

San Francisco Bay Area Rapid Transit District

2150 Webster Street, P. O. Box 12688, Oakland, CA 94604-2688



COMMITTEE MEETING AGENDA

Friday, April 19, 2024

9:30 AM

The BOC Meeting will be held in-person, with an option for public participation via teleconference.

**BART Board Room, 2150 Webster Street, 1st Floor, Oakland,
California 94612. Zoom Link: <https://us06web.zoom.us/j/>**

Bond Oversight Committee

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT
2150 Webster Street, P.O. Box 12688, Oakland, CA 94604-2688

NOTICE OF MEETING AND AGENDA
BOND OVERSIGHT COMMITTEE
Friday, April 19, 2024
9:30 a.m. – 12:00 p.m.

COMMITTEE MEMBERS: Chairperson Michael McGill, Vice Chairperson Cindy Simon Rosenthal, Vinit Shrawagi, Sonja C. Stewart, Janey Wang, Suzanne Loosen

A Meeting of the Bond Oversight Committee will be held on Friday, April 19, 2024, at 9:30 a.m. in the BART Board Room, 2150 Webster Street, 1st Floor, Oakland, California 94612.

This will be an In-Person Meeting in the BART Board Room, 2150 Webster Street, 1st Floor, Oakland, California 94612 with an option for public participation via teleconference.

Presentation materials will be available via Legistar at <https://bart.legistar.com>

You may attend the Committee Meeting in person or join the Committee Meeting via Zoom by calling 1 (833) 548-0282 and entering access code 867 0288 7375; logging in to Zoom.com and entering access code 867 0288 7375; or typing the following Zoom link into your web browser: (<https://us06web.zoom.us/j/86702887375>)

If you wish to make a public comment:

1. Submit written comments via email to cfilipp@bart.gov, using “public comment” as the subject line. Your comment will be read into the record and will become a permanent part of the file. Please submit your comments as far in advance as possible. Emailed comments must be received before 9:00 a.m. of the day of the Committee meeting in order to be included in the record.

2. Appear in person and request to make a public comment.

3. Call 1 (833) 548-0282, enter access code 867 0288 7375, dial *9 to raise your hand when you wish to speak, and dial *6 to unmute when you are requested to speak; log in to Zoom.com, enter access code 867 0288 7375, and use the raise hand feature; or join the Committee Meeting via the Zoom link (<https://us06web.zoom.us/j/86702887375>) and use the raise hand feature.

Public comment is limited to three (3) minutes per person. If public comment is by phone, your phone will be muted until you are called upon.

AGENDA

1. Call to Order (Approximately 5 minutes)

A. Roll Call

2. Public Comment (Approximately 5 minutes)

3. Meeting Minutes: January 19, 2024 (For Discussion/Action Approximately 5 minutes)

Attachments: [\(3\) January 19, 2024 MINUTES DRAFT](#)

4. 2024 Annual Report Draft (For Discussion Approximately 5 minutes)

1. Q&A (Approximately 5 minutes)

Attachments: [\(4\) BART Measure RR Annual Report 2024 DRAFT](#)

5. Link 21 Overview Presentation (For Discussion Approximately 10 minutes)

1. Q&A (Approximately 10 minutes)

Attachments: [\(5\) Link21 Overview Presentation April 2024](#)

6. Annual Review of BART Safety, Reliability and Traffic Relief Program (Measure RR)

A. Measure RR Related Audits (For Discussion Approximately 5 minutes)

1. Q&A (Approximately 5 minutes)

B. Project Controls Framework/Timelines (For Discussion Approximately 10 minutes)

1. Q&A (Approximately 5 minutes)

C. 10-MINUTE BREAK

D. Calendar Year 2024 Track Shutdowns (For Discussion Approximately 10 minutes)

1. Q&A (Approximately 5 minutes)

E. Bond Funded Program Watch List Items Review (For Discussion Approximately 10 minutes)

1. Q&A (Approximately 5 minutes)

F. Appendix: Financial Outlook, Program Status & Milestones (For Information Only)

1. Q&A (Approximately 5 minutes)

Attachments: [\(6\) BART Safety Reliability and Traffic Relief Program \(Measure RR\) Apr 2024](#)

7. Future Agenda Items & Questions (For Discussion/Action Approximately 15 minutes)
 - A. Discussion and Possible Action Items
 1. Deep Dive Subcommittee
 2. Annual Report Subcommittee
8. Committee Member Announcements (For Discussion Approximately 5 minutes)
9. Public Comment (Approximately 5 minutes)
10. Adjournment

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



San Francisco Bay Area Rapid Transit District

Measure RR Program

BART Bond Oversight Committee

Friday, January 19, 2024

9:30 AM – 2:00 PM

Draft Minutes

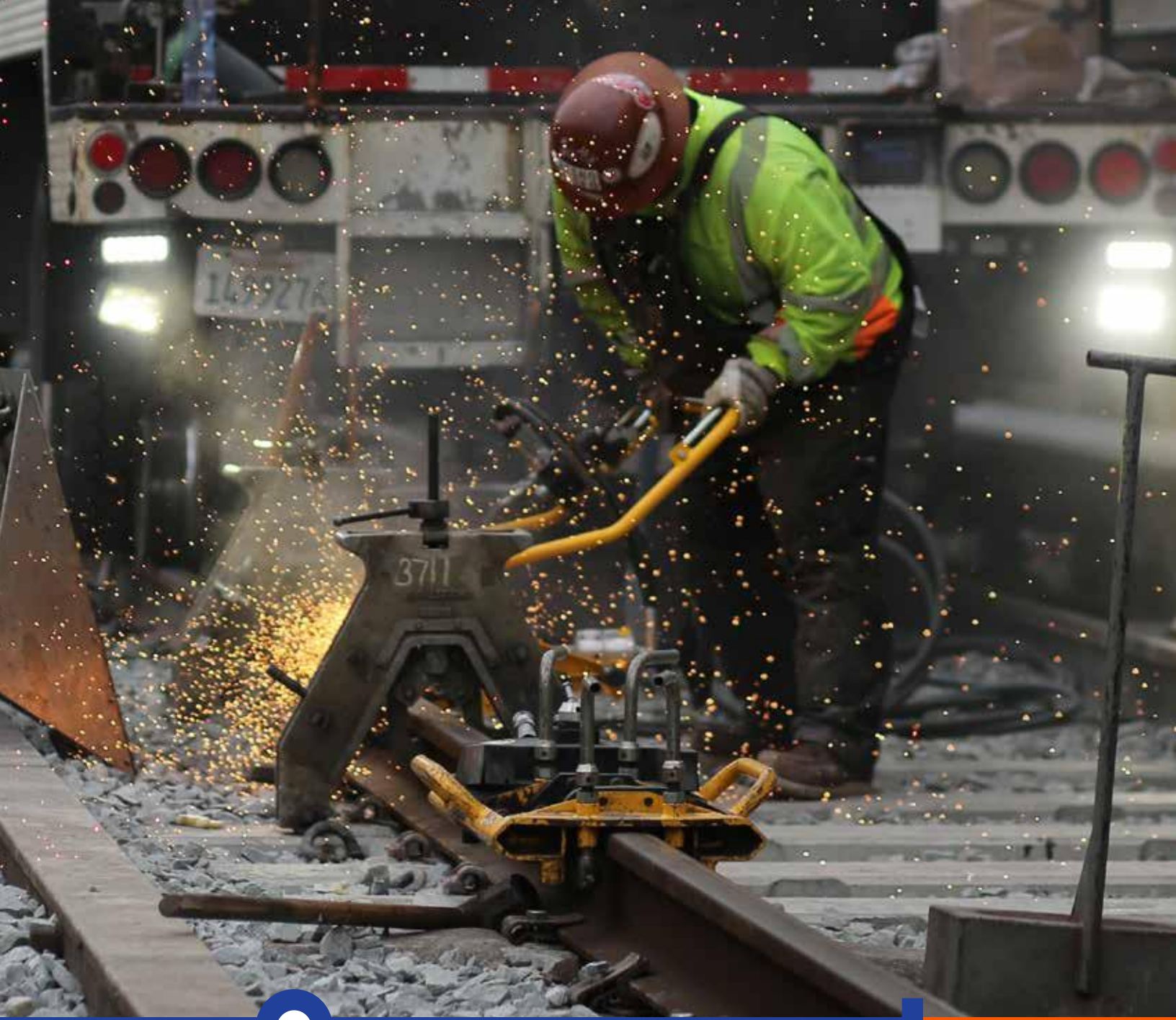
MEETING NUMBER Term 5, Meeting 2	MEETING DATE Friday, January 19, 2024	MEETING TIME 9:30am-2:00pm
	COMMITTEE MEMBERS Michael McGill, Chair Cindy Rosenthal, Vice Chair Suzanne Loosen Vinit Shrawagi Sonja C. Stewart Janey Wang	

Agenda Item	Meeting Notes
1. Call to Order	
A. Roll Call	Stewart absent. All other members present.
2. Public Comment	No public comment.
3. Administrative Items	
A. Meeting Minutes September 15, 2023	Shrawagi requests addition of September 2024 meeting to approved schedule listed in minutes. Minutes unanimously approved. Stewart absent.
B. Announcements on Membership of Bond Oversight Committee and Subcommittees	Chair McGill announces Daren Gee has resigned from the Bond Oversight Committee because he took a job with a contractor that does business with BART.

