



# BART Safety, Reliability, and Traffic Relief Program (Measure RR) Update



Bond Oversight Committee  
September 17, 2021



# Bond Oversight Committee Duties & Responsibilities

- Provide diligent, independent and public oversight over the expenditure of funds from the sale of District general obligation bonds
- Assess how bond proceeds are invested to ensure that all spending is authorized by the ballot measure
- Assess whether projects funded by bond proceeds are completed in a timely, cost-effective and quality manner consistent with the best interest of BART riders and District residents
- Publish an annual report that includes a detailed account of the Committee's activities including its expenditures



# Table of Contents

<b>Topic:</b>	<b>Page No.</b>
• Executive Summary	4
• RR Program Small Business & Outreach	5
• RR Program Hiring	9
• Work Progress Since Last Meeting	11
• El Cerrito del Norte Station Modernization	14
• Individual Program Milestones	21
• Budget and Schedule Status	30
• Next Steps	38



# Executive Summary

- Through June 2021, \$991.5M of the Measure RR funds have been invested to complete 30% of the work.
- Successes
  - Interlocking projects meeting performance metrics
    - A75 (near Hayward Yard) is completed
  - Core Capacity West Bay Substations construction in progress
  - Complete Market St. Entry Canopies systems infrastructure within Montgomery St. Station
  - Annual presentation to the board
  - Publication of the annual report
- Challenges
  - COVID-19
  - Returning to Extended service hours

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
5 (-1)	44 (-2)	14 (+1)	61	27 (+2)	151

+ (Projects added in the phase)

- (Projects no longer in the phase)

Note – reporting period May & June to align with fiscal quarters in future reports



# RR Program Small Business & Outreach



# RR Program Update – Small Business

Program	Total RR Commitment	Total RR SB Commitment	SB Commitment %	# of SB Contracts	Total RR Payments on RR Contracts	RR Payments to SBs	SB Payment %
Renew Track	\$126,968,109	\$31,705,186	25%	131	\$94,425,882	\$19,171,566	20%
Renew Power	\$182,961,191	\$87,937,860	46%	182	\$126,977,752	\$82,332,515	65%
Repair Tunnels & Structures	\$138,168,000	\$28,990,230	21%	129	\$88,706,516	\$12,021,311	14%
Renew Mechanical	\$32,302,556	\$10,862,488	34%	65	\$19,790,869	\$7,608,730	38%
Replace Train Control/Increase Capacity	\$27,557,432	\$5,546,080	20%	63	\$16,621,039	\$2,046,103	12%
Renew Stations	\$133,311,112	\$27,579,861	21%	104	\$29,728,585	\$7,767,605	26%
Expand Safe Access to Stations	\$17,360,939	\$4,734,034	27%	100	\$10,469,269	\$3,668,450	35%
Design/Engineer to Relieve Crowding	\$78,254,148	\$16,468,503	21%	79	\$37,795,187	\$11,766,100	31%
<b>Total</b>	<b>\$736,883,487</b>	<b>\$213,824,243</b>	<b>29%</b>	<b>852 (+41)</b>	<b>\$424,515,098</b>	<b>\$146,382,379</b>	<b>34% (-2)</b>

Notes: All amounts are based on RR fund percent only. Amounts are updated to August 27, 2021. Includes formal contracts only; does not include informal purchases or work performed by BART's own forces. SB totals include DBEs, MSBEs, SBs, and LSBs. Sources: RR commitments are based on RR Requisitions report, Procurement Sealed Bids Report and PeopleSoft Work Plans application. RR% for each project is based on Financial Analysts' report, RR Funds / Total Project Budget. Payments based on PeopleSoft and B2GNow.



# RR Program Update – Outreach



## • Recently Completed Events

- BART Outreach - Meet Project Staff and Learn About Upcoming HMC Opportunities
- NorCal PTAC – Matchmaking Event
- BART Outreach – How to Business with BART

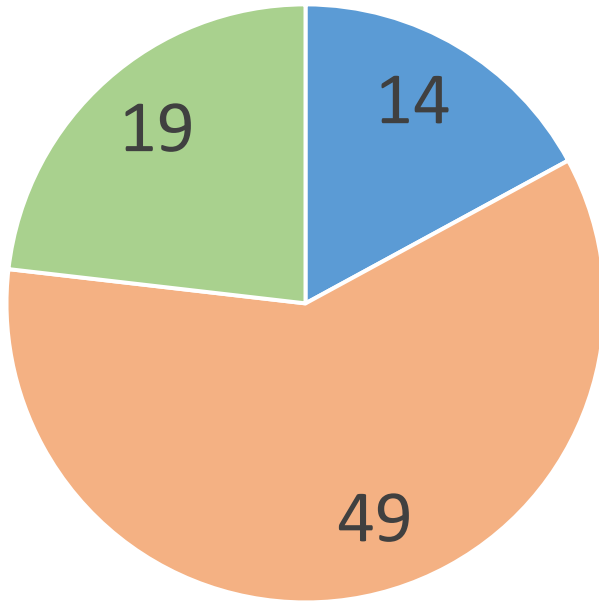


## • Upcoming Events

- BART Outreach – Certifications
- BART Outreach - Meet Project Staff and Learn About Upcoming M&E Projects
- BART Outreach – Learn About BART's Procurement Process



## RR Program Update – FFY21 Certifications



■ DBE ■ M/SBE ■ M/WBE

- 82 certifications processed in FY21
- All certification decisions made within required timeframes
  - DBE: 90-days
  - M/SBE: 90-days
  - M/WBE: 30-days
- Certifications now processed electronically online via B2Gnow





# RR Program Hiring



# Recruitment

Bond Hiring Summary - To Date	Number of Positions
Filled Positions	260
Vacant Positions	52
Posted – Actively Recruiting	3
Interview	1

Data as of 9/2/2021

## Filled Positions – 7/2021 to Present

- Principal Computer System Engineer
- Structures Worker (2)
- Senior Civil Engineer
- Special Project Manager Track and Structures
- Principal Electrical Engineer

