



SFMTA
Municipal Transportation Agency

SFMTA Cost Controls for Project Lifecycle

05 | 29 | 2013

SAN FRANCISCO, CALIFORNIA



High-Level Process Flow

PROJECT INITIATION

Establish optimized Work Breakdown Structure (WBS);



Develop resource-loaded schedule and line-item budgets;



Obtain written agreements for Work Authorizations;



Allocate funding received to line-item budgets.



ON-GOING PROJECT CONTROLS

Bi-weekly electronic timesheet review and approval;



Daily review of actual labor and non-labor expenditures;



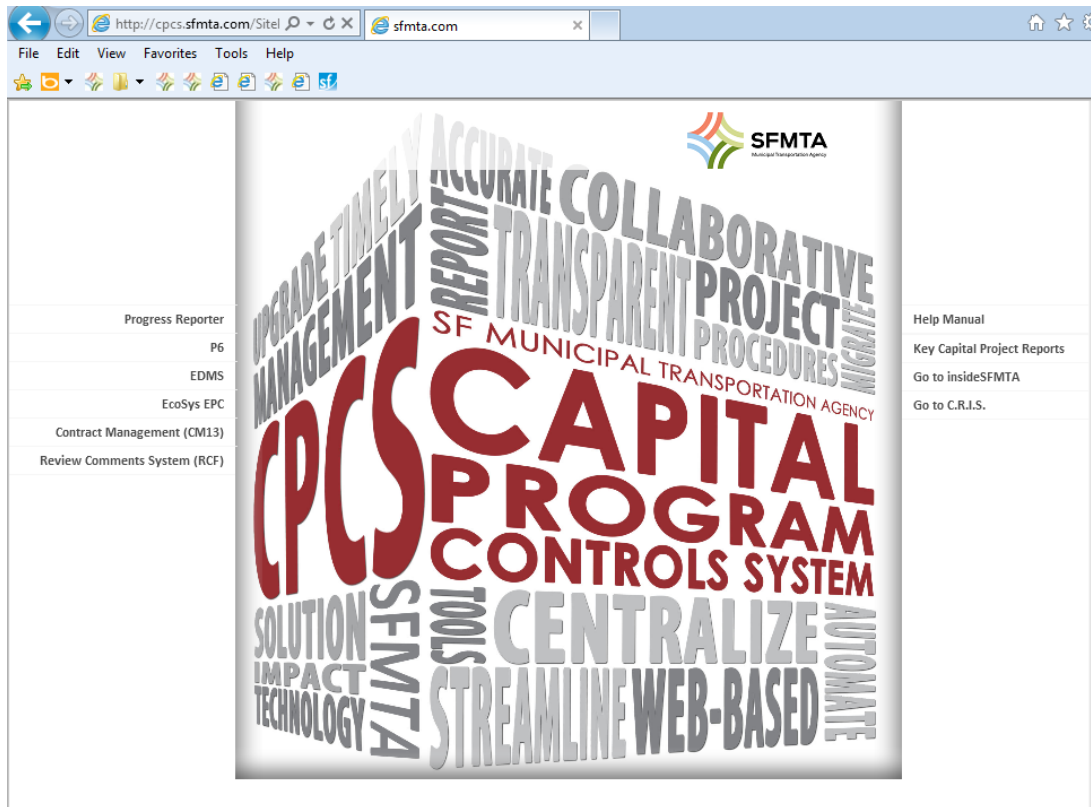
Monthly evaluation of project trends with corrective actions proposed for identified areas of concern.



Strict approval process for revisions to budget or funding.



Capital Program Controls System (**CPCS**)



- Web-Based
- Timely Data
- Integrated Systems
- Consistent
- Collaborative
- Scope / Schedule / Budget Control



Project Initiation

- WBS established in Primavera P6.

Screenshot from P6

WBS Code	WBS Name
CPT6581	Sunset Tunnel Trackway Improvements
CPT6581.1	Conceptual Engineering
CPT6581.2	Detail Design
CPT6581.2.0	Detail Design Milestones
CPT6581.2.1	SFMTA Labor & Other Direct
CPT6581.2.1.1	Project Management - Bond Funded
CPT6581.2.1.2	Engineering Services - Bond Funded
CPT6581.2.1.3	Construction Management
CPT6581.2.1.4	Other Direct Costs - Bond Funded
CPT6581.2.1.6	QA/QC Support - Bond Funded
CPT6581.2.2	Other Support Services
CPT6581.2.2.1	DPW SAR - Bond Funded
CPT6581.2.2.6	SSD Support - Bond Funded
CPT6581.2.2.7	Transit Operations Support
CPT6581.2.9	Contingency
CPT6581.3	Construction
CPT6581.3.0	Construction Milestones
CPT6581.3.1	SFMTA Labor & Other Direct
CPT6581.3.2	Other Support Services
CPT6581.3.4	Contracts & Purchase Orders
CPT6581.3.9	Contingency

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CPT6581.2.1.4	Other Direct Costs - Bond Funded
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CPT6581.2.2	Other Support Services
CPT6581.2.2.1	DPW SAR - Bond Funded
CPT6581.2.2.6	SSD Support - Bond Funded
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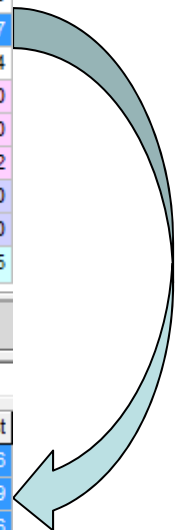


Project Initiation

- Resource-loaded schedule developed to match WBS.

