



# Project Delivery

Board of Supervisors

Plans & Programs Committee

June 17, 2014



#### **Presentation Overview**

- Project delivery process improvements
  - Audit recommendations and beyond
- Recent project delivery highlights
- Next steps



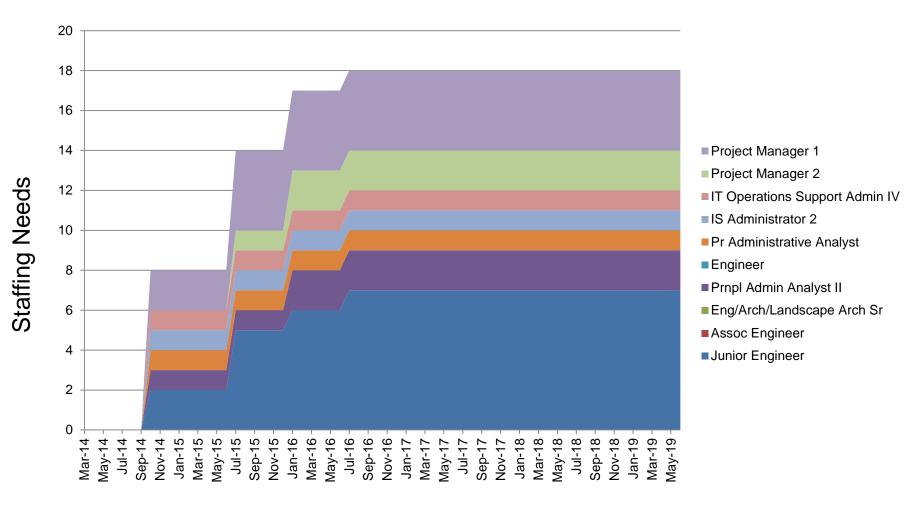


# The Life of a Project





# Preparing to Deliver More Projects



Month



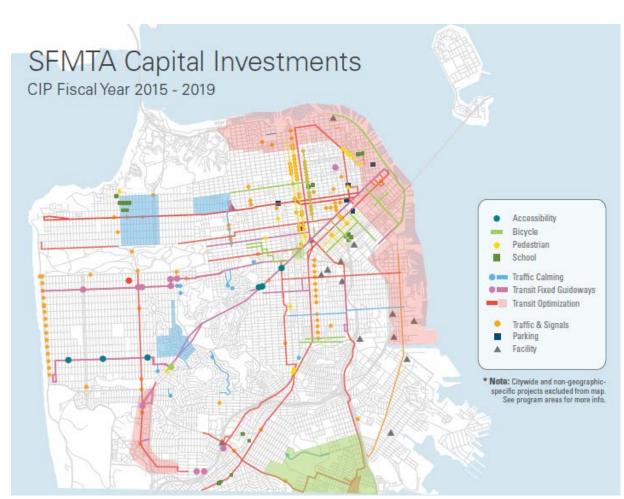
# 2011 Audit → SFMTA Process Upgrades

Area of Concern	SFMTA Improvement
Time & cost overruns	<ul><li>Project pre-development phase</li><li>Primavera P6</li><li>Progress reports</li></ul>
Reporting & oversight	<ul><li>Clarified operating procedures</li><li>Risk analysis for large capital projects</li></ul>
Confusing financial information	<ul><li>Capital Project Control Systems (CPCS)</li><li>EcoSys</li><li>Contract manager integration</li></ul>
Inadequate management processes	<ul> <li>Capital Resource Information System</li> <li>Project Charter for Inter-Agency Coordination</li> <li>Risk analysis using CPCS</li> </ul>
Process improvement projects	<ul> <li>Capital Plan and Program Policies</li> <li>Project Delivery Taskforce</li> <li>Transtat – Capital Projects</li> </ul>



# **Capital Planning & Analysis**

- New policies adopted 2011
- Data analysis & documentation
- Capital Improvement Plan
- Annual review





- Define project scope
- Prepare cost estimates
- Identify coordination opportunities
- Provide training, structure, guidelines