## Recruiting

- Operations Supervisor Liaison
- Project Manager
- Computer Systems Engineer

## Interview

- Senior Administrative Analyst

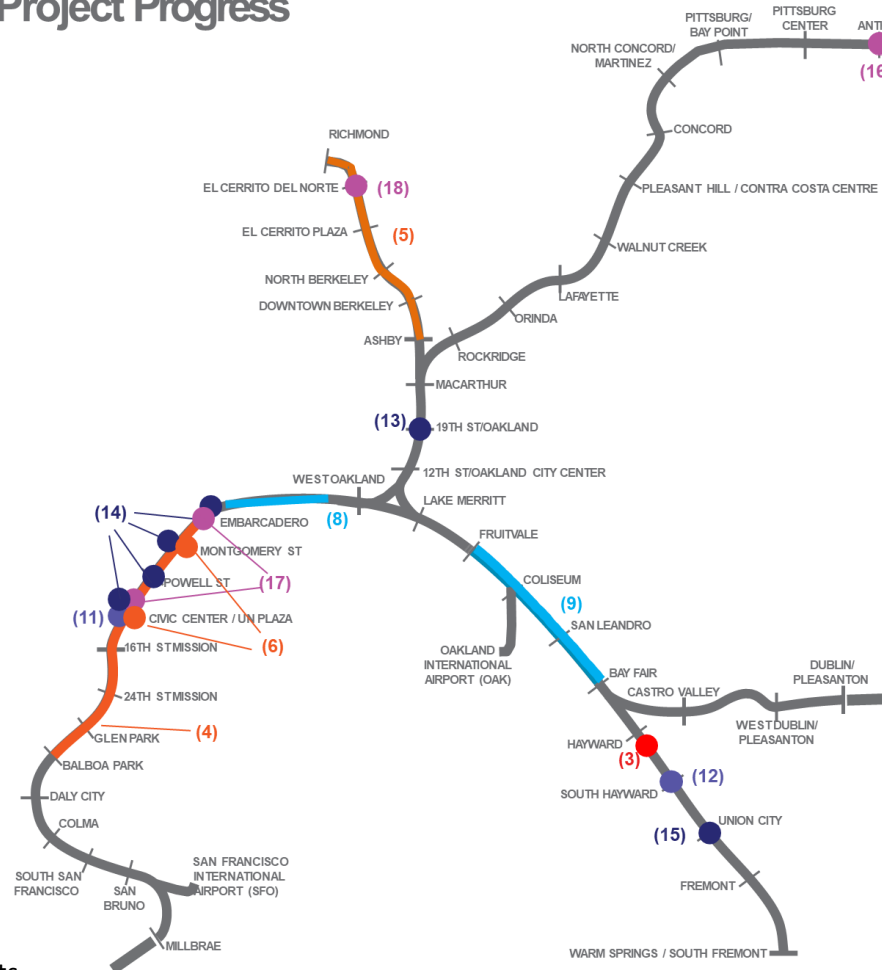


## Work Progress Since Last Meeting



# Examples of Active RR Projects in May 2021 – June 2021

## Measure RR - Project Progress



### Renew Track

- 1 Replace Direct Fixation Pads (Systemwide Not Mapped) – Ongoing Construction
- 2 Rail Relay – Ongoing Construction - (Systemwide Not Mapped)
- 3 A65/A75 Track Interlocking Replacement – Substantially Complete\*

### Renew Power Infrastructure

- 4 M-Line 34.5kV Cable Replacement - Ongoing Construction
- 5 R-Line 34.5kV Cable Replacement – Ongoing Construction
- 6 Substation for Core Capacity – Ongoing Construction\*

### Renew Tunnel & Structures

- 7 Water Intrusion at Train Control Rooms - Ongoing Construction - (Systemwide Not Mapped)\*
- 8 Earthquake Safety Program – Transbay Tube Retrofit – Ongoing Construction
- 9 Aerial Fall Protection A line North – Ongoing Construction

### Renew Mechanical

- 10 Facilities HVAC Equipment Replacement System Wide Phase 1 - Ongoing Construction (Not Mapped)

### Design/Engineer to Relieve Crowding

- 11 Civic Center Scissor Stairs – Ongoing Construction
- 12 Hayward Maintenance Complex Phase 2 - Civil/Grading – Award

### Renew Stations

- 13 19th Street Station Modernization – Ongoing Construction
- 14 Market Street Canopies and Escalator – Ongoing Construction
- 15 Union City Station Modernization - Ongoing Construction

### Expand Safe Access

- 16 eBART Antioch Parking Lot Contract – Ongoing Construction
- 17 Bicycle Stair Channels – Ongoing Construction
- 18 El Cerrito Del Norte – Phase 1 and 2 Opening

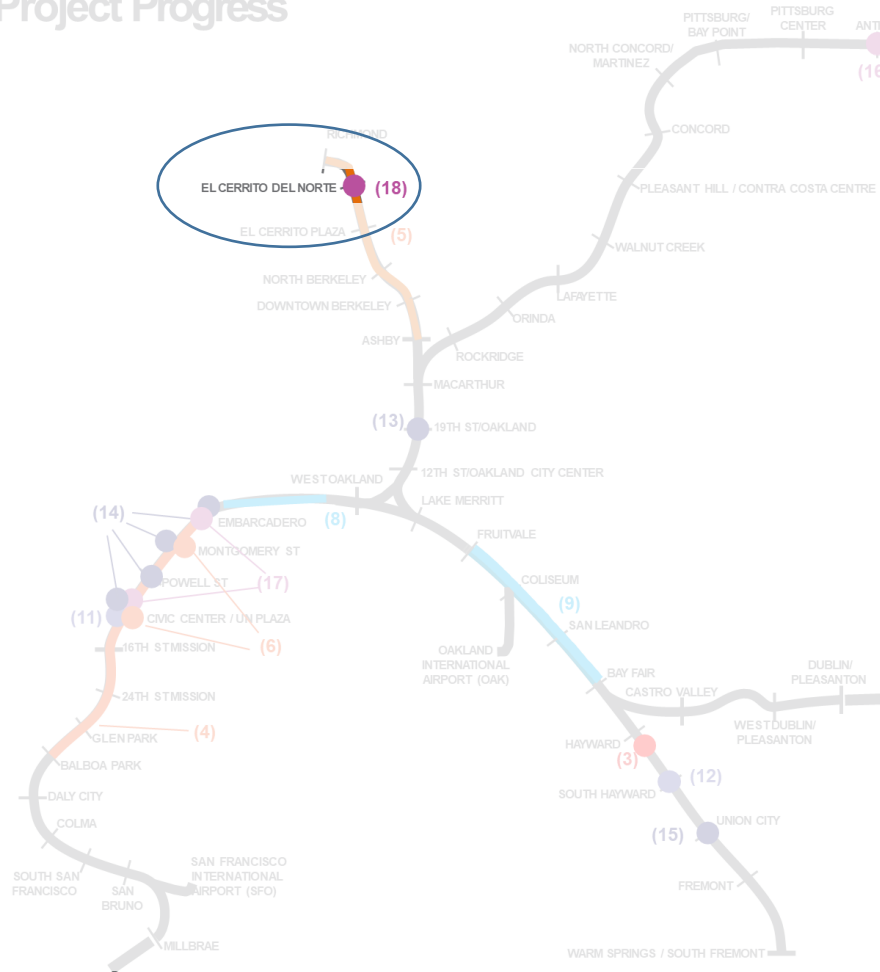
### Replace Train Control/Increase Capacity

