

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT
300 Lakeside Drive, P. O. Box 12688, Oakland, CA 94604-2688

NOTICE OF MEETING AND AGENDA
BOND OVERSIGHT COMMITTEE

Wednesday, January 31, 2018
10:00 a.m. – 12:00 p.m.

COMMITTEE MEMBERS: Marian Breitbart, Michael Day, Daren Gee, Christine D. Johnson, Michael McGill, Anu Natarajan, John Post

A Meeting of the Bond Oversight Committee will be held on Wednesday, January 31, 2018, at 10:00 a.m. The Meeting will be held in Conference Room 2100, 300 Lakeside Drive, 21st Floor, Oakland, California.

AGENDA

1. Call to Order.
 - A. Roll Call.
2. Introduction of Committee Members.
3. Introduction of BART Staff.
4. Committee Role. (For discussion.)
 - A. Selection of Chair/Vice Chair
 - B. Approval of July 26, 2017 Minutes
5. Presentation: Asset Management. (For discussion.)
6. Presentation: Status of expenditures to date. (For discussion.)
7. Questions and Answers with staff.
8. Setting next meeting date and agenda.
9. Public comment.

Please refrain from wearing scented products (perfume, cologne, after-shave, etc.) to this meeting, as there may be people in attendance susceptible to environmental illnesses.

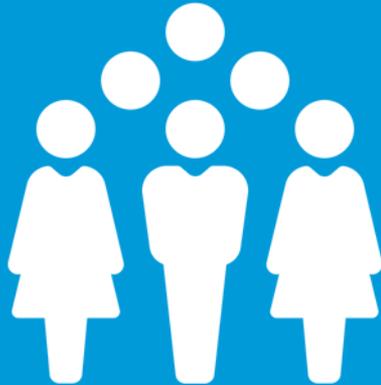
BART provides services/accommodations upon request to persons with disabilities and individuals who are limited English proficient who wish to address BART Board matters. A request must be made within one and five days in advance of a Board or committee meeting, depending on the service requested. Please contact the District Secretary's Office at (510) 464-6083 for information.



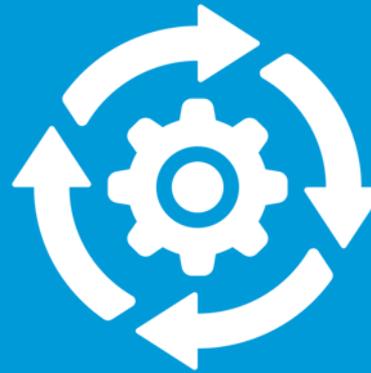
asset
management

FUNDAMENTALS OF BART ASSET MANAGEMENT

PEOPLE



PROCESS



TECHNOLOGY



Enterprise Asset Management (EAM)...

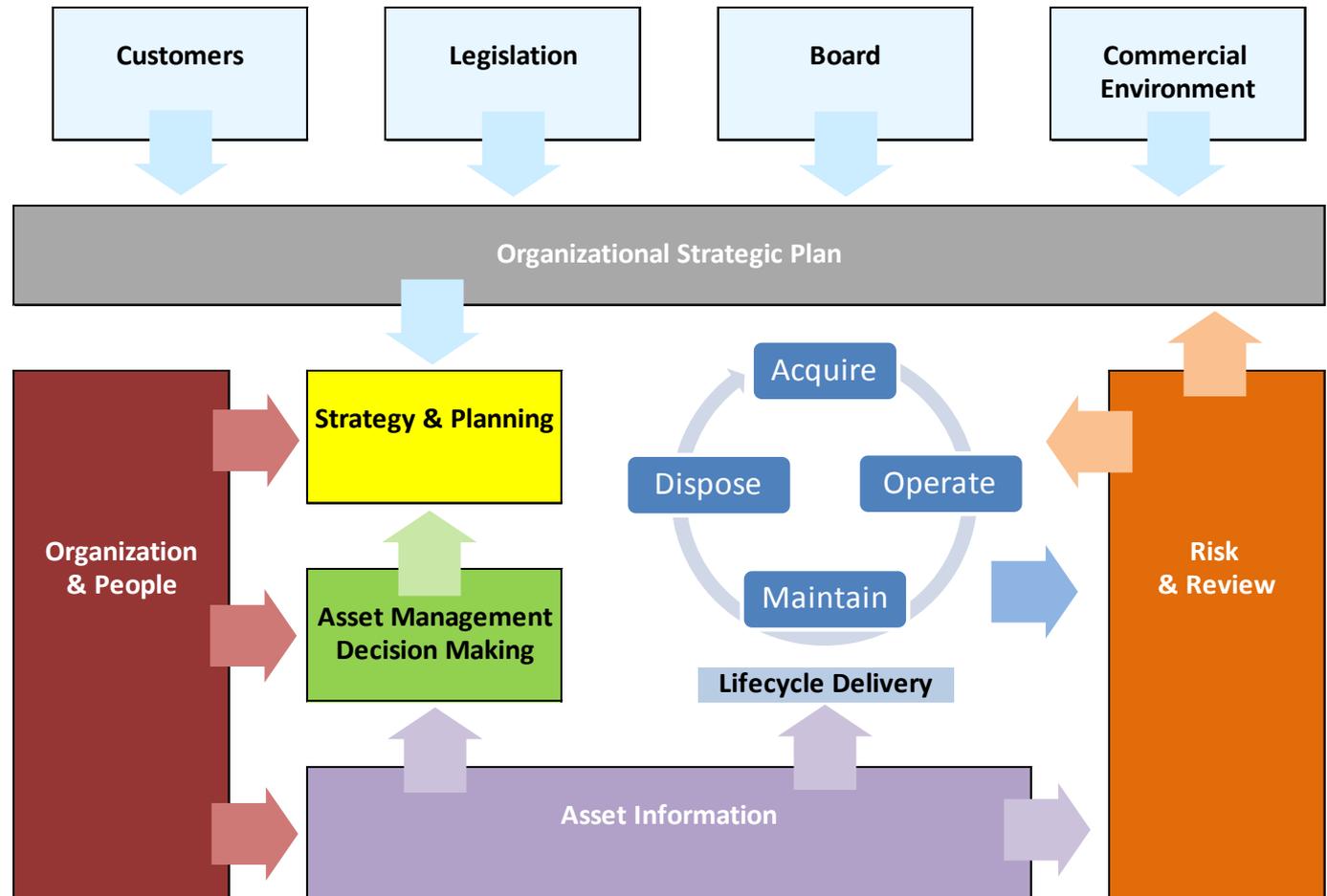


...is the management of assets of an organization across departments, facilities, business units, and geographic locations to produce the services required by the organizations' customers.