# **Complete Streets = Coordination**



Cesar Chavez construction

- Intra-agency planning and project integration
- Streets Capital Group
  - SFDPW
  - Planning Department
  - SFPUC
  - SFCTA
  - SFMTA

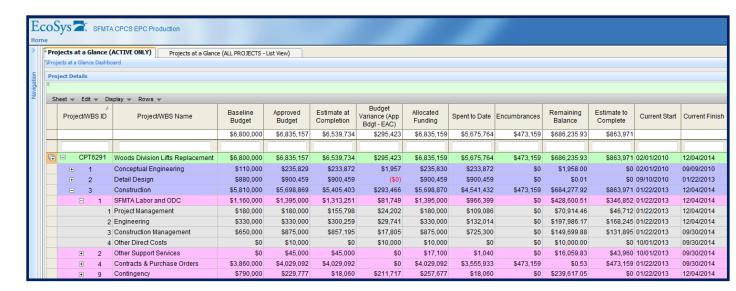


# **Project Management Technology**

#### **Before**

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 BALANCE (Y, M, Q, A) : Y
                                   CURR/PRIDR PRD :
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# After





# SFMTA Culture Change Initiative



- **Quarterly Director's** meetings
- Intra-agency communication Leadership training
- Better defining responsibilities & roles

# **Outreach & Engagement**

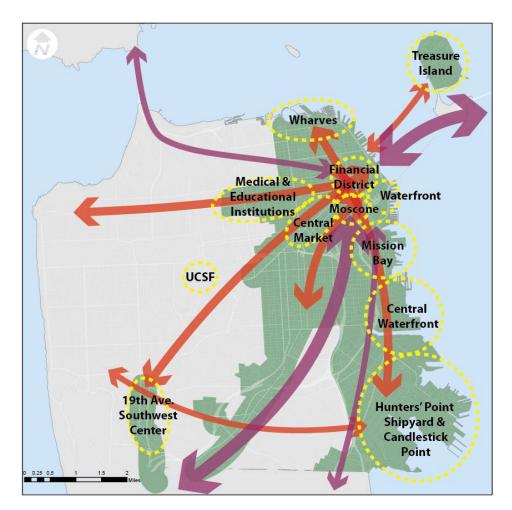


Increasing outreach and standardizing community engagement processes



# Long-Range Planning

- Transportation 2030/Mayor's Transportation Task Force
- 20-Year Capital Plan (2013-2032)
- Strategic Plan
- San Francisco Transportation Plan



Projected growth corridors



# Cesar Chavez Streetscape



Collaboration with Public Works, SFPUC, Planning Department & community

**Result**: Improved safety, aesthetics, transit efficiency and sewer system while minimizing cost and neighborhood disruption

Audit-recommended improvements: Strengthened management processes



# **5L Fulton Pilot Project**

- Pilot approach for faster delivery
- Close coordination inside agency
- Community engagement = improved results
- Audit-recommended improvements: Avoided time & cost overruns





#### Fleet Procurement



Efficiency + creativity → better project delivery and more reliable Muni service

Audit-recommended improvements: Process, reporting & oversight

## **Next Steps**

- Capital Programs and Controls System rollout throughout SFMTA to include small project delivery
- Staffing analysis and planning to enable capacity for upcoming projects
- Instituting interagency project charter to strengthen coordination

# Thank you!





# Appendix



# Project Delivery Best Practices

Project Planning	Project Implementation	Ongoing Efforts
Aligned priorities and resources	Cost/schedule integration	Transparency
Defined project scopes	Timely access to data	Accountability
Detailed and accurate estimates	Risk management	Quality assurance
Resource-loaded schedules	Change management	Standardized processes
	Progress reporting	Aligned goals & objectives
	Trend analysis	Performance management