- 19 Enabling Works Contract for Power Supply Cabinets & Switch Machine/Train Control Power Cables (Systemwide Not Mapped) – Advertised

\*Updated projects

# El Cerrito del Norte

## Measure RR - Project Progress



### Renew Track

- 1 Replace Direct Fixation Pads (Systemwide Not Mapped) – Ongoing Construction
- 2 Rail Relay – Ongoing Construction - (Systemwide Not Mapped)
- 3 A65/A75 Track Interlocking Replacement – Substantially Complete\*

### Renew Power Infrastructure

- 4 M-Line 34.5kV Cable Replacement - Ongoing Construction
- 5 R-Line 34.5kV Cable Replacement – Ongoing Construction
- 6 Substation for Core Capacity – Ongoing Construction\*

### Renew Tunnel & Structures

- 7 Water Intrusion at Train Control Rooms - Ongoing Construction - (Systemwide Not Mapped)\*
- 8 Earthquake Safety Program – Transbay Tube Retrofit – Ongoing Construction
- 9 Aerial Fall Protection A line North – Ongoing Construction

### Renew Mechanical

- 10 Facilities HVAC Equipment Replacement System Wide Phase 1 - Ongoing Construction (Not Mapped)

### Design/Engineer to Relieve Crowding

- 11 Civic Center Scissor Stairs – Ongoing Construction
- 12 Hayward Maintenance Complex Phase 2 - Civil/Grading – Award

### Renew Stations

- 13 19th Street Station Modernization – Ongoing Construction
- 14 Market Street Canopies and Escalator – Ongoing Construction
- 15 Union City Station Modernization - Ongoing Construction

### Expand Safe Access

- 16 eBART Antioch Parking Lot Contract – Ongoing Construction
- 17 Bicycle Stair Channels – Ongoing Construction
- 18 El Cerrito Del Norte – Phase 1 and 2 Opening

### Replace Train Control/Increase Capacity

- 19 Enabling Works Contract for Power Supply Cabinets & Switch Machine/Train Control Power Cables (Systemwide Not Mapped) – Advertised





**BART Entrance**  
Proof of payment required beyond this point

Welcome to El Cerrito del Norte



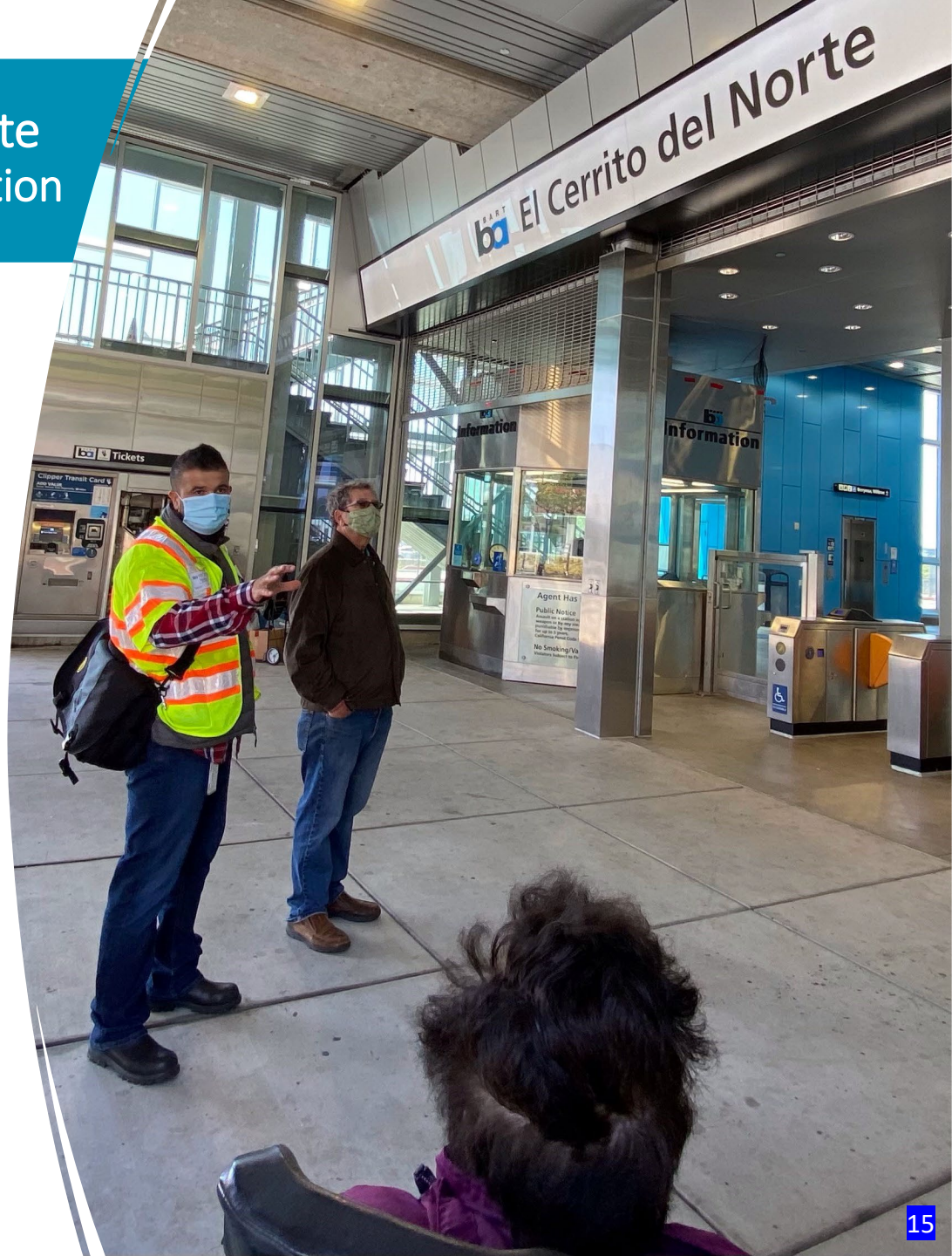




## El Cerrito del Norte Station Modernization

### Significant Improvements:

- Larger paid area of the station's concourse
- New LED station and emergency lighting
- Two new elevators and outboard staircases
- Floor to ceiling glass window-walls
- Two new restrooms
- Station art
- A new station agent's booth
- Wayfinding signage
- New fire-life safety system
- Intermodal access and other site enhancements