	<p>Stewart arrives at meeting.</p> <p>Committee votes unanimously to appoint Stewart to succeed Gee as chair of Deep Dive Ad Hoc Subcommittee. Shrawagi unanimously approved to join subcommittee as a member.</p>
C. Staff Practice to Track/Follow Up on Public Comments	<p>BART staff reports no outstanding questions to report back on.</p> <p>Loosen asks if written public comments on projects are forwarded to the appropriate staff person for review. BART staff confirms that's the case.</p>
4. 2024 Annual Report Draft Outline Presentation	
A. Draft Outline Presentation	<p>BART staff presents general outline for 2024 Measure RR Annual Report.</p> <p>Shrawagi suggests moving “past accomplishments” of RR back in report.</p>
B. Public Outreach: Initial List of Stakeholder Groups Staff Reached Out to by Demographic Type	<p>Stewart says it would help for BART to show what it did to reach out to everybody in build up to putting Measure RR before voters. Says she wants stakeholders to know BART is watching out for them.</p>
5. Measure RR (BART Safety, Reliability, and Traffic Relief Program) Presentation	
A. Annual View	<p>Stewart requests names and titles of presenting staff be shared with Bond Oversight Committee.</p> <p>Chair McGill recommends name plates for staff.</p> <p>Shrawagi asks for document that highlights a quarterly breakdown of when items will be highlighted in detail on an annual basis.</p> <p>Update delivered by BART Chief Infrastructure Delivery Officer Joy Sharma and Measure RR Program Manager Maansii Sheth.</p> <p>Wang asks why particular projects are chosen to be highlighted? Staff says mostly has to do with time constraints and to share about projects that are most visible or have the greatest impact on riders.</p> <p>Wang asks is System Access Requests will continue to grow or stabilize going forward? Staff</p>

	<p>says anticipation is it'll stabilize for the next few years.</p> <p>Vice Chair says theme of "rider experience" allows the Annual Report to properly convey the importance of the work.</p>
B. Financial Overview Update	<p>Sheth provides Financial Overview Update. Shrawagi asks why Communications Based Control Work appeared to pick up? Staff says timing is tied to work being scheduled at Hayward Test Track.</p>
C. Break	<p>Committee takes 10-minute break</p>
D. Small Business Outreach	<p>Joseph Towner with BART's Office of Civil Rights presents on Small Business Outreach.</p> <p>Chair McGill asks how does BART ensure RR is getting all the contractors it needs? Staff says goal is to get all contractors qualified for the appropriate certifications. That way contractors can be more competitive when they bid for contracts.</p>
E. Measure RR Staff Organization Chart	<p>BART Group Project Delivery Manager Mitra Mohab presents RR Staff Organization Chart.</p> <p>Shrawagi says org chart suggests RR Program is well staffed. Asks if the chart is similar to past versions? Staff replies main changes are addition of Chief and Assistant Chief of Infrastructure roles.</p>
F. Appendix: Financial Outlook, Program Status & Milestones	<p>Shrawagi asks about next tranche of Green Bonds funding and whether committee can get more information on what challenges might come up up due to rising interest rates? Staff says topic is on the schedule for a quarterly update.</p> <p>Chair McGill says he's interested in watch list. Asks between supply and contractor shortages is program far enough to do an overall assessment to original budgeting? Staff says that work is happening on a continued basis through its earned value work.</p> <p>Shrawagi requests making watch list items more visible than being listed at the bottom of slides.</p>

	Vice Chair Rosenthal asks if things out of BART's control such as dealing with external agencies could impact other RR work going forward? Staff says only concern is schedule impact. If key projects in power program aren't completed other power work has to wait.
6. Programmatic Informational Deep Dive Ad Hoc Subcommittee Update	Staff provides update for process to replace former Committee Member Gee.
7. Future Agent Items & Questions/Committee Member Announcements.	<p>Shrawagi asks about timing for Annual Report Subcommittee meeting to review initial draft. Staff says plan is for late March or early April.</p> <p>Vice Chair Rosenthal says it's not easy to find RR content by itself on BART.gov. Asks for discussion on how to use other communication tools in addition to the final report to get information out about RR.</p>
8. Public Comment	No verbal or written public comment received.
9. 30 Minute Break	Committee breaks for lunch
10. AB 1234 Training for Chair McGill, Vice Chair Rosenthal, and Members Loosen and Wang	McGill, Rosenthal, Loosen, Wang, and Stewart attend ethics training presented by BART legal team.
11. Adjournment	Meeting adjourned at 1:52pm.



MEASURE RR BOND OVERSIGHT COMMITTEE **ANNUAL REPORT**

JUNE 2024



DRAFT

Dear Bay Area residents:

Welcome to the Bond Oversight Committee's (BOC) seventh annual report on the Measure RR rebuilding program. My fellow committee members and I appreciate your interest in BART's on-going effort to improve the rider experience by rebuilding its core infrastructure. BART's campaign to regain riders is directly tied to how rebuilding work is improving safety and reliability. It's the job of the BOC to ensure that work is being done in a cost-effective manner that is consistent with what was promised to voters.

It's the goal of this report to put the interest of the riders first by highlighting how RR is impacting the reliability of BART service and how it is bolstering public safety. This year's report looks at how track replacement work funded by RR may have mitigated the damage and injuries caused by a derailment. We show how BART is incorporating fire protection engineering in its construction projects. We also continue to update how the number of equipment-related delays has been impacted by replacing decades old track components.

Measure RR was approved in November 2016 by more than two-thirds of voters in the three Bay Area counties that comprise the BART District (Alameda, Contra Costa, and San Francisco). Measure RR raises \$3.5 billion to replace essential trackway components that in some cases are more than 50 years old.

The Bond Oversight Committee has unrestricted access to BART documents and receives regular updates from staff on the progress of RR-funded projects. We appreciate the efforts of BART to be responsive to committee requests for additional details about rebuilding projects. BART staff members have worked diligently to address committee questions.

I hope you'll find this report useful and informative. We want to hear from you so please don't be shy in sharing your thoughts. The BOC holds quarterly public meetings. You can participate in person or via videoconference. Learn more about upcoming meetings at the BOC's website **www.bart.gov/bondoversight**.

Sincerely,



Michael R. McGill
RR Bond Oversight Committee Chairperson
Professional Engineer, Institute of Electrical and Electronic Engineers (IEEE) seat

OTHER COMMITTEE MEMBERS

Full biographies and photographs at **www.bart.gov/bondoversight**

JANEY WANG., Budgeting & Financial Management Seat

VINIT SHRAWAGI, Accounting Seat

SUZANNE LOOSEN, League of Women Voters Seat

CINDY ROSENTHAL, League of Women Voters Seat

SONJA STEWART, Project Management Institute Seat

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통역이 필요하신 분은, 510-464-6752 로 문의하십시오.

Kung kailangan mo ang tulong ng mga serbisyo ng wika, paki tawagan ang (510) 464-6752.

Nếu quý vị cần dịch vụ trợ giúp về ngôn ngữ, xin vui lòng gọi số (510) 464-6752.

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The BART system includes 50 stations and 131 route miles of track. This current system map identifies all service lines and can provide greater context for understanding the location of Measure RR rebuilding projects and how they impact the larger system.





EXECUTIVE SUMMARY

The Measure RR rebuilding program has reached a significant milestone now that more than half of the planned work has been completed. The program, which has been expected to have a 20-year life span is now entering its eighth year of existence. Yet already 56% of all anticipated work is complete. That work is having a significant impact on improving the rider experience on BART.

As Measure RR work has moved forward, the Bond Oversight Committee (BOC) has been fulfilling its responsibility to independently evaluate the program. The committee's oversight places an emphasis on the cost effectiveness, quality, and timeliness of work completion.

Through December 2023, \$1.76 billion of Measure RR funds were invested in rebuilding projects. There are now 157 projects that are in planning, design, construction, or have been completed. A total of 61 projects are complete. This includes 13 projects that have been completed since the BOC issued its last annual report in 2023.

The BOC has reviewed projects and data presented by BART staff. The BOC receives quarterly briefings from BART staff and can request additional documents or information. Based on its review, the BOC believes BART is delivering projects in a timely manner and the work is improving the reliability and safety of the system. This is consistent with the promises BART made to the public in 2016 when District voters approved Measure RR. The BOC also believes BART is following industry best practices as it pursues this rebuilding work.

Significant accomplishments in the last year include:

- 400 fewer trains delayed thanks to rail replacement work.
- Systemwide substantial completion of rail reprofiling to help quiet the BART screech.
- Replacement of a key portion of trackway between Rockridge and Orinda stations.
- Completion of construction for Oakland Yard tracks.
- Installation of Civic Center Station scissor stairs.