Activity ID	Activity Name	Start	Finish	Remaining Labor Cost
Sunset Tunnel Trackway Improvements				
+	Conceptual Engineering	01-May-12 A	18-Jan-13 A	\$0
-	Detail Design	01-Oct-12 A	24-Oct-13	\$238,940
+	Detail Design Milestones	01-Oct-12 A	24-Oct-13	\$0
-	SFMTA Labor & Other Direct	01-Oct-12 A	24-Oct-13	\$238,940
+	Project Management - Bond Funded	01-Oct-12 A	24-Oct-13	\$50,347
-	Engineering Services - Bond Funded	01-Oct-12 A	24-Oct-13	\$172,491
6581-2123	DD3 - Final Review Document - 95%	01-Oct-12 A	15-Feb-13 A	\$0
6581-2125	DD5 - Final Approval Package	22-Jan-13 A	24-May-13 A	\$0
6581-2128	DD7 - Approvals	19-Feb-13 A	28-Jun-13	\$21,307
6581-2129	DD9 - Bid and Award	01-Jul-13	24-Oct-13	\$151,184
+	Construction Management	01-Oct-12 A	24-Oct-13	\$15,000
+	Other Direct Costs - Bond Funded	01-Oct-12 A	24-Oct-13	\$0
+	QA/QC Support - Bond Funded	01-Oct-12 A	24-Oct-13	\$1,102
+	Other Support Services	01-Oct-12 A	24-Oct-13	\$0
+	Contingency	01-Oct-12 A	24-Oct-13	\$0
+	Construction	25-Oct-13	26-Jan-15	\$1,470,885

General	Status	Resources	Relationships	Codes	Notebook	Steps	Feedback	WPs & Docs	Expenses	Summary
		Activity	6581-2128		DD7 - Approvals					
Role	Resource Name	Budgeted Units	Actual Regular Units	Remaining Units	Remaining Cost					
ME Senior Mechanical Engi	Eng, Foo	32	27	5	\$1,446					
CE Senior Civil Engineer	Wong, Clifton	12	3	16	\$4,629					
CE Civil Engineer	Rudnicki, Mark	32	0	32	\$7,616					
CE Civil Engineer	Fong, Matthew	32	0	32	\$7,616					



* Only resources assigned to activities can charge to project.



Project Initiation

- WBS and forecast labor costs imported into EcoSys from P6.
- Line-item budgets established to match Estimate at Completion for labor and non-labor elements.

Exported from EcoSys EPC

CPCS Budget Variance Report

Project: **CPT6581 Sunset Tunnel Trackway Improvements** PM: **Tess Kavanagh** EPS: **Transit Fixed Guideway**

Project/WBS ID	Project/WBS Name	Baseline Budget	Approved Budget	Allocated Funding	Acutals	Estimate To Complete (ETC)	Estimate at Completion (EAC)	Budget Variance (H=B-G)
CPT6581	Sunset Tunnel Trackway Improvements	\$32,000,000	\$32,000,000	\$0	\$0	\$32,000,000	\$32,000,000	\$375,356
1	Conceptual Engineering	\$200,000	\$200,000	\$0	\$0	\$200,000	\$200,000	(\$75,544)
2	Detail Design	\$2,100,000	\$2,100,000	\$0	\$0	\$2,100,000	\$2,100,000	\$450,900
1	SFMTA Labor & Other Direct	\$1,519,900	\$1,519,900	\$0	\$0	\$1,519,900	\$1,519,900	\$0
1	Project Management - Bond Funded	\$100,000	\$100,000	\$0	\$0	\$100,000	\$100,000	\$0
2	Engineering Services - Bond Funded	\$1,210,000	\$1,210,000	\$0	\$0	\$1,210,000	\$1,210,000	\$0
3	Construction Management	\$15,000	\$15,000	\$0	\$0	\$15,000	\$15,000	\$0
4	Other Direct Costs - Bond Funded	\$189,900	\$189,900	\$0	\$0	\$189,900	\$189,900	\$0
6	QA/QC Support - Bond Funded	\$5,000	\$5,000	\$0	\$0	\$5,000	\$5,000	\$0
2	Other Support Services	\$129,200	\$129,200	\$0	\$0	\$129,200	\$129,200	\$0
1	DPW SAR - Bond Funded	\$99,100	\$99,100	\$0	\$0	\$99,100	\$99,100	\$0
6	SSD Support - Bond Funded	\$20,100	\$20,100	\$0	\$0	\$20,100	\$20,100	\$0
7	Transit Operations Support	\$10,000	\$10,000	\$0	\$0	\$10,000	\$10,000	\$0
9	Contingency	\$450,900	\$450,900	\$0	\$0	\$450,900	\$450,900	\$450,900
3	Construction	\$29,700,000	\$29,700,000	\$0	\$0	\$29,700,000	\$29,700,000	\$0



Project Initiation

- Once funding received, Expenditure Authorization process is followed to allocate funds to line-item budgets.
- For labor line-items, funded activities are marked as ‘Started’ in P6, allowing assigned resources to begin charging to project.
- For DPW and other non-labor line-items, written agreements are obtained that include detailed scope of work, budget, and period of performance.