## Lesson Learned

- Utilize modern technology to assist with design
- Detailed constructability reviews earlier in the design phase
- Soils testing for possible contamination
- As-built verification – actual field conditions
- Account for non-revenue shift vs graveyard shift
  - Graveyard shift: 10 pm – 6 am
  - Non-revenue shift: 1:30 am – 4 am (M-F)







## El Cerrito del Norte Station Modernization



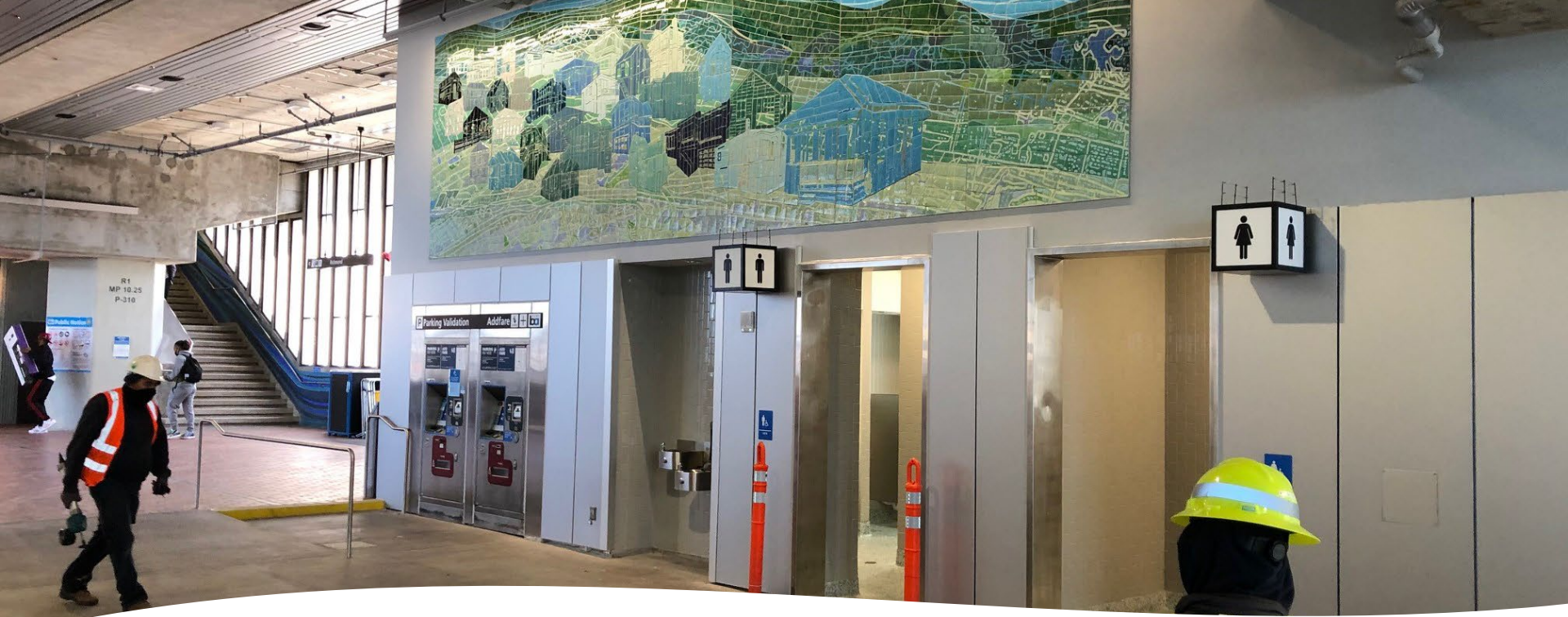




# El Cerrito del Norte – Vertical Circulation











# El Cerrito del Norte

## Intermodal Access and Other Site Enhancements





# Individual Program Milestones



# Renew Track

## STATUS & MILESTONES

EXPENDED Thru 06/2021: **\$274.6**  
 FORECAST Thru 9/2023: **\$382**  
 TOTAL PROGRAM VALUE: **\$625**  
 PERIOD CASHFLOW: **\$13.3**

### STATUS – Renew Track

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
0	2	2	8	8	20

### MILESTONES

Completed (May 2021 – Jun 2021)	Q1 (Jul 2021 – Sep 2021)	Q2 (Oct 2021 – Dec 2021)	Q3 (Jan 2022 – Mar 2022)
<ul style="list-style-type: none"> <li>Completion of Construction Shutdowns for A75 Interlocking Replacement (near Hayward Yard)</li> <li>Completion of Design for Friction Modification Study</li> <li>Completion of Construction for R65 Interlocking Replacement (near Richmond Station)</li> <li><i>Contract Award for A77 Interlocking Replacement Special Trackwork</i></li> </ul>	<ul style="list-style-type: none"> <li><i>Ongoing Construction for Direct Fixation Pad Replacement</i></li> <li><i>Ongoing Construction for Rail Replacement</i></li> </ul>	<ul style="list-style-type: none"> <li>Begin Construction for A77 Interlocking Replacement</li> <li>Receive Rail Shipment #4 for Rail Replacement</li> </ul>	<ul style="list-style-type: none"> <li><i>Issue for Bid K Line Interlocking Replacement Special Trackwork (near MacArthur Station)</i></li> <li><i>Issue for Bid Richmond Yard Track Rehabilitation Special Trackwork</i></li> </ul>

