360	051600006	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	5/31/2025	8	8	1/31/2026	5/16/2019	2.5b.(2a)	SHOPP
28	08	30021	13000	081600017	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	5/31/2025	29	29	10/31/2027	5/16/2019	2.5b.(2a)	SHOPP
29	12	2255	01690	121600003	SHOPP	Caltrans	Allocation - Additional Months Requested at Allocation	RW Sup	5/31/2025	37	37	6/30/2028	5/16/2019	2.5b.(2a)	SHOPP

Cost Estimation

Type of Estimates Used

- Preliminary Estimating
 - Lineal footage/milage
 - Square Footage
 - General assumptions related to permitting and right of way needs
- Hybrid Estimating
 - Quantities based on draft designs combined with more general estimates for incomplete designs
 - Preliminary parcel information and assumptions of impacts to design
 - Draft permitting and third-party impacts to design
- Engineer's Estimate
 - Based on contract package
 - Material quantity take-offs
 - Pricing based on bid item tracking information using actual bid pricing
 - Certified by engineer

Cost Estimating Components



Cost Risks and Uncertainty

PROJECT APPROVAL AND ENVIRONMENTAL DOCUMENT

- Draft Environmental Studies data changes assumptions
- Survey Data changes assumptions
- Requested Scope additions

DESIGN

- Permit requirements require design changes.
- Unanticipated scoping changes.
- Geotechnical data changes assumptions

BIDDING

- Timing of Estimates
- Bidding Market Conditions
- Material Cost Inflation/Availability