The BOC is continuing to monitor several challenges to the Measure RR program, including some that are beyond the control of BART. Concerns about the stability of global supply chains remain. This has already resulted in delaying the arrival of needed materials. Inflation has driven up construction costs. Market conditions have also resulted in a limited pool of bidders for some projects. BART staff is addressing these concerns. Staff is consistently updating the BOC on the actions BART is taking and how it is impacting Measure RR-funded work.

The Bond Oversight Committee will continue to review the progress of Measure RR and will issue annual reports throughout the duration of the program.



ABOUT THE BOND OVERSIGHT COMMITTEE

The Bond Oversight Committee is comprised of seven members (one of the positions is vacant as of the writing of this report) who represent a diversity of expertise, geography, and demographic characteristics. All members of the BOC are unpaid volunteers.

The Bond Oversight Committee is responsible for providing diligent and public oversight of the expenditure of funds from bond sales associated with Measure RR. The BOC assesses whether projects funded by Measure RR bond proceeds are completed in a timely, cost-effective, and high-quality manner consistent with the best interests of BART riders and District residents. The BOC publishes its findings in its annual report. This document is the seventh annual report from the BOC.

Organizations represented on the BOC include:

- The American Society of Civil Engineers, or its successor organization, is represented by one member who has expertise in civil engineering management and oversight.
- The Institute of Electrical and Electronic Engineers, or its successor organization, is represented by one member who has expertise in electrical engineering management and oversight.
- The American Institute of Certified Public Accountants, or its successor organization, is represented by one member who has expertise in audit or financial oversight.
- The Association for Budgeting & Financial Management section of the American Society for Public Administration, or its successor organization, is represented by one member who has expertise in municipal finance.
- The Project Management Institute, or its successor organization, is represented by one member who has expertise in project management.
- The League of Women Voters, Bay Area, or its successor organization or chapter, is represented by two members.

Members serve two-year terms and are eligible to serve up to a total of six years. Members of the BOC are appointed by the BART Board of Directors. You can find the full text of the duties and responsibilities of the BOC in Section 11 of the resolution that established the committee. It's available at

www.bart.gov/bondoversight.



Michael R. McGill
Chairperson of the Committee
American Institute of Electrical
Engineers Seat



Suzanne Loosen
Vice Chairperson of the
Committee League of Women
Voters of the Bay Area Seat



Janey Wang
Association of Budgeting &
Financial Management Seat



Cindy Rosenthal
League of Women Voters
of the Bay Area Seat



Sonja Stewart
Project Management
Institute Seat



Vinit Shrawagi
American Institute of Certified
Public Accountants Seat

THE STORY OF MEASURE RR

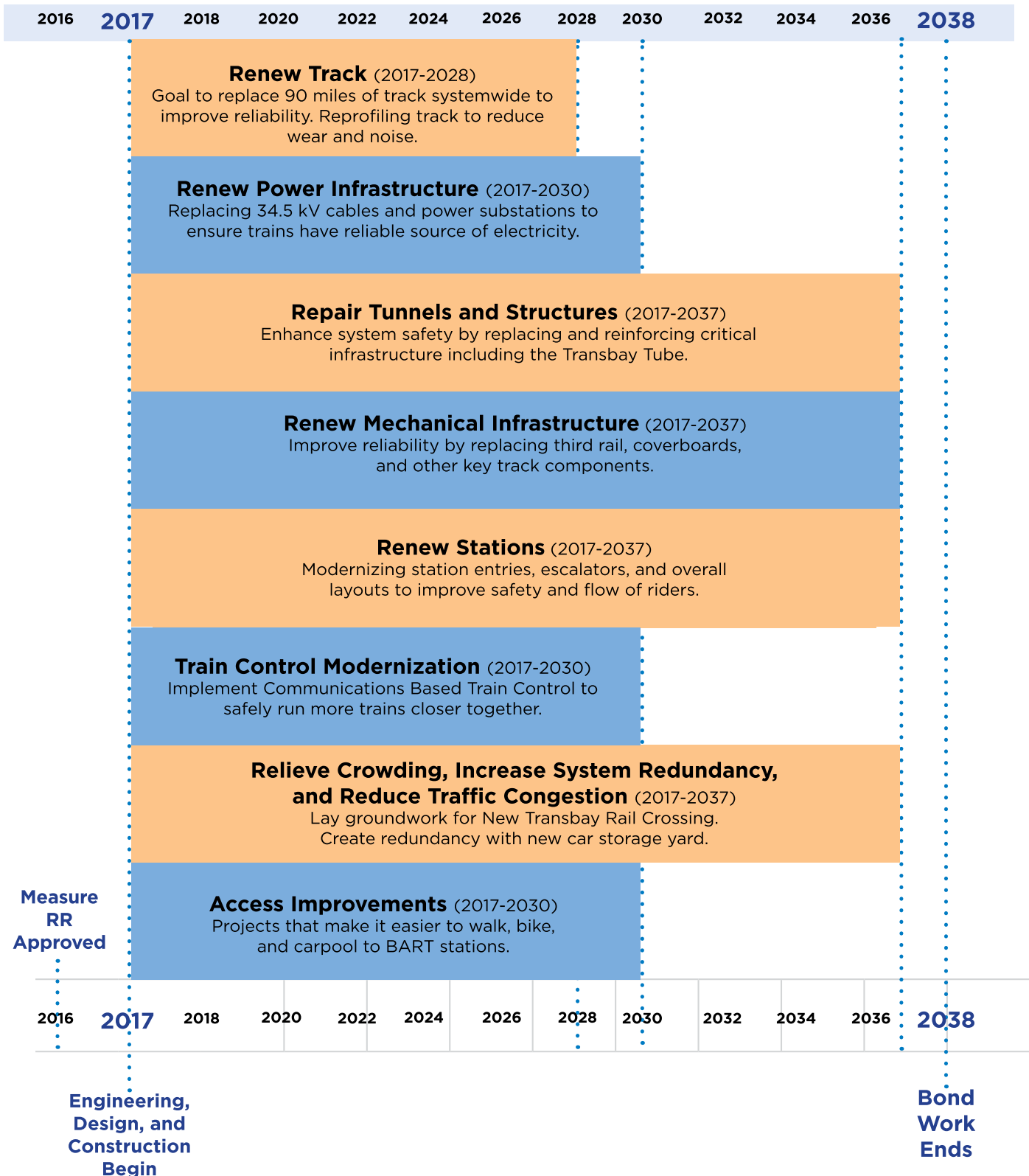
The final resolution that went before voters in November 2016 to authorize Measure RR was the product of extensive public outreach to various stakeholders across the BART District. BART staff began engaging with the public two years before Measure RR appeared on the ballot. BART's Office of External Affairs organized more than 200 meetings with community groups, business organizations, transit advocates, and elected officials in the lead up to the vote. BART has continued to engage with these stakeholders as well as others throughout the implementation of the Measure RR program.

The stakeholder organizations below had a leading role in helping BART to put together Measure RR.

Organization	Stakeholder Demographics
Self Help for the Elderly	Serves more than 40,000 older adults annually. More than 90% of clients low income and from minority communities.
Bike East Bay	Works to ensure transportation planning is done in a way to redress the effects of systemic and institutional racism.
East Bay Leadership Council	Committed to preserving natural space and investing in transit that cuts commute times and greenhouse gas emissions.
Genesis	Membership includes 16 institutions representing the spectrum of geography, race, economic class, and abilities.
United Seniors of Oakland and Alameda County	Grassroots organization dedicated to mobilizing and enabling seniors to address quality of life issues.
Metropolitan Transportation Commission	MTC provides planning, funding, and coordination to cities, transit and other partners.
SF Bicycle Coalition	Promoting the bicycle for everyday transportation in San Francisco for more than 50 years.
TransForm	Promotes walkable communities with excellent transportation choices to connect people of all incomes with opportunities.
Sierra Club	Coordinates with partner organizations and non-profits to advocate for environmental and social justice issues.
League of Women Voters	A nonpartisan, grassroots organization working to protect and expand voting rights
Bay Area Council	Members include more than 330 of the region's largest employers. Committed to keeping the Bay Area inclusive, economically competitive, and sustainable.