### Watchlist:

- Material acquisition (i.e., ballast, concrete, sand, etc.) for A77

*Italic: Modified milestones from previous report.*



# Renew Power STATUS & MILESTONES

EXPENDED Thru 06/2021: \$369.4  
FORECAST Thru 9/2023: \$573  
TOTAL PROGRAM VALUE: \$1,225  
PERIOD CASHFLOW: \$26.6

## STATUS – Renew Power Infrastructure

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
0	6	4	17	2	29

### MILESTONES

Completed (May 2021 – Jun 2021)	Q1 (Jul 2021 – Sep 2021)	Q2 (Oct 2021 – Dec 2021)	Q3 (Jan 2022 – Mar 2022)
<ul style="list-style-type: none"> <li>Begin Construction for Core Capacity Substation at Montgomery Station</li> <li><i>Contract Award for Procurement of Portable Traction Power Substations</i></li> </ul>	<ul style="list-style-type: none"> <li>Completion of Design for Station Fire Alarm Replacement Phase 3</li> <li><i>Contract Award for R Line 34.5kV Cable Replacement</i></li> </ul>	<ul style="list-style-type: none"> <li>Completion of Design for Station Fire Alarm Replacement Phase 4</li> <li><i>Completion of Design for the K Line 34.5kV Cable Replacement</i></li> <li><i>Completion of Design for High Voltage Blocking Scheme, Phase 2</i></li> <li><i>Completion of Design for the MXP Gap Breaker Replacement</i></li> </ul>	<ul style="list-style-type: none"> <li><i>Issue for Bid Station Fire Alarm Replacement Phase 3</i></li> <li>Substantial Completion of Steppable Trays and AFM IDS Installation for A Line 34.5kV Cable Replacement</li> <li><i>Issue for Bid Walnut Creek Traction Power Substation Replacement</i></li> </ul>

## Watchlist:

- Bid Package Development for Walnut Creek Traction Power Substation Replacement
- Design Package Revisions for Station Fire Alarm Replacement Phase 3 and Phase 4

*Italic: Modified milestones from previous report.*





# Tunnels & Structures

## STATUS & MILESTONES

EXPENDED Thru 06/2021: **\$130.9**  
 FORECAST Thru 9/2023: **\$136**  
 TOTAL PROGRAM VALUE: **\$570**  
 PERIOD CASHFLOW: **\$15.7**

### STATUS – Repair Tunnels & Structures

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
1	12	0	8	5	26

### MILESTONES

Completed (May 2021 – Jun 2021)	Q1 (Jul 2021 – Sep 2021)	Q2 (Oct 2021 – Dec 2021)	Q3 (Jan 2022 – Mar 2022)
<ul style="list-style-type: none"> <li>• Completion of Design for Water Intrusion at Train Control Rooms (Package 1)</li> <li>• Completion of Construction for Safety Barriers Phase 3</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Completion of Design for Aerial Fall Protection (C Line)</i></li> <li>• <i>Begin Construction for Aerial Fall Protection (A Line South Pilot)</i></li> <li>• <i>Begin Construction for Renew Catwalks (A Line Phase 1)</i></li> <li>• <i>Begin Construction for Richmond Yard Fence Rehabilitation</i></li> <li>• <i>Completion of Transbay Tube M1 Bore Earthquake Retrofit</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Completion of Design for Water Intrusion at Train Control Rooms (Package 2)</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Completion of Design for Slope Stabilization Systemwide</i></li> <li>• <i>Completion of Design for Water Intrusion at Train Control Rooms (Package 3)</i></li> <li>• <i>Completion of Design for Water Intrusion at Track and Platform Joint at C and R Lines</i></li> <li>• <i>Completion of Design for Water Intrusion at Track and Platform Joint at A Line</i></li> </ul>

### Watchlist:

- Issues with delivered materials for lift assist ballards

*Italic: Modified milestones from previous report.*





# Renew Mechanical

## STATUS & MILESTONES

EXPENDED Thru 06/2021: \$55.8

FORECAST Thru 9/2023: \$77

TOTAL PROGRAM VALUE: \$135

PERIOD CASHFLOW: \$2.4

## STATUS – Renew Mechanical

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
1	6	4	10	4	25

## MILESTONES

Completed (May 2021 – Jun 2021)	Q1 (Jul 2021 – Sep 2021)	Q2 (Oct 2021 – Dec 2021)	Q3 (Jan 2022 – Mar 2022)
<ul style="list-style-type: none"> <li>Completion of Construction for Replacement of Fire Hoses and Cabinets</li> </ul>	<ul style="list-style-type: none"> <li>Contract Award of Design for Concord Yard Turntable Replacement</li> <li>Contract Award of Concord Yard Wheel Truing Machine</li> <li>Completion of Construction for Rotoclones Replacement</li> <li>Completion of Construction for HVAC Replacements Systemwide</li> </ul>	<ul style="list-style-type: none"> <li><i>Ongoing Construction for Replace Sewage Pumps</i></li> <li><i>Ongoing Construction for Richmond Yard Fire Services</i></li> </ul>	<ul style="list-style-type: none"> <li><i>Issue for Bid Concord Yard Wheel Truing Facility Construction</i></li> </ul>

## Watchlist:

- Bid prices for Hayward Yard Fire Services

*Italic:* Modified milestones from previous report.



# Replace Train Control

## STATUS & MILESTONES

EXPENDED Thru 06/2021: **\$39.6**

FORECAST Thru 9/2023: **\$89**

TOTAL PROGRAM VALUE: **\$400**

PERIOD CASHFLOW: **\$3.8**

### STATUS – Replace Train Control / Increase Capacity

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
0	0	2	4	0	6

#### MILESTONES

Completed (May 2021 – Jun 2021)	Q1 (Jul 2021 – Sep 2021)	Q2 (Oct 2021 – Dec 2021)	Q3 (Jan 2022 – Mar 2022)
<ul style="list-style-type: none"> <li>• Complete CBTC Conceptual Design Review</li> <li>• Bid Opening for Power Supply Cabinets &amp; Switch Machine/Train Control Cables</li> <li>• Finalize Demo Lidar Survey Data on S-Line</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Contract Award for Power Supply Cabinets &amp; Switch Machine/Train Control Cables</i></li> <li>• <i>Complete Initial Surveys for Train Control Rooms</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Begin installation of LIDAR survey bench markers on W, Y, M, K-Lines</i></li> <li>• <i>Begin Electromagnetic Compatibility (EMC)/ Electromagnetic Interface (EMI) Surveys</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Complete CBTC Preliminary Design</i></li> <li>• <i>Resolve Vital Train Length testing on test Track</i></li> <li>• <i>Review of the Automatic Train Supervision (ATS) Human Machine Interface (HMI) Specification and ATS sub-system requirement specifications</i></li> </ul>

#### Watchlist:

- *Power Supply Cabinets & Switch Machine/Train Control Cables*

*Italic: Modified milestones from previous report.*



# Renew Stations

## STATUS & MILESTONES

EXPENDED Thru 06/2021: **\$43.4**

FORECAST Thru 9/2023: **\$125**

TOTAL PROGRAM VALUE: **\$210**

PERIOD CASHFLOW: **\$5.4**

## STATUS – Renew Stations

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	<b>TOTAL # Projects</b>
0	2	0	6	1	<b>9</b>