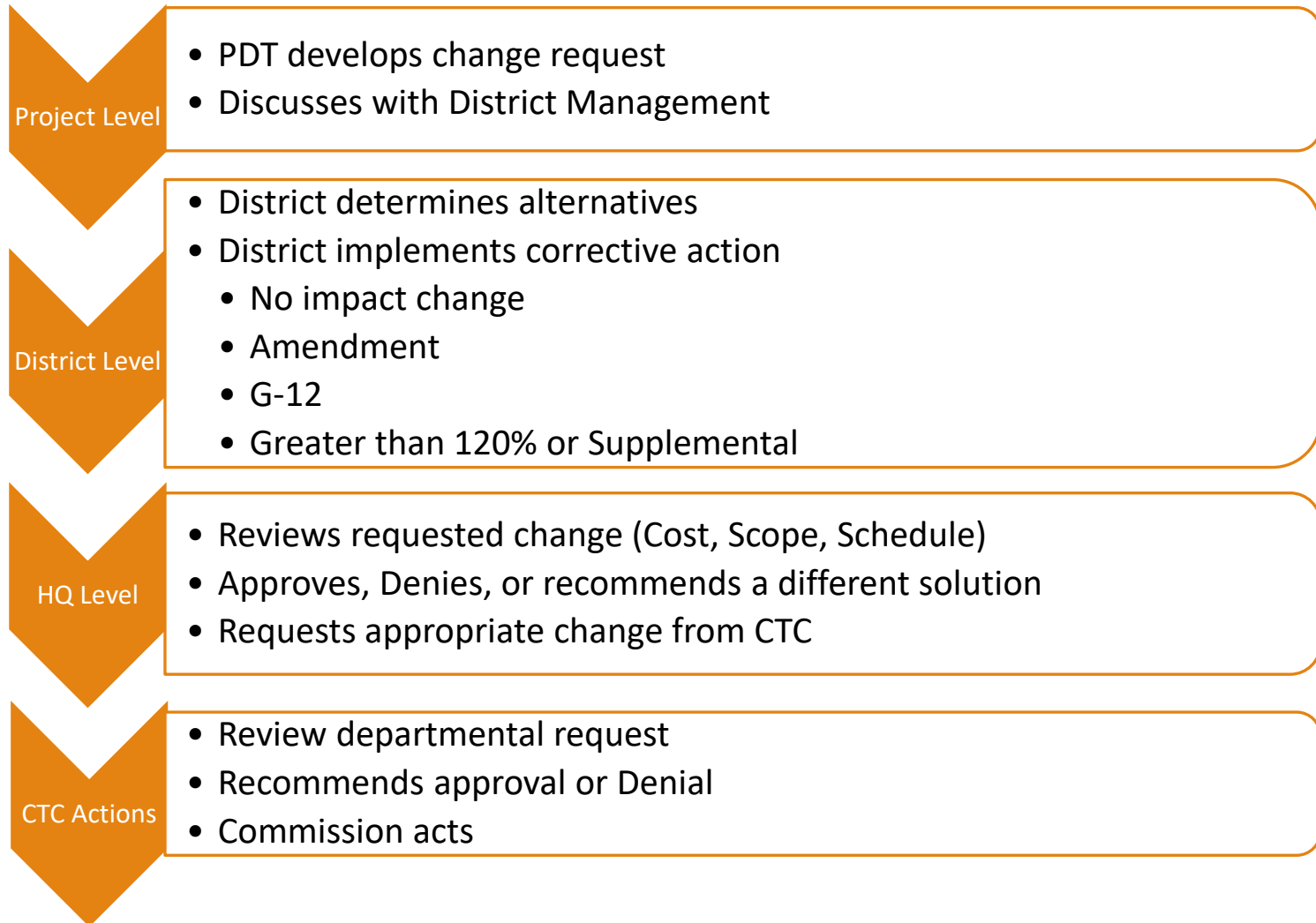
CONSTRUCTION

- Site Conditions
- Weather/Permit requirements (# of Seasons)
- Logistics of Materials
- Adjacent/Overlapping Projects

Tools for Managing Cost Risks

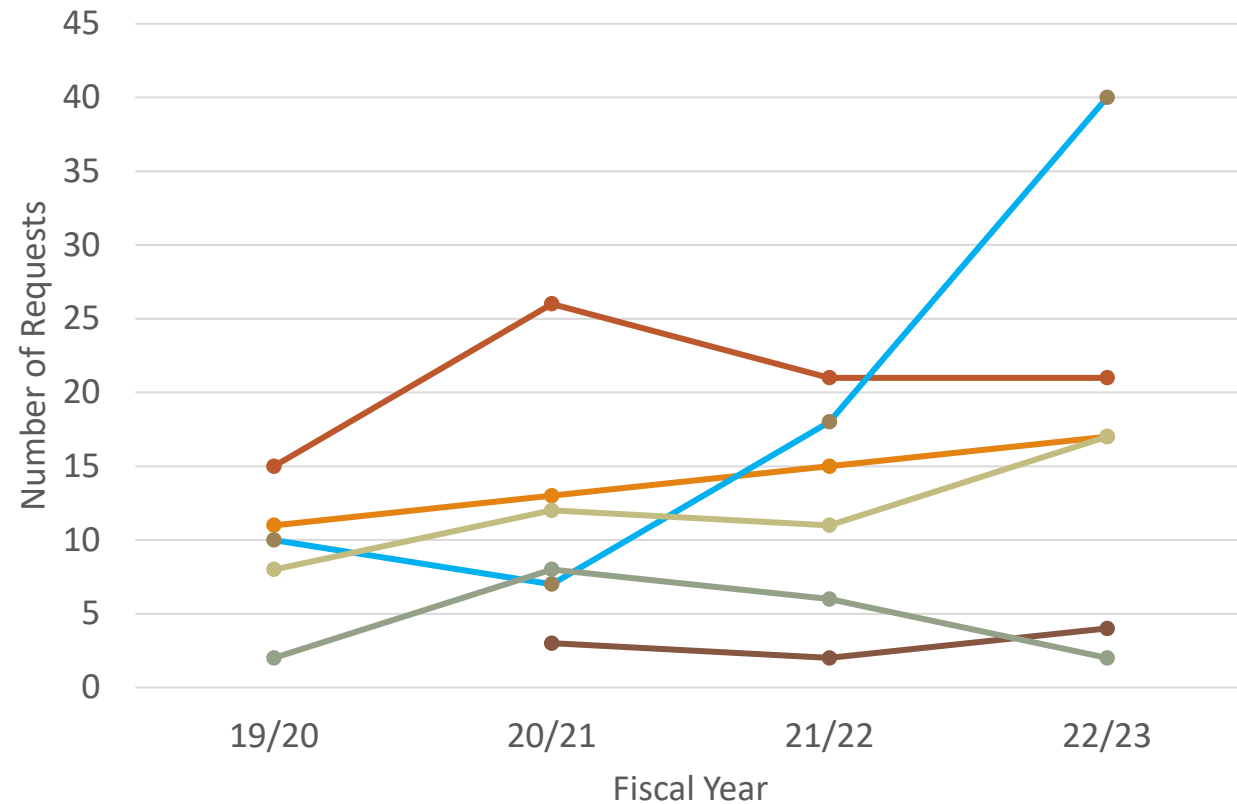
- Adjusting scope and/or design.
- Programming adjustments (unallocated and outside the FY of allocation)
- Greater than 120% Allocation request (unallocated and in FY of allocation)
- G-12 delegation (allocated and within criteria)
- Supplemental funds request (allocated and outside G-12)