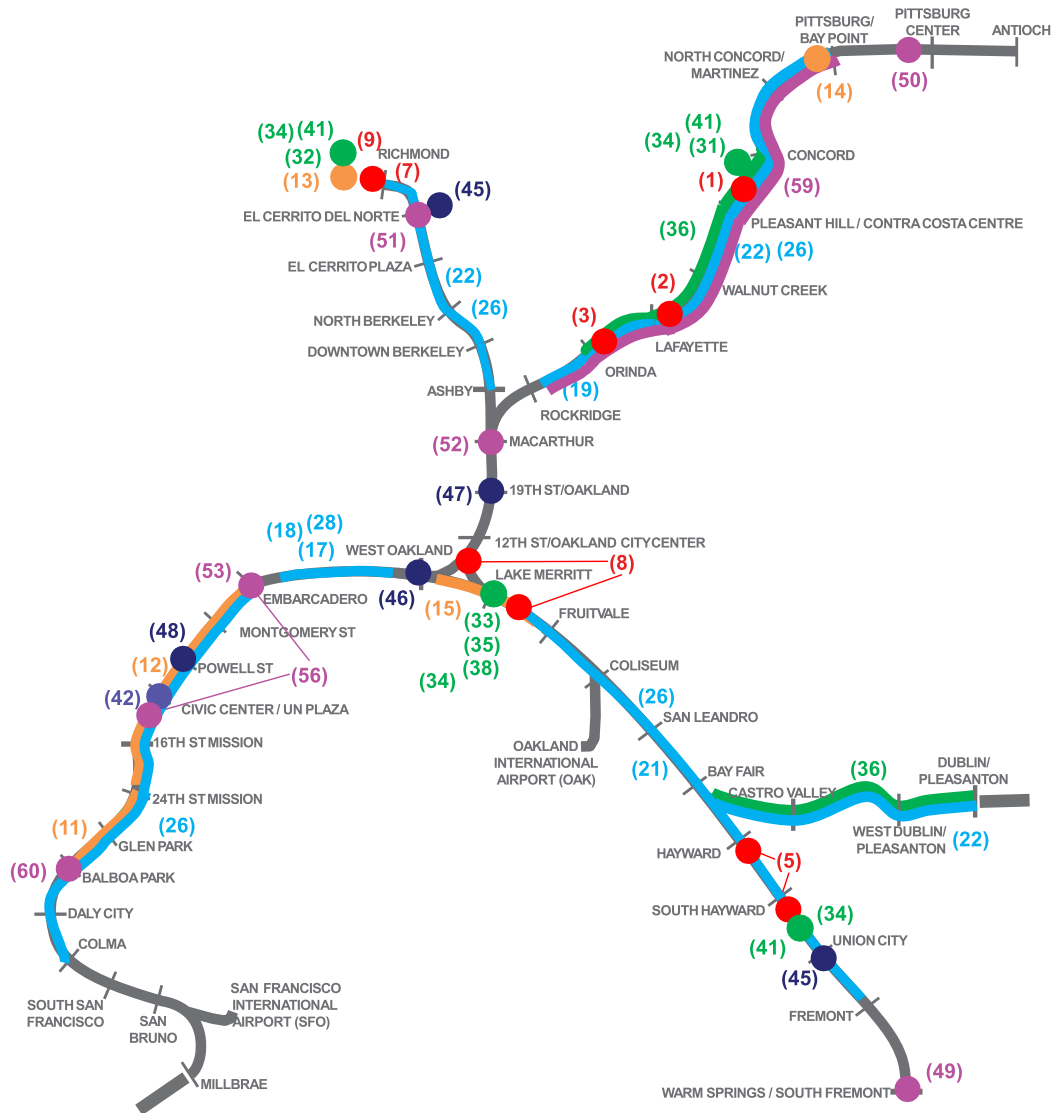
THE LIFE SPAN OF MEASURE RR

Measure RR work is organized in to these eight major project areas.





MAJOR PROJECTS: COMPLETED



Renew Track

- 1 C55 Interlocking Replacement - Completed
- 2 C35 Interlocking Replacement - Completed
- 3 C25 Interlocking Replacement - Completed
- 4 Restraining Rail (Systemwide Not Mapped) - Completed
- 5 A65/A75 Interlocking Replacement - Completed
- 6 Friction Modification Study (Systemwide Not Mapped) - Completed
- 7 R65 Interlocking Replacement - Completed
- 8 A15 Interlocking Replacement/ M03 Interlocking Replacement - Completed
- 9 System Joint Elimination Richmond Yard - Completed
- 10 Rail Re Profiling Services (Systemwide Not Mapped) - Completed

Renew Power Infrastructure

- 11 Traction Power Cable Replacement: M line MBP-MTF - Completed
- 12 Traction Power Cable Replacement: M Line MTW-MBP - Completed
- 13 Substation Replacement: Richmond Yard (ORY) - Completed
- 14 CWS High Voltage Transformer Replacement - Completed
- 15 K LINE Cable Replacement KWS to ANA - Completed
- 16 Third Rail Replacement Phase 3 (Systemwide Not Mapped) - Completed

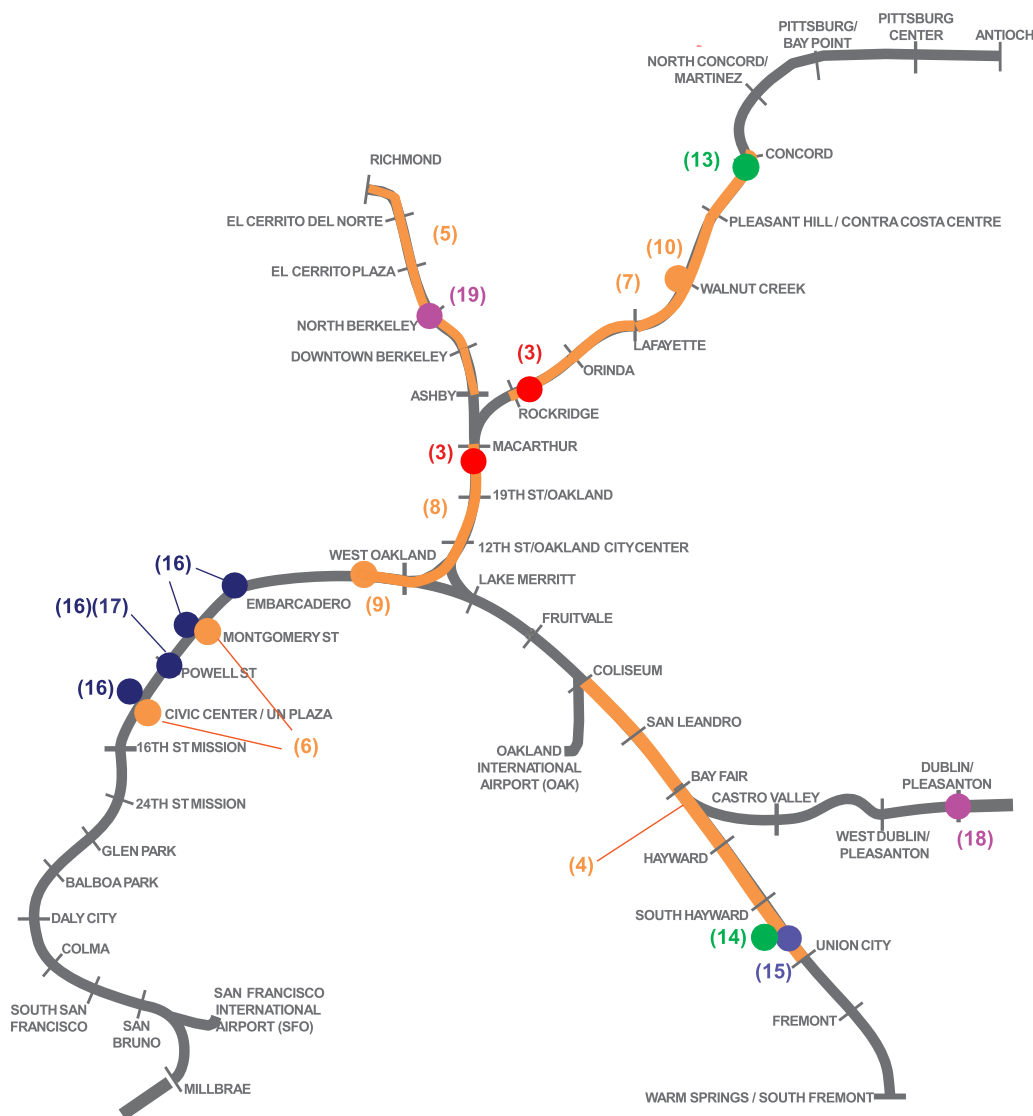
Renew Tunnel & Structures

- 17 Replacement of Transbay Tube Emergency Doors - Completed
- 18 Replacement of TBT Emergency Doors - Completed
- 19 Berkeley Hills Tunnel Creep - Completed
- 20 Safety Barriers Phase 3 (Systemwide Not Mapped) - Completed
- 21 A Line Operability Feasibility Study - Completed
- 22 Renew Sound walls of Guideway (C, R and L Lines) - Completed
- 23 Platform Edge Structural Rehab (Systemwide Not Mapped) - Completed
- 24 Substation Walls (Painting & Repair) (Systemwide Not Mapped) - Completed
- 25 Water intrusion in escalator & elevator machine rooms (Systemwide Not Mapped) - Completed
- 26 Aerial Fall Protection (A-Line, C-Line, M-Line, R-Line) - Completed
- 27 Rehab expansion joints (Systemwide Not Mapped) - Completed
- 28 TBT RETROFIT #1 (UNDERWATER) - Completed