# Business Process Re-Engineering (Based on Audit Findings)

Finding	Solution
Capital program policies and priorities not clearly specified or enforced.	Developed new Capital Plan & Program Policies and formed the Transportation Capital Committee (TCC).
Project scope defined too late in the process; poor initial cost estimates.	Established Pre-Development phase to better define scope and prepare accurate cost estimates.
Project delivery goals and expectations not aligned amongst all divisions and sections.	Introduced 'complete-streets' concept to align delivery objectives and utilize funds effectively.
Personnel not provided with appropriate tools and data to properly manage project portfolios.	CRIS, CPCS, electronic funding request system and scope/schedule/budget template
Performance measures not completely formulated, impacting risk management.	Performance measures of project delivery in the FY2013 –FY 2018 Strategic Plan





- 5-Year Capital Improvement Program
  - Totals \$3.16 billion
  - Funding from more than 30 different federal, state and local sources
  - Contains 350 projects in 16 Capital Programs



- Major Capital Improvements and Programs
  - Communications/IT Projects: Radio Replacement, Train Control & Communications, Asset Mgmt System;
  - Street Projects: Bike/Pedestrian/Signal and Traffic Calming;
  - Transit Infrastructure: Overhead Systems and Track
  - Vehicles: Procurement and Rehabilitation
  - Major Expansion: Central Subway, Van Ness BRT







# Goals and Objectives

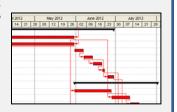
- Analyze and re-engineer existing business processes, including budget revision control and processing
- Provide timely, accurate, and useful information to project managers and executives
- Reduce manual processes and double-entry of project information
- Create a System of Record for all project data including scope, schedule, budget, forecasts, and actuals
- Develop standardized WBS templates and common reporting across programs
- Establish relevant performance metrics