...takes a **whole life** approach to managing the assets as effectively and efficiently as possible to meet the **operational and strategic** outcome requirements of the organization

What is an Asset Management System?

ISO 55000 defines **Asset Management** as the “coordinated activity of an organization to realize value from assets.”

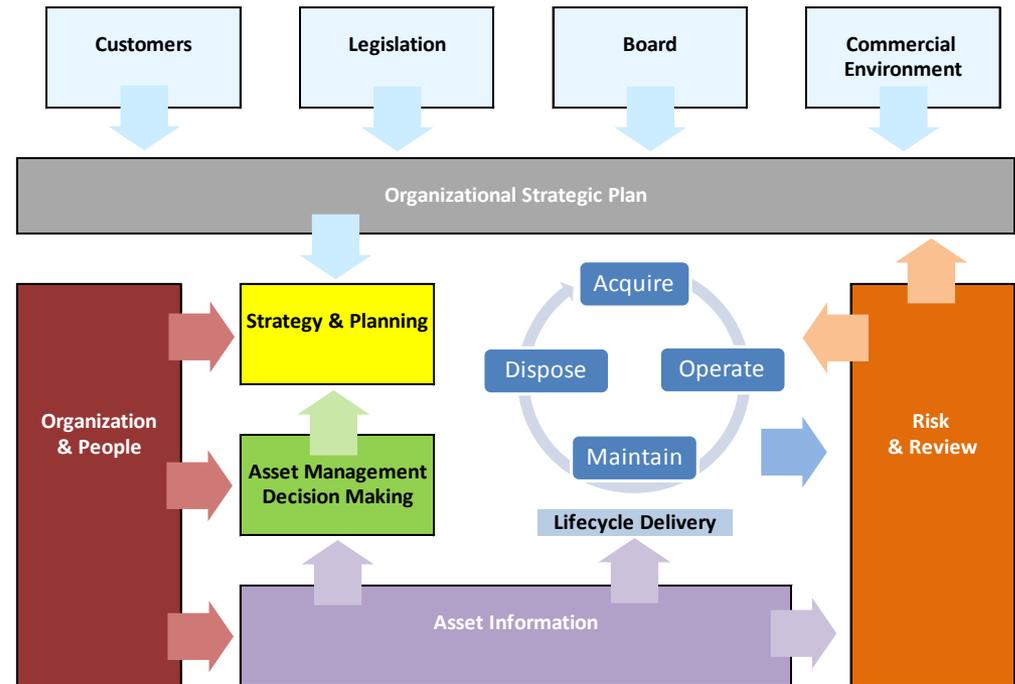


AM Anatomy from the Institute of Asset Management 2014

Asset Management foundation is data quality

- Invest in **ASSET DATA**
- Quantify **RISK & CRITICALITY**
- Align all **PLANS & ACTIONS TO STRATEGY**
- Risk-based **PRIORITIZATION**
- Measure **PERFORMANCE**

*Over 40,000 assets,
worth approx. \$40 billion*



BART is completing its 6th year of Asset Management



- 2013: Early AM Concepts; asset register & risk registers
- 2014: First budget process informed by data and risk Board adopted an Asset Management Policy
- 2015: Resourced data and risk improvement
- 2016: AM informed scope for Measure RR
- 2017: Established governance process and BSP alignment
- 2018: Focus on FTA TAM Rule compliance
- 2019+: AM Program Maturity growth