Renew Mechanical

- 29 Corrosion assessment of metallic gas lines Concord Yard (OCY), Hayward Yard (OHY), Oakland Shop (OKS), Richmond Yard (ORY) - Completed
- 30 Fire hoses and piping (Systemwide Not Mapped) - Completed
- 31 Fire Services Yards - OCY - Completed
- 32 Fire Services Yards - ORY - Completed

MAJOR PROJECTS: UNDER CONSTRUCTION



Renew Track

- 1 Frog Capital Maintenance (Systemwide Not Mapped) – Ongoing Construction
- 2 Rail Relay (Systemwide Not Mapped) – Ongoing Construction
- 3 K Line Interlocking Replacement – Ongoing Construction

Renew Power Infrastructure

- 4 A-Line 34.5kV Cable Replacement – Ongoing Construction
- 5 R-Line 34.5kV Cable Replacement – Ongoing Construction
- 6 Substation for Core Capacity – Ongoing Construction
- 7 C-Line 34.5kV Cable Replacement – Ongoing Construction
- 8 K-Line 34.5kV Cable Replacement – Ongoing Construction (MacArthur to Transbay Tube East)
- 9 Substation at Transbay Tube East - Ongoing Construction
- 10 Substation at Walnut Creek - Ongoing Construction

Renew Tunnel & Structures

- 11 Water Intrusion at Train Control Rooms (Systemwide Not Mapped) - Ongoing Construction
- 12 Seal and Secure Substation Roofs (Systemwide Not Mapped) – Ongoing Construction

Renew Mechanical

- 13 Turntable Replacement Concord Yard - Ongoing Construction
- 14 Fire Services Yards (OHY) – Ongoing Construction

Design/Engineer to Relieve Crowding

- 15 Hayward Maintenance Complex (HMC) Phase 2: Civil & Grading – Ongoing Construction
- 16 Market Street Canopies and Escalator (M16, M20, M30, M40) – Ongoing Construction
- 17 Powell Street Station Modernization – Ongoing Construction

Expand Safe Access

- 18 Dublin Iron Horse Trail Bridge (SR2B) – Ongoing Construction
- 19 North Berkeley Access Improvements – Ongoing Construction

Replace Train Control/Increase Capacity

- 20 Enabling Works (Systemwide Not Mapped) – Ongoing Construction

REDUCING SERVICE DELAYS

Several recently completed projects have had a positive impact on the rider experience on BART by reducing service delays. Improving the reliability of BART is one of the most important benefits of the Measure RR rebuilding program. When BART District voters approved Measure RR in 2016 they sent a clear message that they expected BART's performance to improve as the agency replaced its aging infrastructure.

The most dramatic reduction in delays came as BART crews completed a key portion of the rail relay project, which is the replacement of aging rail that has in many cases outlived its design life. The number of trains delayed due to old rail fell by more than 400 instances compared with before the work was complete.

Here are additional examples of how rebuilding work has resulted in fewer delays for riders:

- Replacing coverboards on the Blue and Yellow lines reduced coverboard-related delays by 48 from 2022 to 2023.
- Replacing an important section of trackway between Orinda and Lafayette stations resulted in 18 fewer service delays.
- Work in the Renew Mechanical project category reduced the number of train delays attributed to mechanical issues by 45 trains from 2022 to 2023.

You can read more about all eight of Measure RR's project categories in the Major Project Categories section of this report starting on page 15.



PREVENTING A DERAILMENT FROM TURNING INTO A DISASTER

On the morning of January 1st an eight-car Antioch-bound BART train partially derailed on the Yellow Line in Contra Costa County between Orinda and Lafayette stations. Two cars derailed. Though there were no major injuries, nine people were taken to area hospitals for evaluation. There was also significant damage to the trackway. But despite what happened, the incident could have been far worse if not for rebuilding work supported by Measure RR.

The stretch of track where the partial derailment occurred had been replaced only three years ago by work funded by RR. The new trackway components were far more resilient against an incident such as this compared with the decades-old equipment that was replaced. BART officials say it's likely the trackway would've been destroyed if the old infrastructure had still been in place. That would have also raised the possibility of more serious injuries for riders aboard the incident train.

The new trackway equipment not only potentially saved lives but it also helped BART to avoid a lingering and massive impact to service on the busiest line in the system. BART crews worked around the clock after the incident to make repairs. Because of their efforts service on the Yellow Line was restored in time for the morning commute the next day.

When voters approved Measure RR in 2016, they were told that rebuilding the backbone of BART would lead to a more reliable system that could better serve the needs of the Bay Area. But in addition to that, RR investments are already making a difference when it comes to rider safety.

BART has been working with the California Public Utilities Commission on the investigation into the partial derailment. The case is still considered to be under investigation.

Previous work on the Yellow Line funded by Measure RR helped limit the damage from the January 2024 derailment between Orinda and Lafayette stations.

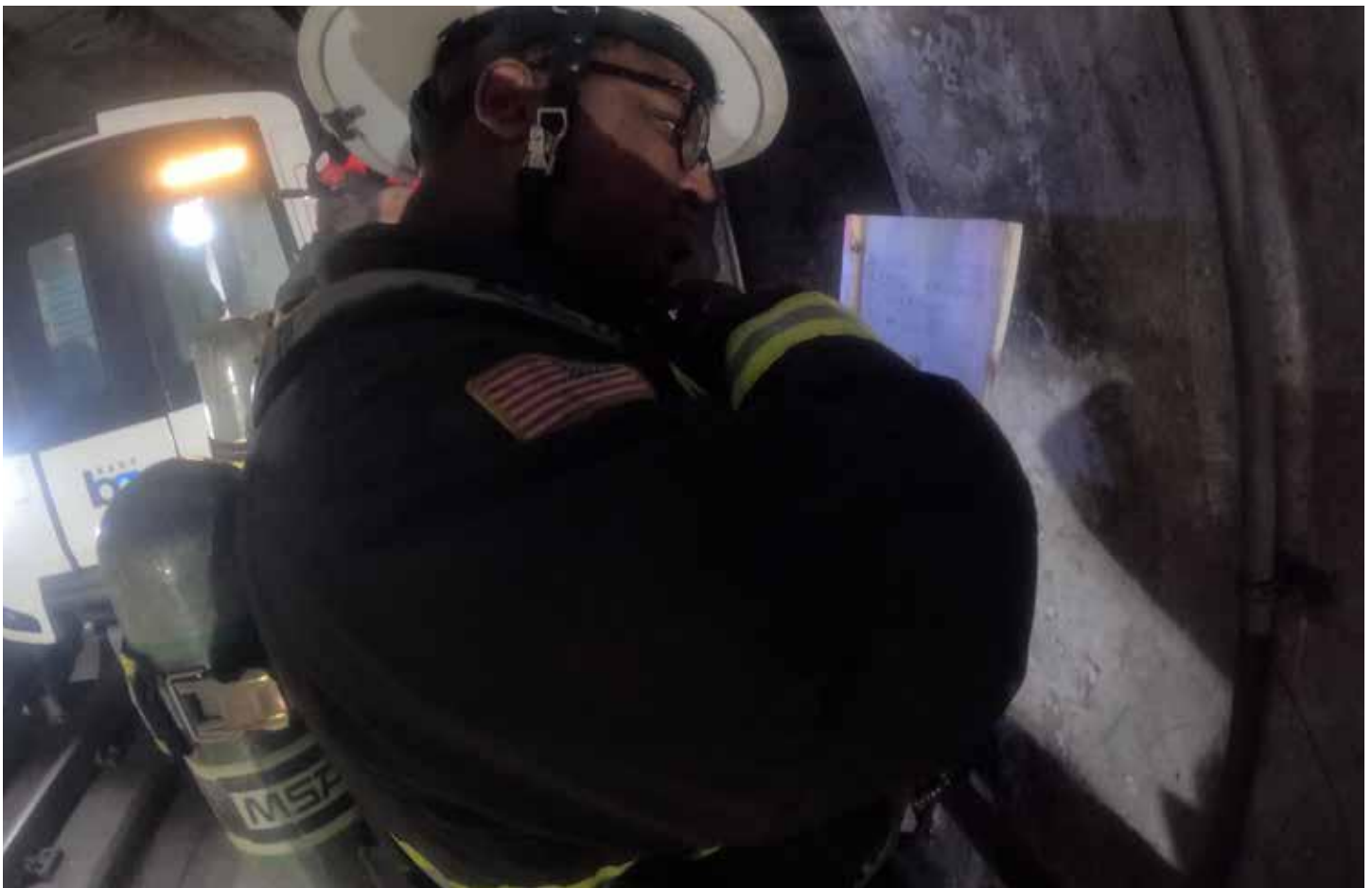


FIRE SAFETY GETS A BOOST

The safety improvements being realized through the Measure RR rebuilding program extended to making the system more resilient against fire. BART's Fire Life Safety (FLS) program has established itself as a leader in public transit. In 2023 the program was awarded the highest honor for rail safety, the 2023 America Public Transportation Association (APTA) Rail Safety Gold Award. The award recognizes transportation providers for "their innovative and proactive safety and security programs" that "help to build the industry by benchmarking successful initiatives so other systems can implement and finetune their programs."