## MILESTONES

<b>Completed</b> (May 2021 – Jun 2021)	<b>Q1</b> (Jul 2021 – Sep 2021)	<b>Q2</b> (Oct 2021 – Dec 2021)	<b>Q3</b> (Jan 2022 – Mar 2022)
<ul style="list-style-type: none"> <li>• Complete Market St. Entry Canopies systems infrastructure within Montgomery St. Station</li> <li>• Completion of Construction of El Cerrito Del Norte – fully open to public</li> <li>• Substantial Completion of Construction for Powell St. Station Modernization Sector 6 New Offices</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Completion of Construction for 1<sup>st</sup> Group of Market St. Escalators</i></li> <li>• <i>Complete Market St. Entry Canopies Systems Infrastructure within Powell St. Station</i></li> <li>• Completion of Construction for Union City Station Modernization</li> <li>• <i>Completion of New Glass Barriers Installation at Hallidie Plaza entrance for Powell St. Station Modernization</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Completion of Construction for 2 of 3 Second Group Market St. Escalators (Montgomery Station)</i></li> <li>• <i>Complete Market St. Entry Canopies Systems Infrastructure within Civic Center Station</i></li> <li>• <i>Completion of Construction for Public Restrooms as part of Powell St. Station Modernization</i></li> <li>• <i>Completion of Construction for Public Restrooms as part of 19<sup>th</sup> St. Modernization</i></li> </ul>	<ul style="list-style-type: none"> <li>• Completion of Construction for 1 of 3 Second Group Market St. Escalators (Powell St. Station)</li> <li>• Begin Construction of Canopy 12 at Montgomery St. Station and Canopy 16 at Westfield of Powell St. Station,</li> <li>• Begin Market St. Entry Canopies Systems Infrastructure within Embarcadero Station</li> </ul>

## Watchlist:

- 19<sup>th</sup> St. Station Modernization

*Italic: Modified milestones from previous report.*



# Station Access STATUS & MILESTONES

EXPENDED Thru 06/2021: **\$30.0**

FORECAST Thru 9/2023: **\$37**

TOTAL PROGRAM VALUE: **\$135**

PERIOD CASHFLOW: **\$3.7**

## STATUS – Expand Safe Access to Stations

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
1	13	1	7	6	28

### MILESTONES

Completed (May 2021 – Jun 2021)	Q1 (Jul 2021 – Sep 2021)	Q2 (Oct 2021 – Dec 2021)	Q3 (Jan 2022 – Mar 2022)
<ul style="list-style-type: none"> <li>• Completion of Construction of El Cerrito Del Norte – fully open to public</li> <li>• SFMTA to Issue for Bid Civic Center Access Improvements (as part of Better Market Street Project)</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Begin Construction of North Berkeley Active Access Improvement (Phase 1)</i></li> <li>• Issue for Bid Accessibility Improvement (Phase 1)</li> <li>• Completion of Construction for the Parking Lot Reconfiguration at Dublin/Pleasanton</li> <li>• <i>Completion of Design for 12th St. Bike Racks</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Completion of Construction for Warm Springs West Pedestrian Bridge and Plaza Project</i></li> <li>• <i>Completion of Construction for eBART Antioch Parking Lot</i></li> <li>• <i>SFMTA to Issue for Bid Civic Center Access Improvements (as part of Better Market Street Project)</i></li> <li>• <i>Completion of Design of Balboa Park – Upper Plaza project</i></li> </ul>	<ul style="list-style-type: none"> <li>• Completion of Construction for 12th St. Bike Racks</li> <li>• Begin Construction for Accessibility Improvement (Phase 1)</li> </ul>

### Watchlist:

- None



# Relieve Crowding

## STATUS & MILESTONES

EXPENDED Thru 06/2021: **\$47.7**

FORECAST Thru 9/2023: **\$76**

TOTAL PROGRAM VALUE: **\$200**

PERIOD CASHFLOW: **\$7.7**

### STATUS – Design / Engineer to Relieve Crowding

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
2	3	1	1	1	8

#### MILESTONES

Completed (May 2021 – Jun 2021)	Q1 (Jul 2021 – Sep 2021)	Q2 (Oct 2021 – Dec 2021)	Q3 (Jan 2022 – Mar 2022)
<ul style="list-style-type: none"> <li>Contract Award for NTRC (Link21) Program</li> <li>Begin Steel Erection for Civic Center Station Scissor Stairs</li> <li>Completion of Design for Millbrae Tail Tracks Extension</li> </ul>	<ul style="list-style-type: none"> <li>First Round of Public Outreach for Link21 (NTRC) Program</li> <li><i>NTP for Hayward Maintenance Complex Phase 2: Civil/Grading</i></li> </ul>	<ul style="list-style-type: none"> <li>Complete 60% submittal for re-design of Hayward Maintenance Complex Phase 2: East Storage Yard</li> <li><i>Second Round of Public Outreach for Link21 (NTRC) Program</i></li> </ul>	<ul style="list-style-type: none"> <li><i>Completion of Construction for Civic Center Station Scissor Stairs</i></li> </ul>