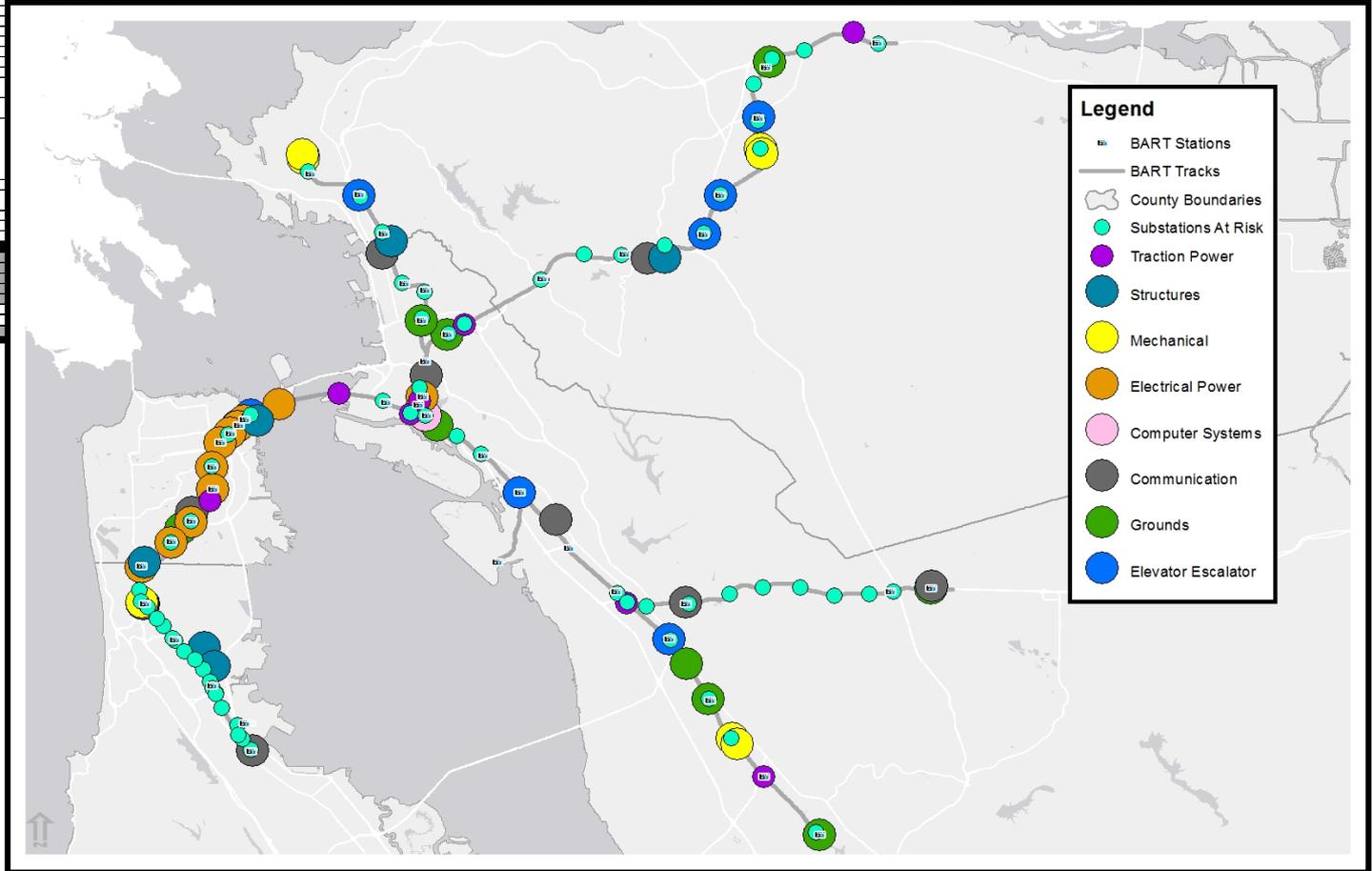
Asset Management powers improvement

Data → Risks → Decisions → Actions → Service



Asset Management Category	Sub-Category (Function Dept)	Asset	Source of Asset	Asset Class	Asset Desc	Asset Type	Location	AMP Status (PIS)	Year_Built (Installation)	Year_Overhauled (Renewed / EOP)	Annual Cost (Check/Component Cost)	CR Current Replacement Cost	Asset Life in Years (End of Asset based on manufacturer's historical data)	Source of Initial Life Data	Condition (CR)	Function (CR)	Capacity (CR)	Dashboard Condition	Dashboard Function	Dashboard Capacity	Asset Details (CR)	Invoice ID	Contact
...

Asset Management Category	Sub-Category (Function Dept)	Current Replacement Cost (CRC)					Condition					Function					Capacity					Comment
		Source of CRC	Total CRC	CRC Poor	CRC Fair	CRC Good	% Poor	% Fair	% Good	CRC Poor	CRC Fair	CRC Good	% Poor	% Fair	% Good	CRC Poor	CRC Fair	CRC Good	% Poor	% Fair	% Good	
T115 Asset Register	...	\$2,637,642,907	\$789,679,749	\$702,682,000	\$1,445,281,008	29.3%	26.0%	43.4%	\$481,663,322	\$777,895,045	\$1,416,084,541	18.3%	28.0%	53.7%	\$773,499,024	\$438,596,588	\$1,425,637,205	29.2%	16.0%	54.0%	CRC = Each Asset = Asset Type	
T115 Asset Register	...	\$238,656,000	\$94,987,000	\$95,144,000	\$48,826,000	39.7%	39.0%	20.5%	\$54,450,000	\$140,750,000	\$41,456,000	22.8%	59.0%	18.2%	\$22,786,000	\$170,318,000	\$45,532,000	9.5%	71.0%	19.5%	CRC = Each Asset = Asset Type	







Measure RR Bond Implementation



Measure RR Bond Oversight Committee
January 31, 2018



Presentation Summary

- Staffing
- Outreach
- Expenditures to Date
- Contracting Plan



STAFFING



Staffing – FY18-FY20 Hiring Plan

FY18-FY20 ANNUAL ADDITIONAL HIRES

	FY18	FY19	FY20	TOTAL FY18-FY20
M&E Project Delivery	152.0	73.9	29.7	255.6
PD&C Project Delivery	6.0	0.0	0.0	6.0
Internal Departments Total	28.0	0.0	0.0	28.0
TOTAL	186.0	73.9	29.7	289.6



Staffing – FY18 Hiring Progress

	FY18 QTR 1 ADDITIONAL HIRES	HIRED	PENDING HIRE
M&E Project Delivery	84.0	70	1
PD&C Project Delivery	0.0	0	0
Internal Departments Total	12.0	8	3
TOTAL	96.0	78	4

	FY18 QTR 2 ADDITIONAL HIRES	HIRED	PENDING HIRE
M&E Project Delivery	34.0	6	8
PD&C Project Delivery	0.0	0	0
Internal Departments Total	5.0	3	1
TOTAL	39.0	9	9



OUTREACH



Small Business Participation



- Outreach

- RR outreach began in FY18
- Enhancements improve targeting of outreach activities & reduce staff overhead burden

- New tools to support small businesses

- Pre- and Post-Bid small business support services
- Mentor-protégé program
- Bonding assistance continues to be explored

- Ongoing contract unbundling



Small Business Participation

- **Small Business Program**
 - Local Small Business Component
 - Includes LGBT Business Enterprise element
- **Non-Discrimination Program for Subcontracting**
 - Availability percentages updated and refined by type of work
- **DBE Program**
 - Set asides for Micro Small Businesses continue
 - DBE/SBE goals on professional service agreements





Equity Program Enhancements

- Evidence Based Decision Making
 - Implementation of OCR specific data models to forecast multi-year equity program performance
 - Published KPIs for OCR activities begins in FY18
- Electronic Capital Project Contracting Plans
 - Targeting 100% reduction in paperwork for contracting plan/unbundling activities
- Increased Transparency with Internal Stakeholders
 - OCR equity program dashboarding



EXPENDITURES TO DATE



Investment Summary

	\$ Millions	% of Total Bond	Benefits		
			 Safety	 Reliability	 Crowding + Traffic Relief
REPAIR AND REPLACE CRITICAL SAFETY INFRASTRUCTURE	\$3,165	90%	✓	✓	✓
Renew track	\$625	18%	✓	✓	
Renew power infrastructure	\$1,225	35%	✓	✓	
Repair tunnels and structures	\$570	16%	✓	✓	
Renew mechanical infrastructure	\$135	4%	✓	✓	
Replace train control and other major system infrastructure to increase peak period capacity	\$400	12%	✓	✓	✓
Renew stations	\$210	6%	✓	✓	✓
RELIEVE CROWDING, REDUCE TRAFFIC CONGESTION, AND EXPAND OPPORTUNITIES TO SAFELY ACCESS STATIONS	\$335	10%	✓	✓	✓
Expand opportunities to safely access stations	\$135	4%	✓	✓	✓
Design and engineer future projects to relieve crowding, increase system redundancy, and reduce traffic congestion	\$200	6%		✓	✓
TOTAL	\$3,500	100%			



Measure RR Cashflow by Program Category (\$ Millions)