Change Management Process



Use of Greater Than 120% and Supplementals

Greater than 120% and Supplemental Funds Requests
Trend of Number of Requests



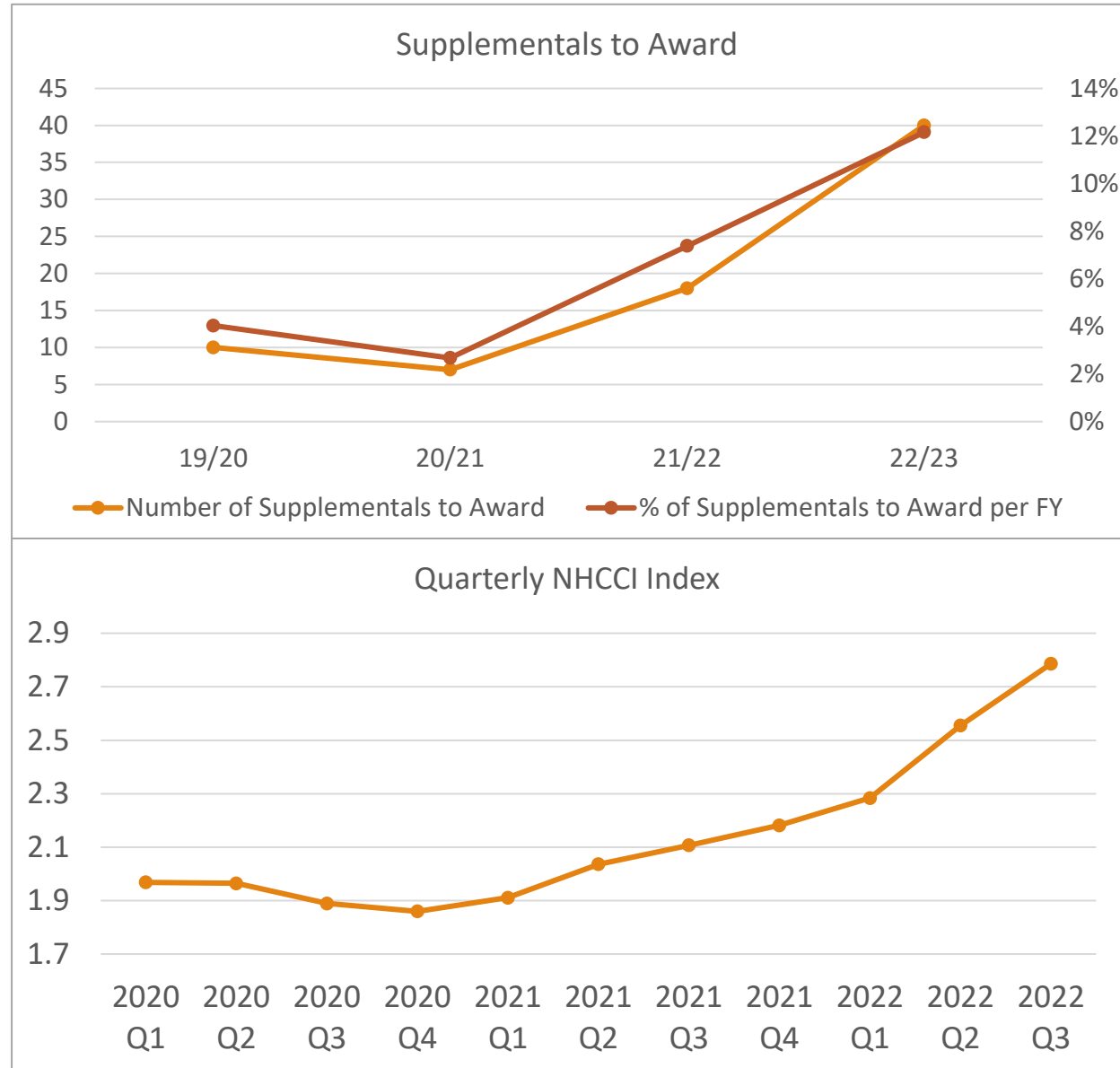
—● Greater than 120% —● COS —● Re-advertise
—● Award —● Complete Construction —● Closeout