Measure RR dollars are helping to mitigate potential fire hazards. Replacing 34.5 kV (kilovolt) cabling as well as aging substations offers a huge relief in terms of fire concerns since electricity is a major consideration in fire management. Funding has also been used to replace fire services infrastructure in BART's various operations yards. Construction of upgraded fire services at the Hayward Yard is set to be completed in 2024.

But BART's commitment to fire safety goes beyond the infrastructure. The Fire Life Safety Program reviews construction projects both small and large from beginning to end with fire protection engineering being a focus. The program participates in safety certification for larger projects under oversight from the California Public Utilities Commission. For smaller projects the FLS program partners with BART's System Safety Department and the Office of Infrastructure Delivery to track those projects in regularly held workshops. Materials to be used are reviewed by local fire agencies. All of this helps to reduce costs and delays to projects as potential issues are resolved early in the design process.





RENEW TRACK

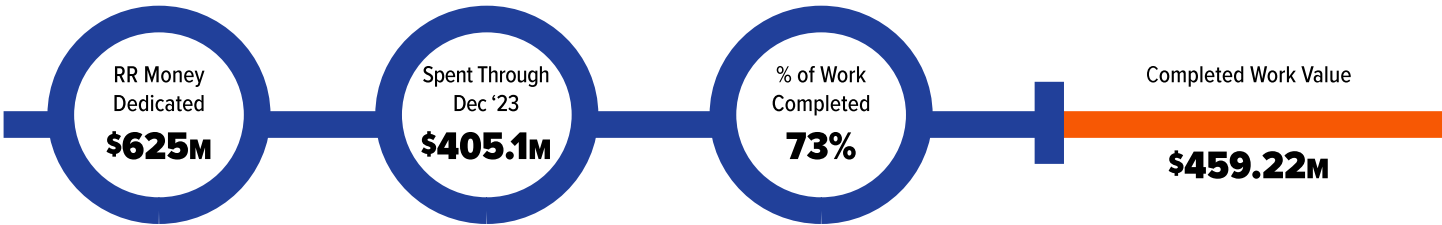
Projects in this category focus on the backbone of BART service, specifically the 131 miles of rail that extend across the system. Work in this category includes replacing aging rail that has outlived its design life as well as rail grinding to reduce the noise level of the BART screech.

BART’s efforts in the Renew Track category are improving the rider experience by enhancing the system’s reliability. The number of trains delayed by worn out rails has dropped by 400 thanks to this work.

To date, 20 projects have been launched in the Renew Track category. Eleven projects have been completed. Recent accomplishments include:

- 5.59 miles of linear rail replaced in 2023. 53 miles replaced to date by Measure RR.
- Completion of Oakland yard tracks.
- Replacement of an interlocking near South Hayward Station (interlockings help trains transition safely from line to line).

BART has also replaced 56 track switches. Track switches are the main components of interlockings. The graphic below shows the amount of Measure RR money dedicated to this project category, the amount of that money that has been spent through March 2024, the percentage of planned work that’s been completed through March 2024, and the value of the work completed so far. The value of work completed is the dollar value associated with the expectation of labor and materials needed to complete the work. To learn more about how BART measures this value please go to Measuring Cost Effectiveness on page 26.



RENEW POWER INFRASTRUCTURE

The Renew Power Infrastructure category focuses on replacing traction power cables and the installation of new electric substations. New 34.5 kV (kilovolt) traction power cables help to ensure BART trains have a reliable source of electricity. Much of the cable being replaced is decades old and has outlived its design life. Replacing old substations and adding new ones will eventually help BART to run more trains.

To date 34 projects have been launched in the Renew Power Infrastructure category. Six of those projects have been completed.

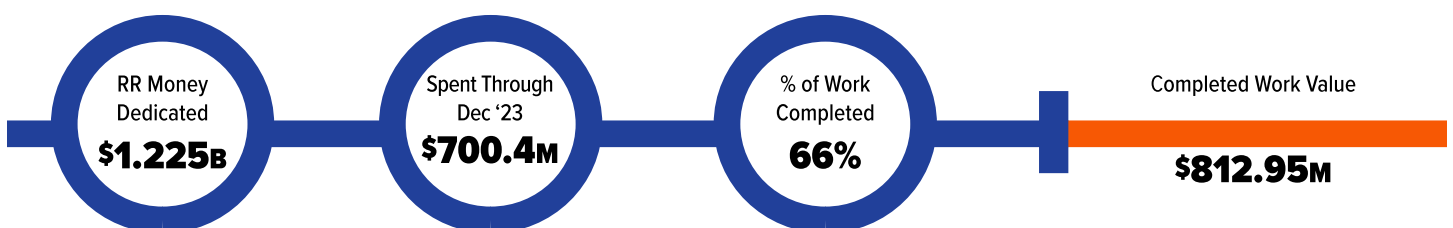
Recent accomplishments include:

- Replacement of 10.2 miles of traction power cables in 2023. 54 miles of cable installed since the start of Measure RR.
- Completion of the Willow Pass Road High Voltage Transformer Replacement Project near Pittsburg/Bay Point Station.



Workers this year are on track to complete cable replacement on the Red Line in Contra Costa County ahead of schedule. This has been a priority project since aging cables on the Red Line failed in 2022. That cable failure had a major negative impact on service. Initially, it was expected the Red Line work could take up to three years to complete.

The graphic below shows the amount of Measure RR money dedicated to this project category, the amount of that money that has been spent through March 2024, the percentage of planned work that's been completed through March 2024, and the value of the work completed so far. The value of work completed is the dollar value associated with the expectation of labor and materials needed to complete the work. To learn more about how BART measures this value please go to Measuring Cost Effectiveness on page 26.



REPAIR TUNNELS AND STRUCTURES

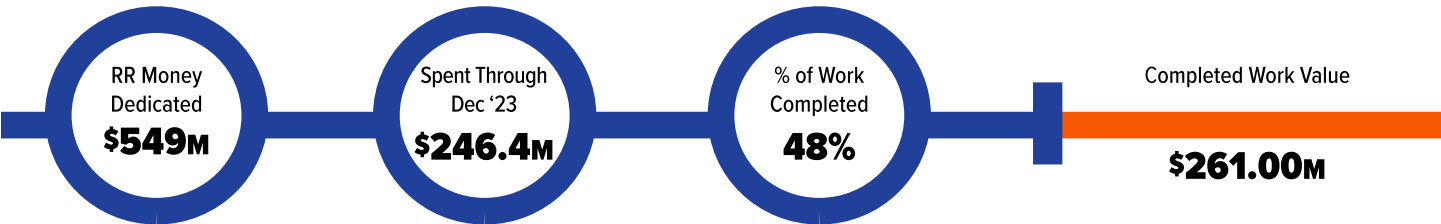
The Repair Tunnels and Structures category includes work to ensure BART tunnels can safely withstand a large seismic event. A landmark project already completed in this category was the retrofit of the Transbay Tube. Work in this category also improves critical safety structures such as ariel walkways and slopes that help stabilize the track.



To date 26 projects in this category have been launched. 12 of those projects are now complete. Recent accomplishments include:

- Completion of construction of water intrusion protection at multiple train control rooms.
- Construction started to renew catwalks along ariel trackways.
- Work underway on slope stabilization along portions of the Blue Line in Alameda County.

Slope stabilization work helps ensure BART tracks are not vulnerable to mudslides. The work focuses on repairing eroding slopes and repairing damaged abutment joints below bridges. The graphic below shows the amount of Measure RR money dedicated to this project category, the amount of that money that has been spent through March 2024, the percentage of planned work that's been completed through March 2024, and the value of the work completed so far. The value of work completed is the dollar value associated with the expectation of labor and materials needed to complete the work. To learn more about how BART measures this value please go to Measuring Cost Effectiveness on page 26.



RENEW MECHANICAL INFRASTRUCTURE

Work in the Renew Mechanical Infrastructure category focuses on components of the BART system that go beyond the basics of rail and power cables. An example of completed work in this category is the Coverboard Enhancement Project, which replaced the curved boards that are placed over the electrified third rail for safety and to protect train cars from damage.