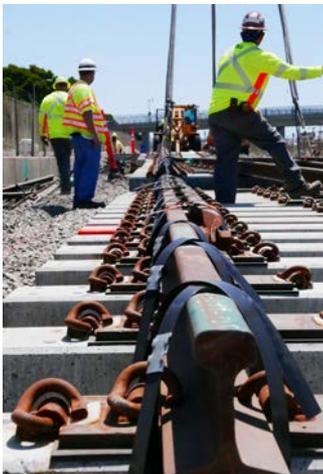
Program	PRELIMINARY Expended – thru December 2017	PRELIMINARY Encumbered – December 2017	PRELIMINARY Total Exp&Enc – December 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
Renew Track	\$24.8	\$19.2	\$44.0	\$45.9	\$47.3	\$93.2
Renew Power Infrastructure	\$9.9	\$70.5	\$80.4	\$86.1	\$116.4	\$202.5
Repair Tunnels & Structures	\$1.6	\$60.0	\$61.6	\$17.1	\$20.7	\$37.8
Renew Mechanical	\$1.5	\$0.9	\$2.4	\$7.0	\$5.5	\$12.5
Replace Train Control/Increase Capacity	\$0.4	\$0.2	\$0.6	\$8.2	\$25.1	\$33.3
Renew Stations	\$0.9	\$4.2	\$5.1	\$3.6	\$11.6	\$15.2
Expand Safe Access to Stations	\$0.2	\$3.0	\$3.2	\$8.5	\$16.4	\$24.9
Design/Engineer to Relieve Crowding	\$0.2	\$2.3	\$2.5	\$8.1	\$12.9	\$21.0
Total	\$39.5	\$160.3	\$199.8	\$184.5	\$255.9	\$440.4



Renew Track - \$625M Total

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
Rail Replacement	Construction, Procurement	\$2.0	\$2.3	\$16.9	\$22.3	\$39.2
A15 Interlocking	Complete	\$13.0	\$13	\$13.0	\$0.0	\$13.0
New Wheel Interface	Construction	\$0.3	\$2.8	\$1.5	\$2.5	\$4.0
M03 Interlocking	Construction	\$1.5	\$9.7	\$4.5	\$3.0	\$7.5
C55 Interlocking	Construction Phase I	\$0.4	\$2.1	\$2.0	\$9.5	\$11.5
C35 Interlocking	Procurement	\$0.9	\$2.2	\$2.0	\$4.0	\$6.0
Design/Engineering	Design	\$6.7	\$11.9	\$6.0	\$6.0	\$12.0
Total		\$24.8	\$44.0	\$45.9	\$47.3	\$93.2



Scope:

- Replace 90 Miles of Track
- New Wheel Profile Interface
- Rebuild Interlockings

Total Renew Track Program: \$625M



Renew Power - \$1.225B Total

– Cable Replacement

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
M-Line Cable Replacement	Procurement	\$2.9	\$4.4	\$29.7	\$47.9	\$77.6
A-Line Cable Replacement	Design	\$1.4	\$2.4	\$4.5	\$0.0	\$4.5
C-Line Cable Replacement	Design	\$0.6	\$1.6	\$5.5	\$3.0	\$8.5
R-Line Cable Replacement	Design	\$0.5	\$1.5	\$1.6	\$7.0	\$8.6
Total		\$5.4	\$9.9	\$41.3	\$57.9	\$99.2



Scope: Replace 34.5 kV Cable System-Wide

Total Cable Replacement Program: \$488M

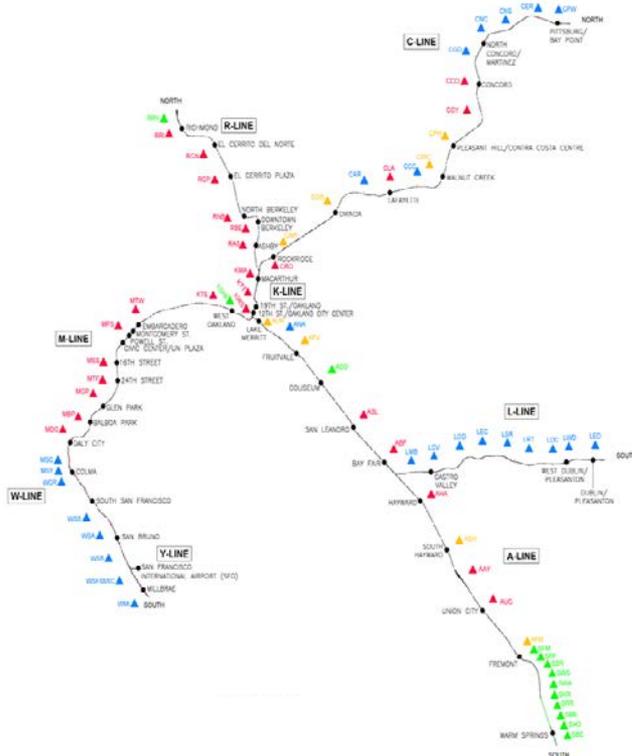


Renew Power - \$1.225B Total

– Substation Replacement

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
ASL/KTE Substations	Design	\$0.6	\$1.5	\$7.1	\$10.4	\$17.5
Design/Engineering	Design	\$0.7	\$38.3	\$11.6	\$6.3	\$17.9
Total		\$1.3	\$39.8	\$18.7	\$16.7	\$35.4



LEGEND

- ▲ SUBSTATION TO BE REPLACED WITH GO BOND
- ▲ SUBSTATION REPLACED IF SUFFICIENT FUNDING
- ▲ SUBSTATION REPLACED AFTER 10 YEARS
- ▲ NEW SUBSTATION

Scope: Replace 28 Substations

Total Substation Replacement Program: \$301M



Renew Power - \$1.225B Total

– New Substations

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
Civic Center - Design	Design	\$0.2	\$1.7	\$3.5	\$2.9	\$6.4
Montgomery - Design	Design	\$0.8	\$2.3	\$3.5	\$2.9	\$6.4
Total		\$1.0	\$4.0	\$7.0	\$5.8	\$12.8



Scope:

2 New Added Capacity Substations

- Civic Center
- Montgomery

Total New Substations Program:

\$41.9M



Renew Power - \$1.225B Total

– Electrical Systems

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
TBT Generator	Procurement Awarded	\$0.5	\$22.6	\$6.5	\$12.5	\$19.0
UPS Control Room	Procurement	\$0.3	\$1.2	\$4.0	\$5.5	\$9.5
Tunnel Lighting	Scoping	\$0.3	\$0.9	\$3.0	\$13.0	\$16.0
Station Lighting	Procurement	\$0.8	\$1.4	\$4.0	\$5.0	\$9.0
Design/Engineering	Design	\$0.3	\$0.6	\$1.6	\$0.0	\$1.6
Total		\$2.2	\$26.7	\$19.1	\$36.0	\$55.1



Scope:

- TBT Generator & Switchgear Replacement
- Uninterruptible Power Supply (UPS) Train Control
- Tunnel Lighting
- Station Fire Alarm Replacement
- Station Emergency Lighting

Total Electrical Systems Program: \$225M



Renew Mechanical Infrastructure - \$135M Total

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
Storm Water	Design	\$0.2	\$0.3	\$0.2	\$0.0	\$0.2
Yard Fire Services	Design	\$0.2	\$0.4	\$3.5	\$3.5	\$7.0
Backflow Preventers	Design	\$0.1	\$0.1	\$0.5	\$1.0	\$1.5
LMA Cooling	Design	\$0.3	\$0.3	\$0.4	\$0.0	\$0.4
Coverboard Repl	Procurement	\$0.1	\$0.1	\$0.5	\$1.0	\$1.5
Design/Engineering	Design	\$0.6	\$1.2	\$1.9	\$0.0	\$1.9
Total		\$1.5	\$2.4	\$7.0	\$5.5	\$12.5



Scope:

- Storm Water Treatment
- Fire Services at Yards
- Replace HVAC in Facilities
- Fire Suppression at Lake Merritt Admin Building
- Replace Lake Merritt Computer Room Cooling Unit

Total Mechanical Infrastructure Program: \$135M



Repair Tunnels & Structures - \$570M Total

– Structures

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
TBT Cross Passage	Procurement	\$0.2	\$0.7	\$7.6	\$1.5	\$9.1
Waterproof Tunnels & Structures	Construction	\$0.7	\$2.7	\$2.5	\$2.0	\$4.5
Fall Protection	Design	\$0.2	\$1.7	\$1.6	\$2.7	\$4.3
Wayside Signage	Scoping	\$0.3	\$1.3	\$0.5	\$0.7	\$1.2
Platform Edges	Construction	\$0.2	\$1.2	\$0.3	\$0.3	\$0.6
Total		\$1.6	\$7.6	\$12.5	\$7.2	\$19.7



Scope:

- Replace TBT Cross Passage Doors
- Waterproof Tunnels & Structures
- Fall Protection
- Wayside Regulatory Signage
- Platform Edge Structure Renewal

Total Structures Program: \$451.2M



Repair Tunnels & Structures - \$570M Total

– Transbay Tube (TBT) Retrofit Options

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
TBT Retrofit Options	In Construction	--	\$54	\$1.6	\$5.7	\$7.3
Total		\$0	\$54	\$1.6	\$5.7	\$7.3



Scope: Full Retrofit of 7 Additional TBT Sections
Total TBT Retrofit Options Program: \$53.75M



Repair Tunnels & Structures - \$570M Total

– Upper A-Line Seismic Operability Upgrade

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
Upper A-Line Retrofit PE	Design	--	--	\$2.0	\$2.0	\$4.0
Total		\$0	\$0	\$2.0	\$2.0	\$4.0



Scope: Preliminary Engineering of the Upper A-Line Retrofit (from Lake Merritt to Coliseum)

Total Upper A-Line Seismic Upgrade Program: \$5M



Repair Tunnels & Structures - \$570M Total

– Caldecott BART Tunnel (CBT) Creep

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
CBT Creep Repair	Design	--	--	\$1.0	\$5.8	\$6.8
Total		\$0	\$0	\$1.0	\$5.8	\$6.8



Scope:

- Excavate Interior Lining of CBT
- Realign the Trackway

Total CBT Creep Repair Program: \$60M



Train Control & Other Major System Infrastructure - \$400M Total

– Train Control Modernization Program (TCMP)

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
TCMP	Pre-qualification complete; Proposals due 3/18/18; Contract award Qtr 4 2018	--	--	\$5.0	\$24.1	\$29.1
Total		\$0	\$0	\$5.0	\$24.1	\$29.1



Up to 25% Increase in Train Capacity

Fixed-Block Signaling System: Existing Train Control Technology



Communications-Based Train Control: Needed to Increase Capacity and Assure Reliability



... along with BART Fleet of the Future and Enhanced Traction Power

Scope: Upgrade Legacy Train Control System to Communication-Based Train Control (CBTC)

Total TCM Program: \$394M (BART share of \$1.15B Total project)



Train Control & Other Major System Infrastructure - \$400M Total

– New Starts (Core Capacity)

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
HMC Ph II Design	Prelim Engineering	\$0.4	\$0.6	\$2.6	\$1.0	\$3.6
Richmond Traction Power Design	Holding at 30% Design, awaiting FTA entry into engineering approval	--	--	\$0.2	\$0.0	\$0.2
PH Traction Power Design		--	--	\$0.2	\$0.0	\$0.2
Oakland Traction Power Design		--	--	\$0.2	\$0.0	\$0.2
Total		\$0.4	\$0.6	\$3.2	\$1.0	\$4.2



Scope:

- Design/Engineering for Expanded Yard Storage for Increased Fleet (HMC – Phase II)
- Design/Engineering for New Traction Power (TP) Substation at Richmond Yard, Pleasant Hill (Minert Ave.), and Oakland 34th St.

Total New Starts (Core Capacity) Program: \$6.2M



Renew Stations - \$210M Total

– Escalator Renovation and Canopy Program

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
Escalator/Canopy	Design	\$0.9	\$5.1	\$2.3	\$10.7	\$13.0
Total		\$0.9	\$5.1	\$2.3	\$10.7	\$13.0



Scope:

- Replace Platform and Street Escalators
- Design and Construct Escalator/Stair Canopies

Total Escalator/Canopy Program: \$190M

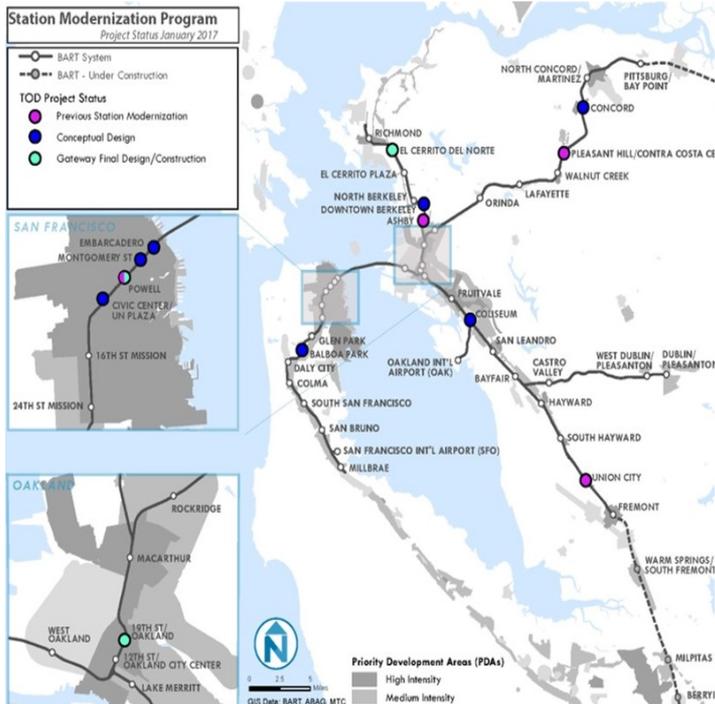


Renew Stations - \$210M Total

– Station Modernization

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
Conceptual Plans	Design	--	--	\$1.1	\$0.4	\$1.5
Design/Construction	Design/Construction	--	--	\$0.2	\$0.5	\$0.7
Total		\$0	\$0	\$1.3	\$0.9	\$2.2