#### Watchlist:

- Hayward Maintenance Complex Phase 2: Civil/Grading

*Italic: Modified milestones from previous report.*



# Budget and Schedule Status



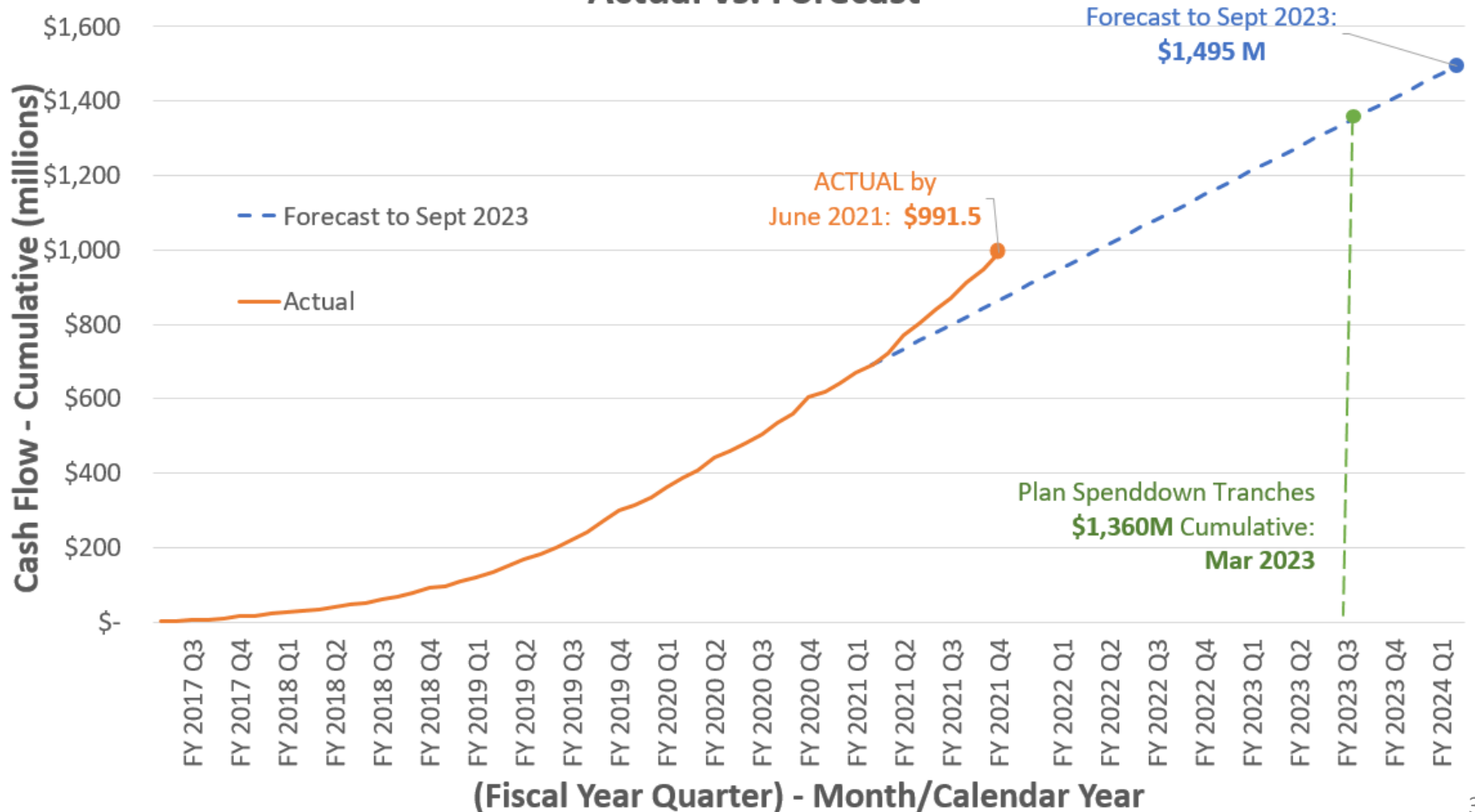
# Measure RR Cashflow (\$ Millions) – Mid-Term & Long-Term Outlook

Program	Expended (thru April 2021)	Expended (thru June 2021)	Period Cashflow (May 2021 – June 2021)	% Expended out of Total Bond Investment	Forecast Expenditures		
					SHORT- TERM (thru September 2023)	MID-TERM (thru 2025)	LONG-TERM (thru End of Bond)
Renew Track	\$261.3	\$274.6	\$13.3	44%	\$382	\$400	\$625
Renew Power Infrastructure	\$342.8	\$369.4	\$26.6	30%	\$573	\$608	\$1,225
Repair Tunnels & Structures	\$115.2	\$130.9	\$15.7	23%	\$136	\$268	\$570
Renew Mechanical	\$53.5	\$55.8	\$2.4	41%	\$77	\$65	\$135
Replace Train Control/Increase Capacity	\$35.8	\$39.6	\$3.8	10%	\$89	\$286	\$400
Renew Stations	\$38.0	\$43.4	\$5.4	21%	\$125	\$148	\$210
Expand Safe Access to Stations	\$26.4	\$30.0	\$3.7	22%	\$37	\$86	\$135
Design/Engineer to Relieve Crowding	\$40.0	\$47.7	\$7.7	24%	\$76	\$69	\$200
<b>Total</b>	<b>\$913.0</b>	<b>\$991.5</b>	<b>\$78.6</b>	<b>28%</b>	<b>\$1,495</b>	<b>\$1,930</b>	<b>\$3,500</b>



# RR Overall Program Budget Progress

## BART Measure RR Program Spending Actual vs. Forecast







# Earned Value Rollup by Program

as of June 30, 2021

RR Program	Total RR Budget	Physical % Complete	Planned Value	Earned Value	RR Accrued to Date	CPI	SPI
Renew Track	\$625	50%	\$306.96	\$312.56	\$314.17	0.99	1.02
Renew Power	\$1,225	33%	\$525.62	\$403.47	\$449.32	0.90	0.77
Repair Tunnels and Structures	\$549	18%	\$128.32	\$98.81	\$102.93	0.96	0.77
Renew Mechanical	\$156	38%	\$67.89	\$58.82	\$58.47	1.01	0.87
Replace Train Control/ Increase Capacity	\$400	11%	\$44.54	\$42.76	\$39.59	1.08	0.96
Renew Stations	\$210	22%	\$46.48	\$45.92	\$43.63	1.05	0.99
Expand Safe Access to Stations	\$135	22%	\$34.24	\$30.33	\$31.74	0.96	0.89
Design/Engineer to Relieve Crowding	\$200	27%	\$58.81	\$53.78	\$54.42	0.99	0.91
<b>Total</b>	<b>\$3,500</b>	<b>30%</b>	<b>\$1,212.86</b>	<b>\$1,046.44</b>	<b>\$1,094.28</b>	<b>0.96</b>	<b>0.86</b>



# Track Program Drill Down

Project	Count
Number of Projects (>25% Spent)	14
CPI <0.9 or >1.1	6
SPI <0.9 or >1.1	3
Number of Risk Register Updates Performed in Previous Period	2
Number of Project Quality Reviews Performed in Previous Period	6

Project	Physical % Complete	CPI	SPI	Comments
C25 Interlocking Replacement	99%	1.13	0.99	Realized savings during construction.
R65 Mainline Interlocking	98%	1.23	0.98	Realized savings during construction.
Replace Direct Fixation Pads	80%	1.02	1.93	More than 2,000 pads installed since last report. Continuing to benefit from extended blanket hours due to COVID-19 response
Frog Capital Maintenance	68%	1.22	1.07	Extended blanket hours increased production efficiency
Rail Reprofilng	58%	1.37	1.42	Benefitting from extended blanket hours due to COVID-19.
Rail Replacement	54%	0.85	0.90	Expending more than anticipated and expect to recover over project duration. Schedule delay is result of rail delivery. Installation is on schedule.
Oakland Yard Tracks Project	48%	1.00	0.88	Differing site conditions impacting schedule.
Switch Replacement	41%	0.79	1.07	Additional cost incurred to accelerate work.