#### Captial Program Controls System (CPCS)

#### Primavera P6

- STANDARDIZED WBS
- SCHEDULE & RESOURCE MANAGEMENT
- FORECAST LABOR COSTS



#### **EcoSys EPC**

- COST/SCHEDULE INTEGRATION
- TREND ANALYSIS
- PERFORMANCE MEASUREMENT



#### **Oracle CM13**

CONTRACT MGMT

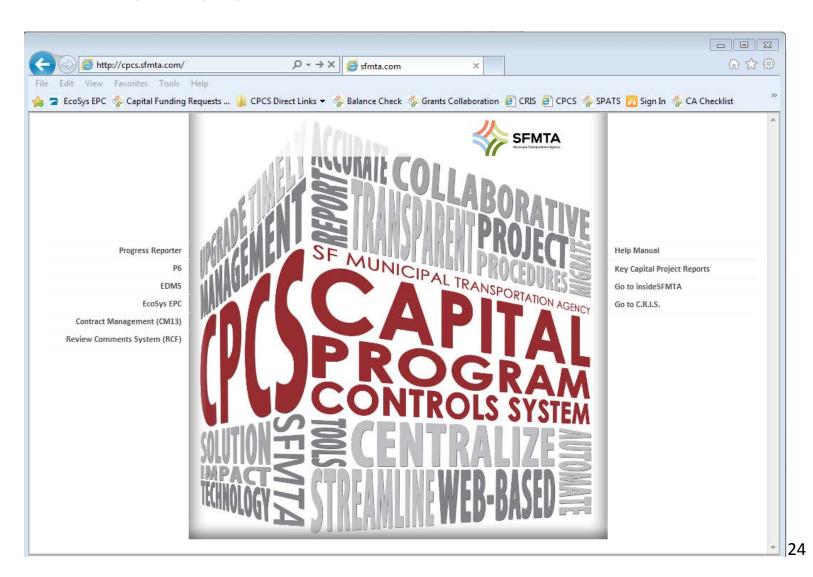


#### **SharePoint**

ELECTRONIC DOCUMENT MGMT & WORKFLOWS



#### **CPCS: Web-Based Access**



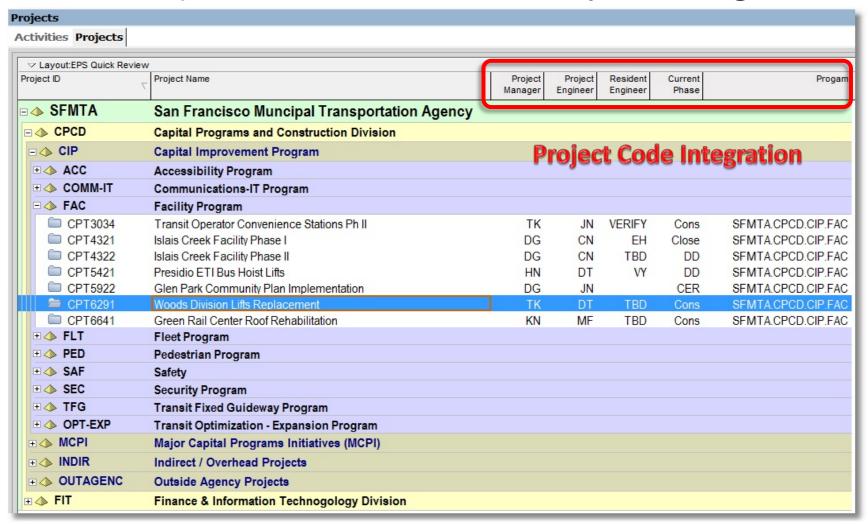
# CPCS: Key System Configurations

- Daily integration with Primavera P6 and Agency's financial accounting system
- Dashboards displaying project-level and activity-level information
- Standardized and controlled budget revisions
- Performance measurements enabled through cost and schedule integration
- On-screen and Excel-template reports



#### SAMPLE SCREENSHOTS

# Project-Level P6/EcoSys Integration

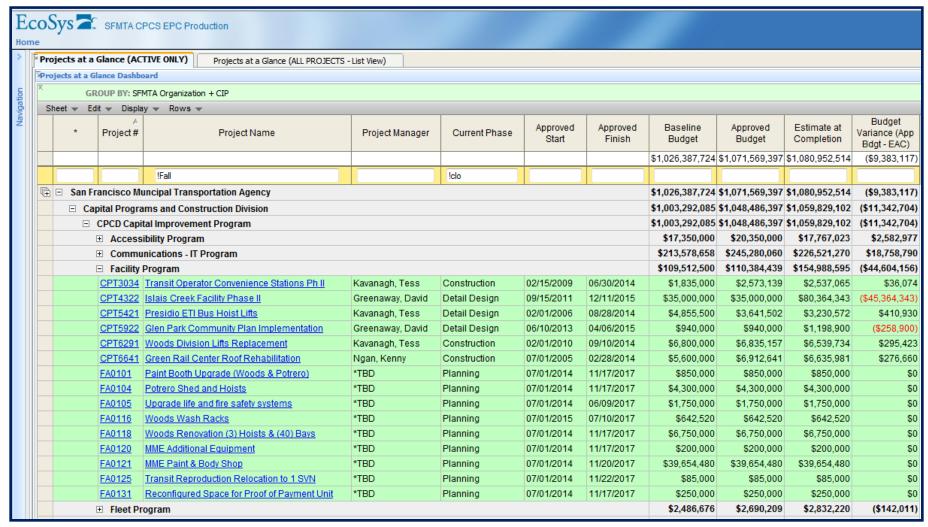


# Activity-Level P6/EcoSys Integration

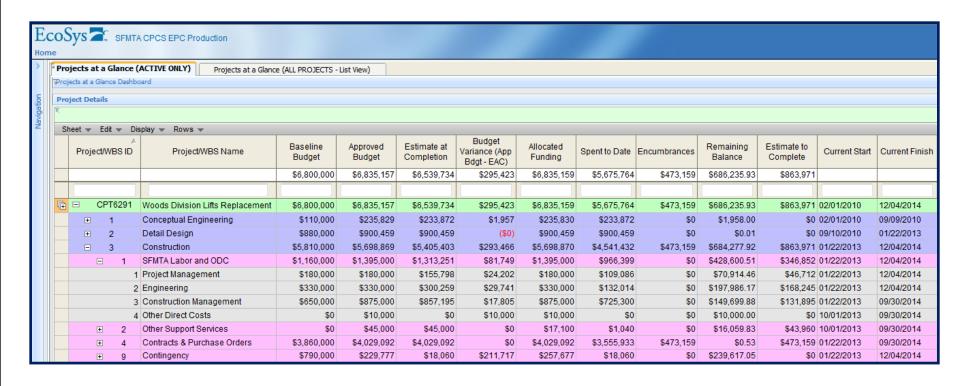
• WBS, schedule, forecast costs, and percent complete integrated.