~ Project Initiation Complete ~



On-Going Project Controls

Timesheet Approval			
Approving as: Resource Manager			
All Timesheets for: 27-Apr-13 -- 10-May-13			
[Filter] [Grid] [List] [Home] [Add] [Print] [Refresh] [Export]			
Resource Name	Last Reviewer	Status	
Desai, Rajendra	lburgert	Approved	
Eng, Foo	Fmahmoud	Approved	
Fabian, Jose	VYuen	Approved	
All Activities for Eng, Foo			
[Filter] [Grid] [List] [Home] [Add] [Print] [Refresh] [Export]			
Activity Name	Sun 05/05	Mon 05/06	
CPT6581 Sunset Tunnel Trackway Improvements			
2 Detail Design			
1 SFMTA Labor & Other Direct			
2 Engineering Services - Bond Funded			
DD7 - Approvals		9.0	
Total	0.0	9.0	

- Bi-weekly approval of P6-driven electronic timesheets;
- After timesheets approved and actuals applied, PE updates: **Remaining Activity Durations & Remaining Resource Hours;**
- Revised forecast labor costs and schedule imported into EcoSys.



On-Going Project Controls

- Daily import of key data from FAMIS into EcoSys, including Allocated Funding, Actuals, Encumbrances, and Remaining Balances;
- Daily review of financial data focused on EAC versus Approved Budget and any resulting Budget Variances.

Exported from EcoSys EPC on 05/24/2013 14:34:51

CPCS Budget Variance Report

Project Manager: **Tess Kavanagh** Project: **CPT6581 Sunset Tunnel Trackway Improvements** EPS: **Transit Fixed Guideway**

ProjectWBS ID	Project/WBS Name	Baseline Budget	Approved Budget	Allocated Funding	Actuals	Estimate To Complete (ETC)	Estimate at Completion (EAC)	Budget Variance
CPT6581	Sunset Tunnel Trackway Improvements	\$32,000,000	\$32,000,000	\$1,160,964	\$1,076,850	\$30,027,837	\$31,104,686	\$895,314
1	Conceptual Engineering	\$200,000	\$260,964	\$260,964	\$275,544	\$0	\$275,544	(\$14,580)
2	Detail Design	\$2,100,000	\$2,100,000	\$900,000	\$801,305	\$327,837	\$1,129,142	\$970,858
1	SFMTA Labor & Other Direct	\$1,519,900	\$1,519,900	\$790,800	\$784,595	\$231,696	\$1,016,290	\$503,610
1	Project Management - Bond Funded	\$100,000	\$100,000	\$90,000	\$24,185	\$50,347	\$74,531	\$25,469
2	Engineering Services - Bond Funded	\$1,210,000	\$1,210,000	\$685,800	\$756,838	\$172,491	\$929,329	\$280,671
3	Construction Management	\$15,000	\$15,000	\$0	\$0	\$0	\$0	\$15,000
4	Other Direct Costs - Bond Funded	\$189,900	\$189,900	\$10,000	\$2,174	\$7,756	\$9,930	\$179,970
6	QA/QC Support - Bond Funded	\$5,000	\$5,000	\$5,000	\$1,398	\$1,102	\$2,500	\$2,500
2	Other Support Services	\$129,200	\$129,200	\$109,200	\$16,711	\$96,141	\$112,852	\$16,348
1	DPW SAR - Bond Funded	\$99,100	\$99,100	\$99,100	\$16,711	\$66,041	\$82,752	\$16,348
6	SSD Support - Bond Funded	\$20,100	\$20,100	\$10,100	\$0	\$20,100	\$20,100	\$0
7	Transit Operations Support	\$10,000	\$10,000	\$0	\$0	\$10,000	\$10,000	\$0
9	Contingency	\$450,900	\$450,900	\$0	\$0	\$0	\$0	\$450,900
3	Construction	\$29,700,000	\$29,700,000	\$0	\$0	\$29,700,000	\$29,700,000	\$0



On-Going Project Controls

- On a monthly basis, non-labor actuals are reconciled against completed work products, approved progress payments, and/or other accruals entered into EcoSys.
- When project reaches Construction, Construction Contract is established in SFMTA's Contract Manager (CM13) tool, where RFIs, Submittals, and Payment Requisitions are managed by Construction Management Group from NTP through Contract Closeout. PM still manages all labor activities and any non-labor costs established (other than the Construction Contract).
- Once Contract Closeout activities are complete and SFMTA Board of Directors authorize acceptance of the Contract, PM reconciles all charges, marks all activities in P6 as 'Finished', and archives project.