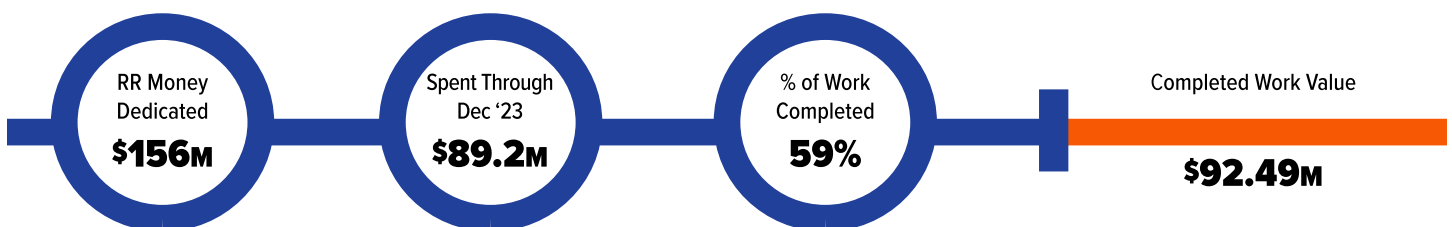
Ongoing work in this category is making BART more fire safe. This includes installing new fire hoses and piping at BART train yards. Additional projects in this category focus on core needs such as replacing heating, ventilation, and air conditioning (HVAC) units.

To date 26 projects in this category have been launched. 13 of those projects are now complete. Recent accomplishments include:

- Completion of construction for Concord turntable replacement.
- Work completed on back flow preventers (these devices ensure water can flow in only one direction).
- Design work finished for sewage pumps replacement.

Work is advancing on installing wheel-truing facilities. Truing machines allow BART to better address train car wheel flats. Metal wheels can develop flats when they skid on the rail. This is another example of how Measure RR work benefits riders by reducing the time it takes to get train cars with damaged wheels back into service.

The graphic below shows the amount of Measure RR money dedicated to this project category, the amount of that money that has been spent through March 2024, the percentage of planned work that's been completed through March 2024, and the value of the work completed so far. The value of work completed is the dollar value associated with the expectation of labor and materials needed to complete the work. To learn more about how BART measures this value please go to Measuring Cost Effectiveness on page 26.



RENEW STATIONS

Many of the most visible changes to BART resulting from Measure RR are happening in the Renew Stations category. This category includes work that improves the functionality, safety, and appearance of stations. Much of the recent work in this category has been focused on stations in downtown San Francisco, which are the busiest in the entire system. Installing new, more reliable escalators accompanied by canopies to protect them from the elements is among the projects underway that are improving the rider experience.

To date eight projects have been launched in this category. Five of those have reached completion. Recent accomplishments include:

- Entrance canopies completed at six entrances to downtown San Francisco stations.
- Construction completed on platform lighting at Powell Street Station.
- Installation of four new escalators in downtown San Francisco stations.

More escalators and canopies are on the way. The Market Street Escalators Renovation Project is installing or replacing 41 escalators at Embarcadero, Montgomery, Powell, and Civic Center stations.

The new escalators are expected to be significantly more durable than the old units that are being replaced. They feature real-time monitoring, which will allow BART staff to know the moment an escalator goes out of service. Staff will also be notified right away what was the cause of the shutdown. The new escalators have brighter LED lighting systems to make them more welcoming to riders. They're constructed with sustainable materials and utilize an automatic lubrication system that applies lubrication only when and where it's needed. Another environmentally friendly enhancement is the new escalators have a sleep mode that makes them more energy efficient. They also feature variable frequency regenerative drives that allow them to slow down and save electricity when there are no passengers.

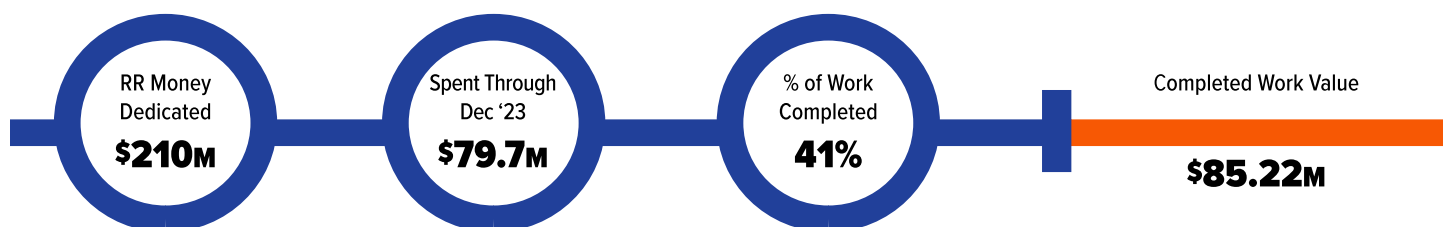
Plans also call for the construction of 19 new canopies at downtown San Francisco stations. The canopies not only protect new escalators, but they provide an added layer of station security and cleanliness. Motorized gates allow the entrances to be locked at street level when stations are closed. Each canopy includes a real-time digital display that shows train arrival times, a retractable gate, LED lighting, security cameras, art elements, and potentially a living roof at select locations.

The graphic on the next page shows the amount of Measure RR money dedicated to this project category, the amount of that money that has been spent through March 2024, the percentage of planned work that's been completed through March 2024, and the value of the work completed so far.





The value of work completed is the dollar value associated with the expectation of labor and materials needed to complete the work. To learn more about how BART measures this value please go to Measuring Cost Effectiveness on page 26.



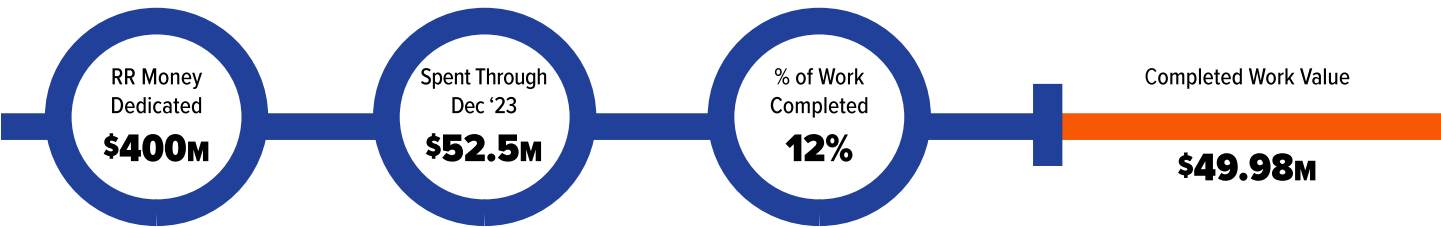
TRAIN CONTROL MODERNIZATION

The Train Control Modernization category includes work to replace BART’s more than 50-year-old train control system. BART now uses a fixed block system to control its trains. This system requires trains to be separated by a set distance and limits how many trains BART can operate at one time. Work is now underway to replace the outdated fixed-block system with Communications Based Train Control (CBTC). CBTC is a system that relies on telecommunications between trains and trackside equipment for traffic management. This new technology will allow BART to know a more exact location of its trains than with the traditional fixed block system. CBTC allows for real-time adjustments of speed and braking to enable safe separation with a shorter distance between trains. This equates to increased capacity and reduced wait times between trains. The implementation of CBTC will eventually allow BART to run as many as 30 trains per hour per direction through the Transbay Tube. The current limit is 24 trains per hour per direction.

To date six train control projects have been launched in this category. None of those projects have been completed. Recent accomplishments include:

- Installation of 320 feet of duct bank at the Hayward Test Track.
- Asbestos assessments performed in 27 train control rooms.
- Asbestos mitigation at eight train control rooms in San Francisco.

The graphic below shows the amount of Measure RR money dedicated to this project category, the amount of that money that has been spent through March 2024, the percentage of planned work that’s been completed through March 2024, and the value of the work completed so far. The value of work completed is the dollar value associated with the expectation of labor and materials needed to complete the work. To learn more about how BART measures this value please go to Measuring Cost Effectiveness on page 26.



RELIEVE CROWDING, INCREASE SYSTEM REDUNDANCY, AND REDUCE TRAFFIC CONGESTION

Work in the Relieve Crowding, Increase System Redundancy, and Reduce Traffic Congestion category is focused on the future needs of the Bay Area and what's expected to be increased demand for BART. Key projects in this category include Link21. At the core of Link21 is a proposed new train crossing between Oakland and San Francisco. The goal is for a new crossing to unlock better travel possibilities across the 21-county Northern California megaregion. The planning for a new crossing comes as Northern California's population is projected to reach 14.9 million by 2050. Work in this category is also happening on the Hayward Maintenance Complex, which will eventually house as many as 250 Fleet of the Future train cars. Phase 2 of the HMC project will expand the complex. HMC improvements will include an expanded repair facility, a component repair shop, a vehicle overhaul station, and a new central parts warehouse.

To date seven projects have been launched in this category. Two projects have been completed. Recent accomplishments include:

- Link21 awarded \$11 million in state funding to advance planning of second transbay crossing.
- Link21 refines public outreach program and hosts series of virtual events.
- Construction complete on access road and retaining wall for Hayward Maintenance Complex (HMC).

The graphic below shows the amount of Measure RR money dedicated to this project category, the amount of that money that has been spent through March 2024, the percentage of planned work that's been completed through March 2024, and the value of the work completed so far. The value of work completed is the dollar value associated with the expectation of labor and materials needed to complete the work. To learn more about how BART measures this value please go to Measuring Cost Effectiveness on page 26.