Activity ID	vity ID Activity Name		Finish	Remaining Labor Cost	Actual Labor Cost	At Completion Labor Cost
CPT6291	Woods Division Lifts Replacement	01-Feb-10 A	04-Dec-14	\$346,851.65	\$2,116,659.46	\$2,463,511.12
CPT6291.1	Conceptual Engineering	01-Feb-10 A	09-Sep-10 A	\$0.00	\$155,664.68	\$155,664.68
CPT6291.2	Detail Design	10-Sep-10 A	22-Jan-13 A	\$0.00	\$910,736.35	\$910,736.35
CPT6291.3	Construction	22-Jan-13 A	04-Dec-14	\$346,851.65	\$1,050,258.43	\$1,397,110.08
CPT6291	1.3.0 Construction Milestones	22-Jan-13 A	04-Dec-14	\$0.00	\$0.00	\$0.00
CPT6291	1.3.1 SFMTA Labor and ODC	22-Jan-13 A	04-Dec-14	\$346,851.65	\$1,050,258.43	\$1,397,110.08
CPT6291.3	CPT6291.3.1.1 Project Management		04-Dec-14	\$46,712.06	\$111,039.48	\$157,751.54
6291-31	11 CP1 - Project Management	22-Jan-13 A	30-Sep-14	\$32,408.81	\$111,039.48	\$143,448.29
6291-31	6291-3115 CP5 - Project Management Closeout CPT6291.3.1.2 Engineering 6291-3121 CP1 - Eng Svs Construction Support		04-Dec-14	\$14,303.25	\$0.00	\$14,303.25
CPT6291.3			04-Dec-14	\$168,245.00	\$143,172.86	\$311,417.87
6291-31			30-Jun-14	\$115,660.52	\$143,172.86	\$258,833.39
6291-31	28 CP8 - Eng Svs Closeout Support	30-Sep-14	04-Dec-14	\$52,584.48	\$0.00	\$52,584.48
CPT6291.3	3.1.3 Construction Management	22-Jan-13 A	30-Sep-14	\$131,894.59	\$796,046.08	\$927,940.67
6291-31	31 CP- CM Support for CN1231R	22-Jan-13 A	10-Jun-14	\$79,790.78	\$796,046.08	\$875,836.87
6291-31	38 CP8 - CM Support for CN1231R Closeo	11-Jun-14	30-Sep-14	\$52,103.81	\$0.00	\$52,103.81
CPT6291.3	CPT6291.3.1.4 Other Direct Costs		30-Sep-14	\$0.00	\$0.00	\$0.00
CPT6291	1.3.2 Other Support Services	01-Oct-13 A	30-Sep-14	\$0.00	\$0.00	\$0.00
CPT6291	1.3.4 Contracts & Purchase Orders	22-Jan-13 A	30-Sep-14	\$0.00	\$0.00	\$0.00
CPT6291	1.3.9 Contingency	22-Jan-13 A	04-Dec-14	\$0.00	\$0.00	\$0.00