Scope:

- 7 Station Modernization Conceptual Plans
- 3 Station Modernization Detailed Design/Construction

Total Station Modernization Program: \$20M



Expand Opportunities to Safely Access Stations - \$135M Total

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
Active Access	Design; Construction (ECDN)	\$0.2	\$3.2	\$6.8	\$13.6	\$20.4
Shared Mobility	Scoping; Procurement (PBP); Construction (ECDN)	--	--	\$0.4	\$0.6	\$1.0
Drive & Park	Study	--	--	\$0.3	\$0.2	\$0.5
Seniors & Disabled	Design	--	--	\$1.0	\$2.0	\$3.0
Total		\$0.2	\$3.2	\$8.5	\$16.4	\$24.9



Scope:

- Achieve Station Access Policy Goals & Targets
- Improve Active Transportation and Enhance Access for Seniors & People with Disabilities
- Renew Transit Transfer Facilities
- Improve Parking Availability



Total Station Access Program: \$135M

- Funds will leverage other sources

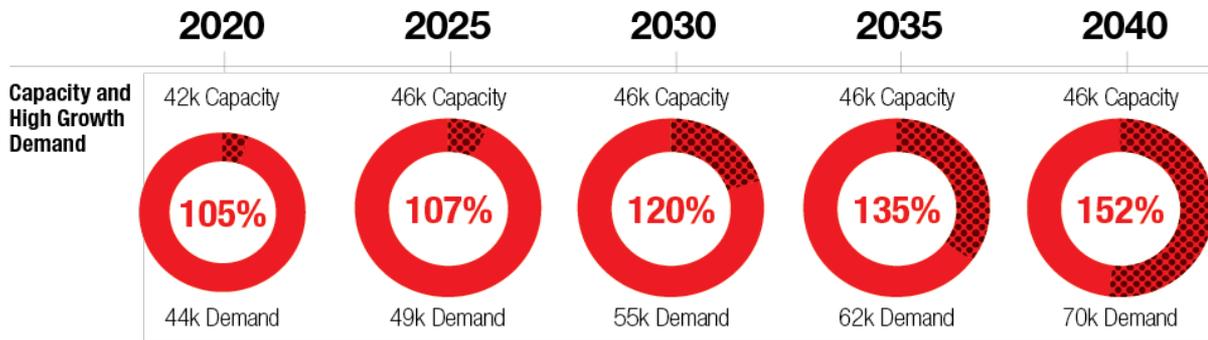


Relieve Crowding / System Redundancy - \$200M Total

– Transbay Crossing Phase 2

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
Transbay Crossing	Developing consultant scope for first tasks	--	--	\$1.9	\$2.0	\$3.9
Total		\$0	\$0	\$1.9	\$2.0	\$3.9



Initial Phase of Transbay Crossing Program: \$10M

Scope:

- Partner with mainline rail agencies
- Examine governance and funding
- Conduct regional market analysis
- Develop service plan for rail networks
- Develop operations plan and detailed transportation model
- Initiate conceptual engineering



Relieve Crowding / System Redundancy - \$200M Total

– BART Metro/Core Capacity

Measure RR Cashflow (\$ Millions)

Project	Current Status	PRELIM Expended thru Dec 2017	PRELIM Total Exp & Encumbered Dec 2017	Forecast Thru FY18	Forecast FY19	Forecast Total
Civic Center Vertical Circulation	Planning	--	--	\$0.0	\$2.0	\$2.0
Embarcadero Elevator	Design	--	\$0.6	\$1.5	\$4.3	\$5.8
Platform Screen Door Pilot	Prelim Engineering	--	--	\$1.5	\$1.5	\$3.0
Lafayette Pocket Track Replace	Design	--	--	\$0.7	\$1.3	\$2.0
Millbrae Tail Track	Design	--	--	\$0.5	\$0.3	\$0.8
Dublin Tail Track	Design	--	--	\$0.5	\$0.3	\$0.8
FTA Core Capacity Pgm Mgmt	Environ & PE complete, moving into Final Design	\$0.2	\$1.9	\$1.5	\$1.2	\$2.7
Total		\$0.2	\$2.5	\$6.2	\$10.9	\$17.1



Scope: Design/Construction of BART Metro Infrastructure Improvements

Initial Phase of BART Metro/Core Capacity Program: \$21 M



CONTRACTING PLAN



Planned Self-Performed Work (through FY19)

Project	Start Date	Substantial Completion	Est. Contract Value (\$ millions)
RENEW TRACK			
Rail Replacement	FY17	FY21 – Qtr 1	\$48
Direct Fixation Pads	FY17	FY21 – Qtr 1	\$40
RENEW POWER INFRASTRUCTURE			
34.5 kV Cable – M-Line from 24 th St to Valencia St ***	FY17 – Qtr 2	FY18 – Qtr 2	\$3
34.5 kV Cable – K & A-Lines from Washington St to 19 th Ave	FY18 – Qtr 2	FY20 – Qtr 1	\$11.5
34.5 kV Cable – K-Line from Washington St to West Oakland	FY19 – Qtr 4	FY21 – Qtr 1	\$2
Uninterruptible Power Supply (UPS) Replacement	FY18 – Qtr 3	FY23 – Qtr 2	\$17.6
REPAIR TUNNELS & STRUCTURES			
Platform Edge	FY18 – Qtr 1	FY23 – Qtr 1	\$21
Renew Soundwalls	FY19 – Qtr 1	FY20 – Qtr 4	\$10
Tunnel/Facilities Water mitigation: M Line	FY19 – Qtr 1	FY22 – Qtr 3	\$55.1
SELF-PERFORM TOTAL			\$208.2