Trending of Greater than 120% and Supplemental Requests

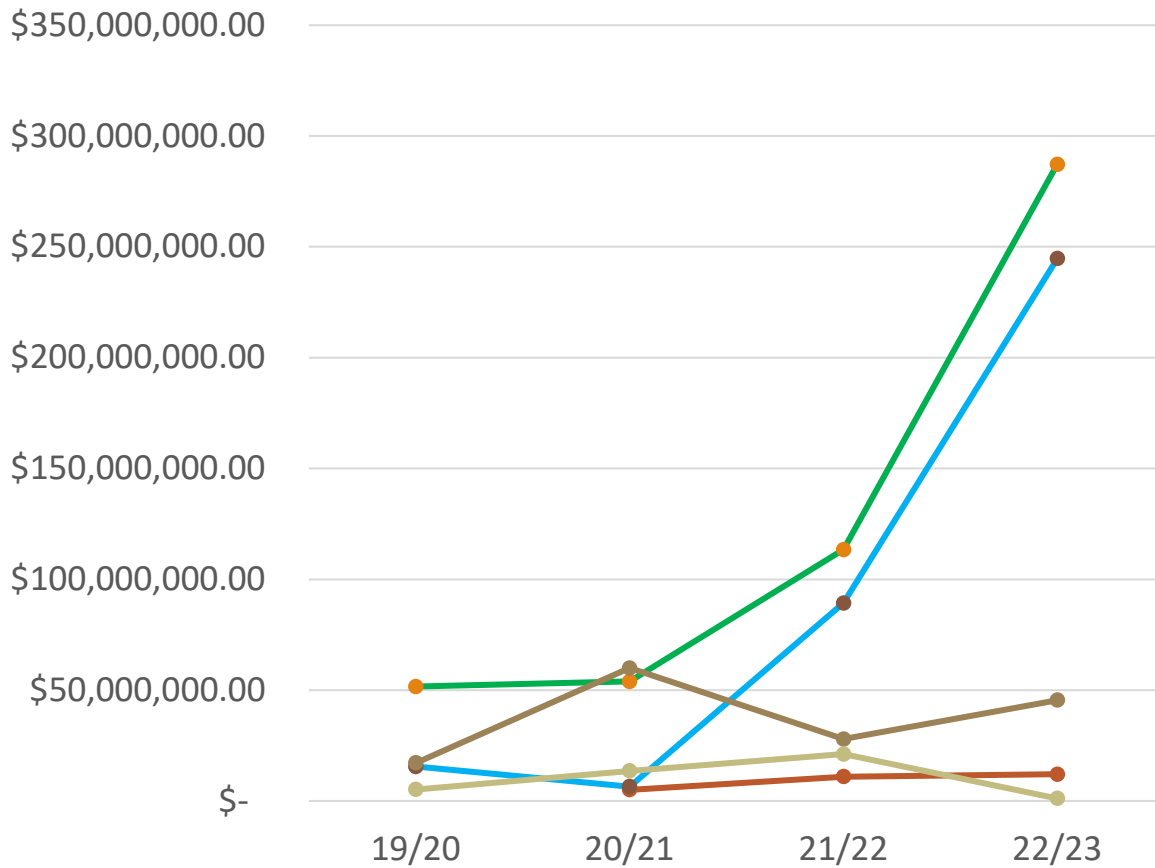
The number of Supplementals to Award has increased sharply over the last couple of years

Deeper Dive into Supplementals to Award

Comparing the trend of the number of Supplementals to Award and the Quarterly National Highway Construction Cost Index, shows very similar trending.



Greater than 120% and Supplemental \$ Totals by FY



● Greater than 120
 ● Re-advertise
 ● Award
 ● Complete Construction
 ● Closeout

Dollar Totals of Greater than 120% and Supplementals by FY

Dollar amounts for the Greater than 120% and Awards continues to follow the Construction Index trending.

Project Cost Risk Management

By using Project Management principles to manage risks and projects changes, Caltrans minimizes the number of projects that require CTC action

Types of Supplementals

FY	% Re-Advertise	% to Award	% to Complete Construction	% to Closeout
2020-21	1.2%	2.8%	3.2%	2.1%
2021-22	0.7%	6.0%	3.4%	1.9%
2022-23	1.2%	12.2%	7.4%	0.9%