## Executive Dashboard – Program Level



# **Activity-Level Reports**

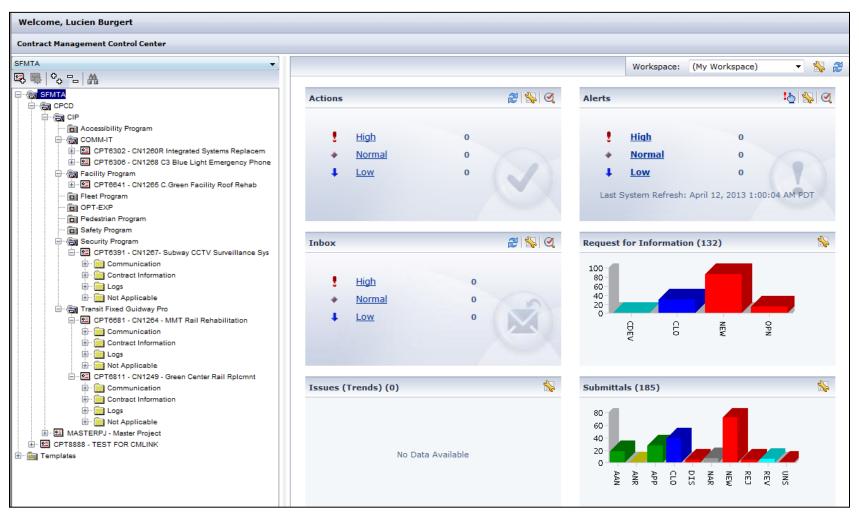


# Standardized Budget Revisions

Budo	Budget Revision Detail													
=	* Budget Revision: 00008 - Green Back Chair Test													
_	Sheet   Edit   Display   Rows   Colum													
	Project/ Phase/ Service	Index Code	WBS	WBS Name	Baseline Budget	Current Approved Budget	Current Allocated Funding	Encumbrance	Remaining Balance	Revision to Approved Budget	Revision to Allocated Funding	Revised Approved Budget	Revised Allocated Funding	Phase Chg to Apprvd Bud is 10%
					\$39,796,700	\$46,880,000	\$3,005,458	\$105,002	\$1,984,722.26	\$100,000	\$76,230.89	\$46,980,000	\$3,081,689.09	
<b>(</b>	= 🛅 CP	T6861 - Twin Peaks	Tunnel Rail Repl	acement	\$39,796,700	\$46,880,000	\$3,005,458	\$105,002	\$1,984,722.26	\$100,000	\$76,230.89	\$46,980,000	\$3,081,689.09	
	⊕ 🗐	0 - Pre-Developme	nt		\$50,000	\$50,000	\$73,920	\$0	\$0.00	\$0	\$0.00	\$50,000	\$73,919.52	
		1 - Conceptual Eng	ineering		\$997,920	\$997,920	\$645,539	\$17,146	\$28,800.90	\$100,000	\$76,230.89	\$1,097,920	\$721,769.57	
	= 1	🗔 1 - SFMTA Labo	r and ODC		\$690,000	\$690,000	\$485,811	\$0	\$27,417.86	\$100,000	\$76,230.89	\$790,000	\$562,041.88	
		68E093	CPT6861.1.1.1	Project Management	\$200,000	\$200,000	\$80,000	\$0	\$23,769.11	\$0	(\$23,769.11)	\$200,000	\$56,230.89	Yes
		68E094	CPT6861.1.1.2	Engineering	\$450,000	\$450,000	\$350,000	\$0	\$3,648.75	\$100,000	\$100,000.00	\$550,000	\$450,000.00	Yes
		68E095	CPT6861.1.1.3	Construction Management	\$20,000	\$20,000	\$0	\$0	\$0.00	\$0	\$0.00	\$20,000	\$0.00	Yes
		68CPT6861114	CPT6861.1.1.4	Other Direct Costs	\$10,000	\$10,000	\$55,811	\$0	\$0.00	\$0	\$0.00	\$10,000	\$55,810.99	Yes
		68E096	CPT6861.1.1.6	QA/QC	\$10,000	\$10,000	\$0	\$0	\$0.00	\$0	\$0.00	\$10,000	\$0.00	Yes
	=1	词 2 - Other Suppo	rt Services		\$150,000	\$150,000	\$101,808	\$0	\$0.00	\$0	\$0.00	\$150,000	\$101,807.69	
		68CPT6861121	CPT6861.1.2.1	DPW 1	\$100,000	\$100,000	\$100,000	\$0	\$0.00	\$0	\$0.00	\$100,000	\$100,000.00	Yes
		68E097	CPT6861.1.2.7	Transit Operations Support	\$20,000	\$20,000	\$0	\$0	\$0.00	\$0	\$0.00	\$20,000	\$0.00	Yes
		68E098	CPT6861.1.2.8	Transit Maintenance Support	\$20,000	\$20,000	\$1,808	\$0	\$0.00	\$0	\$0.00	\$20,000	\$1,807.69	Yes
		68E099	CPT6861.1.2.9	Public Outreach	\$10,000	\$10,000	\$0	\$0	\$0.00	\$0	\$0.00	\$10,000	\$0.00	Yes
	⊕				\$157,920	\$157,920	\$57,920	\$17,146	\$1,383.04	\$0	\$0.00	\$157,920	\$57,920.00	
🛨 🗔 2 - Detail Design				\$4,866,780	\$4,866,780	\$2,286,000	\$87,856	\$1,955,921.36	\$0	\$0.00	\$4,866,780	\$2,286,000.00		
# 🗔 3 - Construction				\$33,882,000	\$40,965,300	\$0	\$0	\$0.00	\$0	\$0.00	\$40,965,300	\$0.00		
⊕ 🗔 [No Phase]					\$0	\$0	\$0	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	