*** Project funded by RR and other funding sources



Upcoming Procurement/Construction Contract Awards (through FY19)

Project	Advertisement Date	Substantial Completion	Est. Contract Value (\$ millions)
RENEW TRACK			
Rail Procurement	FY18 – Qtr 1	FY23 – Qtr 3	\$18
M03 Track Construction	Awarded	FY19 – Qtr 1	\$6
M03 Track Material	Awarded	FY19 – Qtr 2	\$1
Wheel Rail Interface Optimize	Awarded	FY20 – Qtr 3	\$4.9
Rail Procurement (Frogs)	Awarded	FY19 – Qtr 2	\$0.1
C55 Material Procurement	FY18 – Qtr 3	FY19 – Qtr 3	\$1.1
A15 Portal Grout Project (DFS)	FY19 – Qtr 4	FY19 – Qtr 3	\$0.8
System Joint Elimination	FY19 – Qtr 2	TBD	\$5
C35 Interlocking Track Construction	FY18 – Qtr 3	FY20 – Qtr 3	\$13
Yard Track Replacement Construction	FY19 – Qtr 3	TBD	\$200
Renew Track Sub-Total			\$249.9

*** Project funded by RR and other funding sources



Upcoming Procurement/Construction Contract Awards (through FY19)

Project	Advertisement Date	Substantial Completion	Est. Contract Value (\$ millions)
RENEW POWER INFRASTRUCTURE			
34.5 kV Cable – K-Line from 23 rd St to MacArthur	FY20 – Qtr 1	FY21 – Qtr 2	\$7.2
34.5 kV Cable – M-Line from TBT (West) to Valencia St	FY18 – Qtr 4	FY22 – Qtr 1	\$43.2
34.5 kV Cable – M Line from Valencia St to Balboa Park	FY18 – Qtr 4	FY22 – Qtr 4	\$36
34.5 kV Cable – A-Line from Coliseum to Bay Fair	FY19 – Qtr 1	FY21 – Qtr 4	\$19.2
34.5 kV Cable – A-Line from Bay Fair to Union City	FY19 – Qtr 2	FY24 – Qtr 3	\$51.2
34.5 kV Cable – C-Line from Lafayette to Concord	FY19 – Qtr 4	FY25 – Qtr 1	\$60.8
Substation Replacement – A-Line in San Leandro ***	FY18 – Qtr 3	FY20 – Qtr 2	\$7.8
Substation Replacement – K-Line at TBT (East) ***	FY19 – Qtr 3	FY21 – Qtr 2	\$9.7
New Traction Power Substations (Civic Center, Montgomery)	FY19 – Qtr 3	FY22 – Qtr 1	\$29.1
Oakland Emergency Generator***	FY17 – Qtr 3	FY21 – Qtr 2	\$30.5
Station Emergency Lighting	FY18 – Qtr 4	FY23 – Qtr 1	\$23.5
Renew Power Sub-Total			\$318.2

*** Project funded by RR and other funding sources



Upcoming Procurement/Construction Contract Awards (through FY19)

Project	Advertisement Date	Substantial Completion	Est. Contract Value (\$ millions)
REPAIR TUNNELS & STRUCTURES			
TBT Cross Passage Doors	FY18 – Qtr 3	FY20 – Qtr 1	\$2
Aerial Fall Protection	FY19 – Qtr 3	FY25 – Qtr 4	\$43
Renew Catwalks	FY19 – Qtr 3	FY26 – Qtr 1	\$36
Caldecott BART Tunnel Creep Repair	FY20 – Qtr 1	FY21 – Qtr 3	\$36
Repair Tunnels & Structures Sub-Total			\$117



Upcoming Procurement/Construction Contract Awards (through FY19)

Project	Advertisement Date	Substantial Completion	Est. Contract Value (\$ millions)
RENEW MECHANICAL			
Yard Fire Services	FY19 – Qtr 1	FY21 – Qtr 3	\$15
Backflow Preventers	FY19 – Qtr 2	FY21 – Qtr 2	\$13
LMA Computer Room Air Conditioning (CRAC) System Replacement	FY18 – Qtr 3	FY20 – Qtr 1	\$0.4
Facilities HVAC Equipment Replacement	FY19 – Qtr 2	FY22 – Qtr 1	\$13
Fire Protection and Fire/Life Safety in the L-Line Tunnel	FY19 – Qtr 1	FY20 – Qtr 2	\$3
Replace Hydraulic Truck Lifts	FY18 – Qtr 3	FY20 – Qtr 2	\$3.6
Replacement of Rotoclones	FY19 – Qtr 4	FY21 – Qtr 2	\$1
Sewage Pump Replacement	FY19 – Qtr 4	FY21 – Qtr 2	\$5.4
Renew Mechanical Sub-Total			\$54.4



Upcoming Procurement/Construction Contract Awards (through FY19)

Project	Advertisement Date	Substantial Completion	Est. Contract Value (\$ millions)
REPLACE TRAIN CONTROL/INCREASE CAPACITY			
Train Control Modernization Program*** (RR Share=35%)	FY18 – Qtr 1	FY28 – Qtr 2	\$650
RENEW STATIONS			
Renovation of Escalators, Install of Street Entry Canopies at Downtown SF Stations***	FY18 – Qtr 4	FY25 – Qtr 2	\$164

*** Project funded by RR and other funding sources



Upcoming Procurement/Construction Contract Awards (through FY19)