# Power Program Drill Down

Project	Count
Number of Projects (>25% Spent)	15
CPI <0.9 or >1.1	5
SPI <0.9 or >1.1	7
Number of Risk Register Updates Performed in Previous Period	3
Number of Project Quality Reviews Performed in Previous Period	11

Project	Physical % Complete	CPI	SPI	Comments
San Leandro and Transbay Tube East Substation Replacements	50%	0.97	0.81	Accelerating portable substation work to recover schedule. Expected to finish on schedule.
M-Line 34.5 kV AC Cable Replacement	74%	1.03	1.27	Benefitting from extended blanket hours due to COVID-19.
MPR Install & Rectifier Rehab	43%	1.12	0.82	Self-performing with shared resources reducing cost and impacting schedule. No impact to program
CWS Bulk Supply Transformer	42%	0.88	0.86	Transformer installation delay
34.5kV Blocking Scheme Systemwide	30%	0.59	0.30	Transitioned to self-performed work to reduce cost and recover schedule. No impact to program.
Cast Coil Transformer Replacement	29%	0.90	0.42	Rejected all bids. Strategic resequencing of work. No impact to program.
PG&E Power Feed MXP Gap Break	28%	0.88	0.33	Delayed to address design quality.



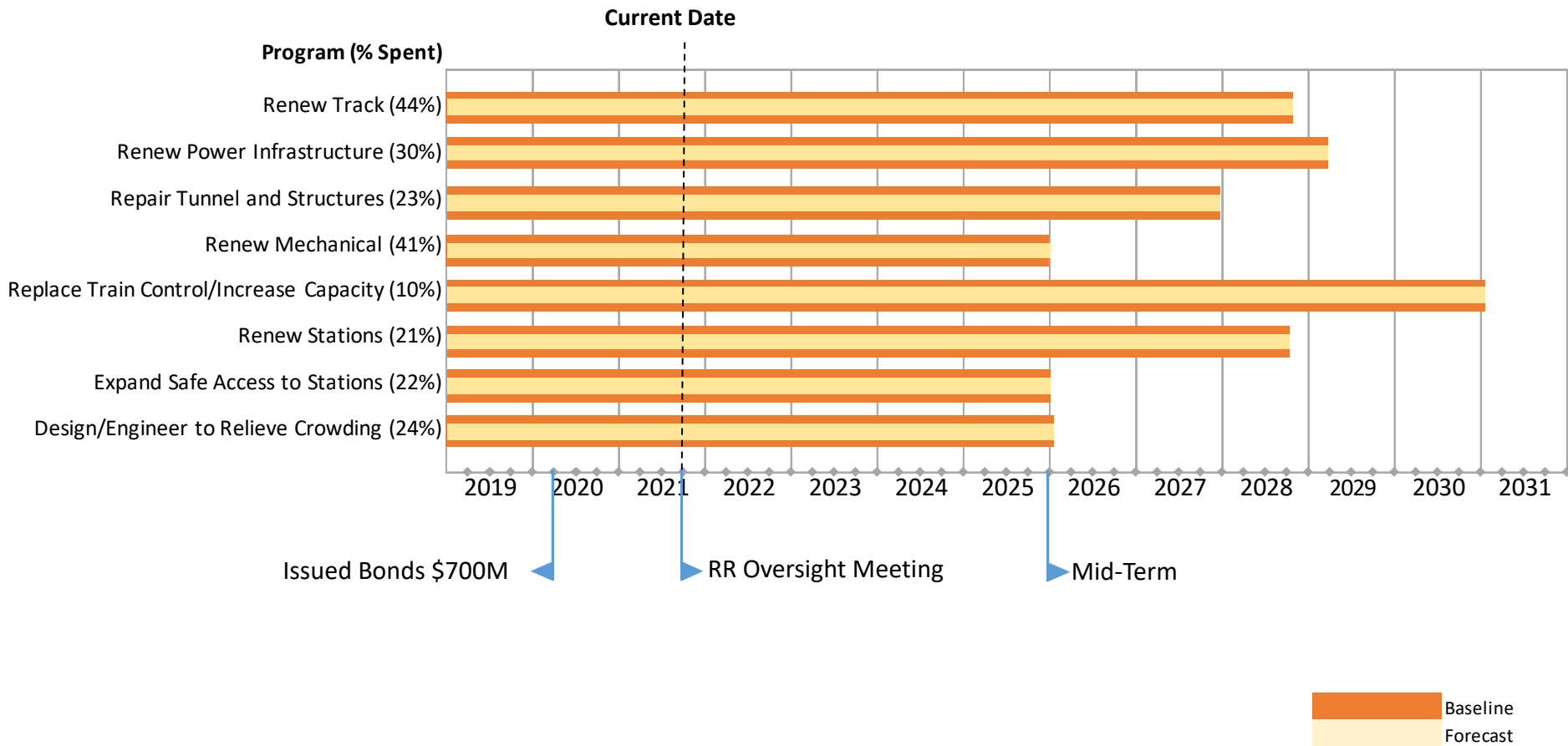
# Mechanical Program Drill Down

Project	Count
Number of Projects (>25% Spent)	21
CPI <0.9 or >1.1	1
SPI <0.9 or >1.1	3
Number of Risk Register Updates Performed in Previous Period	1
Number of Project Quality Reviews Performed in Previous Period	3

Project	Physical % Complete	CPI	SPI	Comments
Install Access Ladders	99%	1.00	1.14	All ladders installed. Benefitted from extended blanket hours due to COVID-19 response.
Replace Fire Hoses and Piping	95%	1.23	1.04	Self-performing to improve efficiency. Benefitting from reassignment of labor resources due to COVID-19 response.
Rotoclones Replacement (Wet Dust Collectors)	82%	0.99	0.82	Sites are being worked in parallel to recover project schedule.
Replace Backflow Preventers	39%	1.10	0.60	No bids received. Work self performed at two locations. Five locations to be complete by service contract.



# Program Level Schedule Update





## Next Steps

- Begin Construction for A77 Interlocking Replacement Special Trackwork
- Demolition and Site Preparation for Installation of New Traction Power Substation at Montgomery Station
- Progressing with Construction of S.F. Market St. Canopies and Escalators Replacement Projects
- December 2021 Bond Oversight Meeting