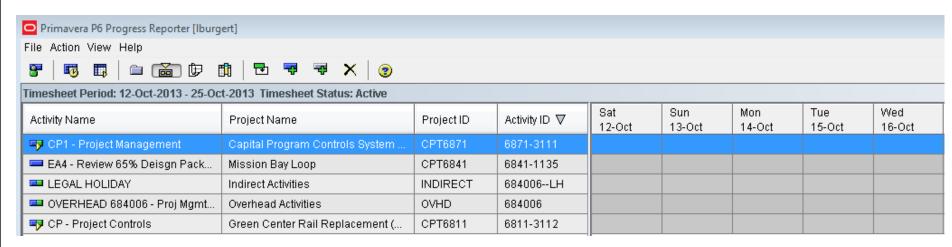


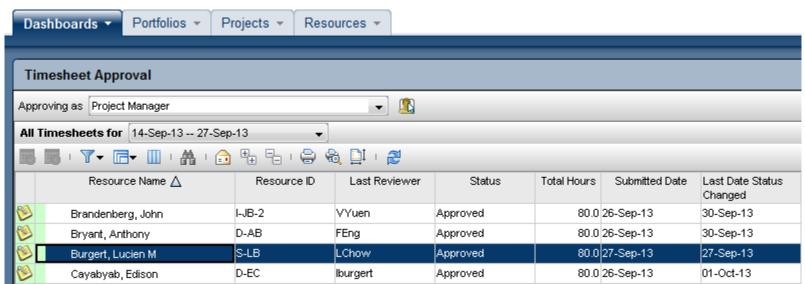
# Centralized Contract Management





#### **Electronic Timesheets**





# **Key Configurations**

- Electronic timesheets driven by Primavera P6;
- Daily integration with Primavera P6 and FAMIS;
- Dashboards displaying project-level and activity-level information;
- Standardized and controlled budget revisions;
- Performance measurements enabled by cost/schedule integration;
- Fully-configurable on-screen reports;
- Electronic document mgmt and workflows;
- Centralized and collaborative construction management tool for daily reports, logs, submittals, RFIs, and issues.



# Next Steps

Goal	Status
Expand CPCS to include all capital projects across all CIP programs	In Progress; 170/400 active projects have been imported.
Establish funding hierarchies and allocations and roll-out new Budget/Funding Revision tool	Using approved CIP as source, project team is beginning to establish standardized funding hierarchies.
Incorporate Fund Programming functionality into EcoSys	Developing scope of work for consultant. Forecast start July 2014.
Integrate additional FAMIS and payroll data into system	Will be working with Controller's Office developer June 2014.
Establish data standards and develop public-facing dashboards	Working with Buildingeye under Mayor's Office EIR program. Proof of Concept by July 2014.
Develop Agency-wide SOPs and on- going training programs	Project Delivery Working Group has been established.