Project	Advertisement Date	Substantial Completion	Est. Contract Value (\$ millions)
EXPAND SAFE ACCESS TO STATIONS			
ACTIVE ACCESS - El Cerrito Del Norte – Ohlone Greenway and Bus Shelters	Done	FY19 – Qtr 4	\$2.3 (added to Station Mod contract)
ACTIVE ACCESS - Fremont Station Bike Station	FY19 – Qtr 4	FY21 – Qtr 2	\$0.7
ACTIVE ACCESS - Fremont Station Pedestrian Connections	FY19 – Qtr 4	FY20 – Qtr 3	\$0.5 (added to repaving contract)
ACTIVE ACCESS - Dublin/Pleasanton Station Bike Station, Iron Horse Trail	FY19 – Qtr 4	FY21 – Qtr 2	\$3.0
ACTIVE ACCESS - San Leandro Station Bike Station	FY19 – Qtr 4	FY21 – Qtr 2	\$0.8
ACTIVE ACCESS - North Berkeley Station Bike Station, Ohlone Gap Closure	FY19 – Qtr 4	FY21 – Qtr 1	\$1.0
ACTIVE ACCESS - Downtown SF Embarcadero & Civic Center Bike Stations	FY19 – Qtr 2	FY19 – Qtr 2	\$0.3
ACTIVE ACCESS - 19th Street Station Bike Station	FY19 – Qtr 4	FY21 – Qtr 2	\$1.0 (part of larger project)
ACTIVE ACCESS - Bicycle Stair Channels	FY19 – Qtr 1	FY20 – Qtr 3	\$0.3 (multiple contracts)
ACTIVE ACCESS - MacArthur Plaza	(not BART contract)	FY18 – Qtr 4	\$2.0 (supplement)
ACTIVE ACCESS - MacArthur Station 40th Street Pedestrian Lighting	FY19 – Qtr 3	FY20 – Qtr 2	\$0.4
ACTIVE ACCESS - Accessible Fare Gates	FY18 – Qtr 3 (Various)	Varies	\$2.0
SHARED MOBILITY - Pittsburg/Bay Point – Pick-Up/Drop-off & Bike Lanes	FY18 – Qtr 3	FY19 – Qtr 3	\$0.2 (added to repaving contract)
SENIOR & DISABLED ACCESS - Districtwide Accessibility Improvement Prgm	FY19 – Qtr 4	FY23 – Qtr 2	\$2.6
SENIOR & DISABLED ACCESS - Elevator Lobby LED Lighting Improvements	FY18 – Qtr 3	FY19 – Qtr 2	\$0.4
Expand Safe Access to Stations Sub-Total			\$17.5



Upcoming Procurement/Construction Contract Awards (through FY19)

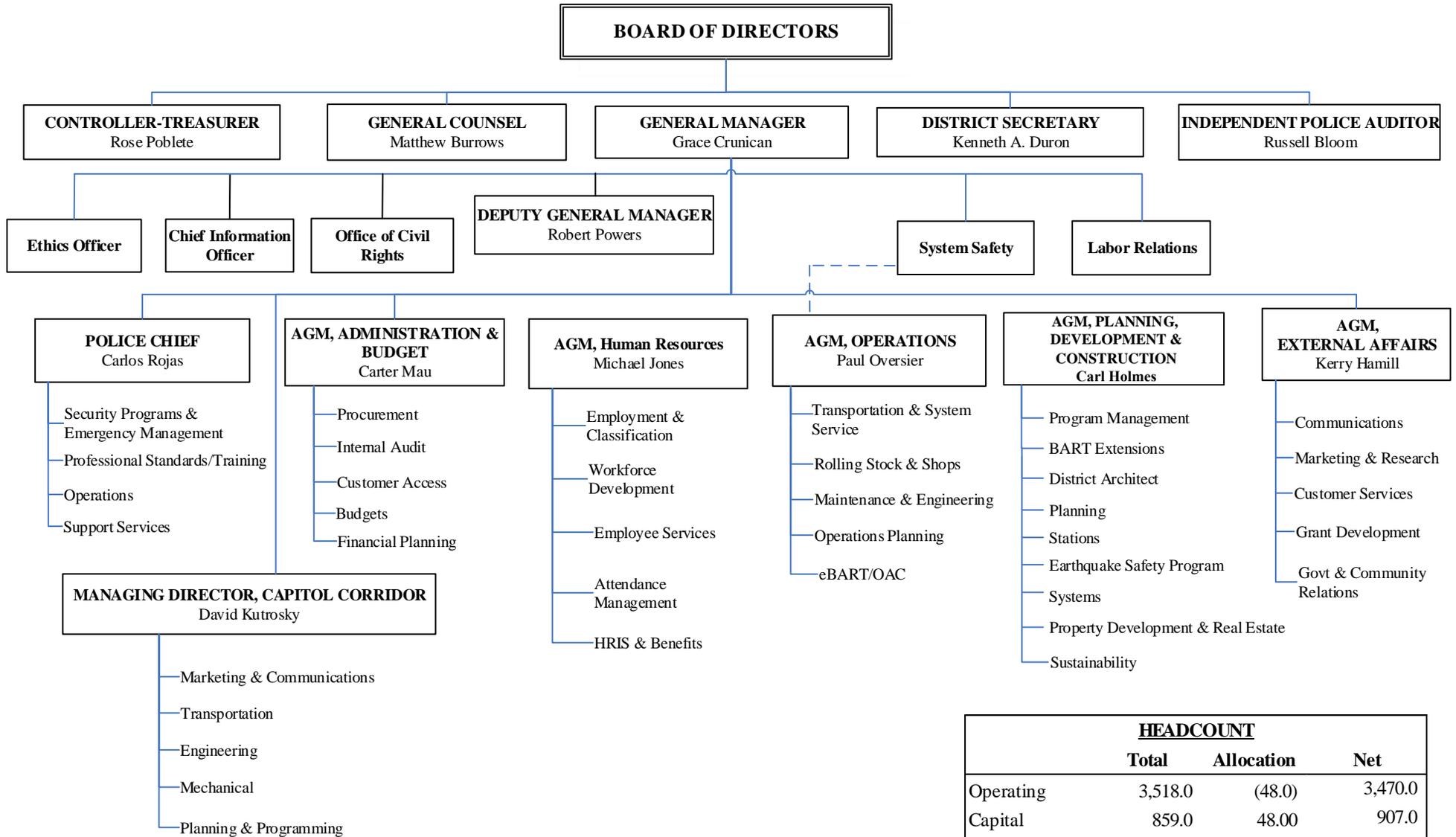
Project	Advertisement Date	Substantial Completion	Est. Contract Value (\$ millions)
DESIGN/ENGINEER TO RELIEVE CROWDING			
Platform Screen Door – Demo Project	FY19 – Qtr 1	TBD	\$7
Metro Designs: Installation of New Platform Elevator at Embarcadero Station***	FY18 – Qtr 4	FY21 – Qtr 4	\$9.2
Metro Designs: Millbrae/Dublin Pleasanton Tail Track Extension Project***	FY19 – Qtr 2	FY21 – Qtr 2	\$6
Design/Engineer to Relieve Crowding Sub-Total			\$22.2

*** Project funded by RR and other funding sources

UPCOMING PROCUREMENT/CONSTRUCTION CONTRACT AWARDS TOTAL

\$1,593M

**SAN FRANCISCO BAY AREA RAPID TRANSIT
FY18 Adopted Budget
ORGANIZATION CHART**



	HEADCOUNT		
	Total	Allocation	Net
Operating	3,518.0	(48.0)	3,470.0
Capital	859.0	48.00	907.0
Reimbursable	41.5	-	41.5

Note: Annualized FTE as of FY18 year-end