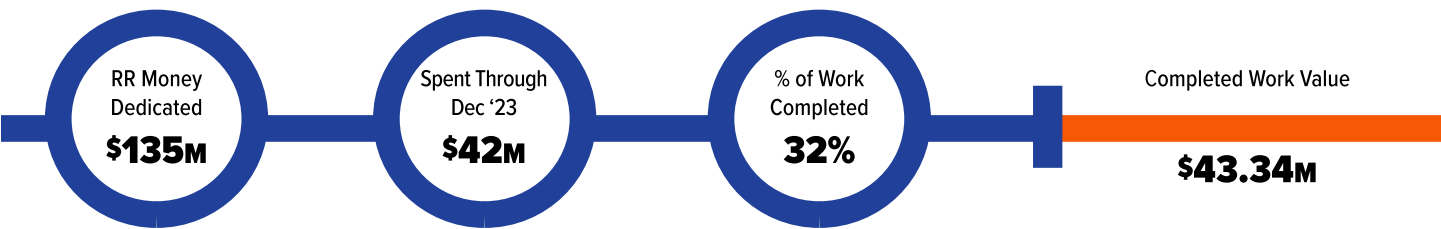
ACCESS IMPROVEMENTS

Projects in the Access Improvements category make it easier for riders to easily get to and use the BART system. Work in this category is part of BART’s focus on equity as these projects often involve helping people with varying needs and life circumstances to use the system. To date 30 projects have been launched in this category. 13 projects have been completed. Recent accomplishments include:

- Completion of construction of 12th Street/Oakland City Center Station bike racks.
- Ongoing construction of the Iron Horse Trail Bridge Project in Dublin.
- Demolition started to improve Americans with Disabilities Act (ADA) access at Fremont, Bay Fair, and Hayward stations.

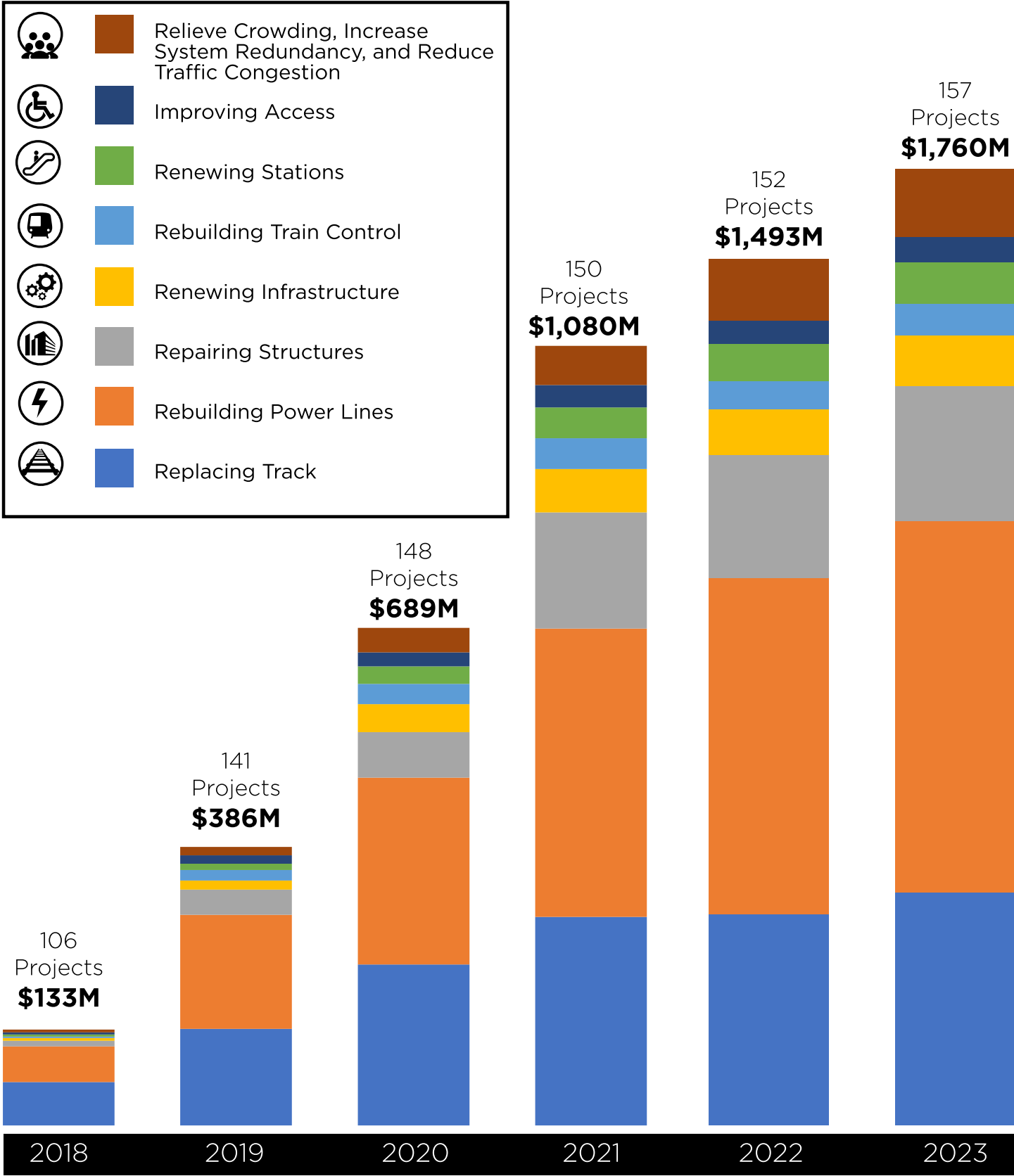
Measure RR money is also supporting a community partnerships initiative that makes it easier to walk or bike to BART. The Safe Routes to BART program leverages RR dollars to support projects started by other local agencies that can offer a minimum funding match of 30%, provide evidence of governing body support, a full funding plan, and a minimum of 35% design completion. Projects recently selected to receive Measure RR support through this program include the Ohlone Greenway Modernization and Safety Project, Fremont Blvd. Elevated Bikeway, and the North Bailey Road Active Transportation Corridor Project.

The graphic below shows the amount of Measure RR money dedicated to this project category, the amount of that money that has been spent through March 2024, the percentage of planned work that’s been completed through March 2024, and the value of the work completed so far. The value of work completed is the dollar value associated with the expectation of labor and materials needed to complete the work. To learn more about how BART measures this value please go to Measuring Cost Effectiveness on page 26.





YEARLY PROGRAM EXPENDITURES



MEASURING COST EFFECTIVENESS

BART and the Bond Oversight Committee (BOC) utilize an integrated method known as Earned Value Management (EVM) as a tool to measure the cost effectiveness of the Measure RR rebuilding program. Ensuring that RR work is proceeding in a cost-effective manner is one of the mandates of the BOC. EVM is used to evaluate the progress of individual projects as well as larger program categories. It is popular, well-established, and widely recognized as an objective measurement within government contracting and other sectors.

BART staff present to the BOC what work will be done, when it is expected to happen, and how much money and time it will take to reach completion. EVM allows someone to assess whether the value of work completed at a given point is worth the money spent at that point in time.

By providing both a Cost Performance Index (CPI) as well as a Schedule Performance Index (SPI) EVM is useful in project forecasting. When BART staff analyze EVM results they are looking for trends that emerge over multiple quarters. Projects are considered on track when both the CPI and SPI consistently hover around 1.0. When a CPI or SPI rises above 1.2 or below 0.80 in a reporting period, the program is given additional scrutiny to determine if there are any risks or issues. If risks exist, staff develop a mitigation plan to either correct or hinder the risks from growing larger. It's normal for some projects to perform better than others at different times, which makes looking at the overall programs so important for the long term.

The BOC receives regular EVM updates from BART staff and is advised if any issues are identified that require mitigation. The public may view a project's CPI or SPI status by visiting bart.gov/bondoversight and looking at the "Earned Value" section of the Appendix of staff presentations.



FUNDING MEASURE RR WITH GREEN BONDS

Green Bonds have been at the center of BART's plan to finance Measure RR construction work since the beginning of the program. BART is among the first transit agencies in the country to earn a green climate certification for its bonds. BART received its certification in 2017 through the Climate Bonds Initiative's Low Carbon Transport Standard. The Climate Bonds Initiative promotes investments in projects that bring the world closer to a low-carbon and climate-resilient economy consistent with the 2015 Paris Agreement.

As the market for Green Bonds expands, costs for climate-friendly projects everywhere may decrease. Green Bonds are not more expensive than traditional bonds, but they allow BART to further demonstrate its commitment to the environment.

BART has offered four tranches of Green Bonds totaling more than \$2.1 billion to support the Measure RR rebuilding program since work started in 2017. The initial tranche was \$300 million and was offered in 2017. The second tranche offering in August 2019 was \$360 million. The third tranche was offered in August 2020 for \$700 million, and the latest tranche for \$700M was issued in May 2022. For all these issuances, BART has worked closely with its financial advisors to develop a financing plan that ensures funds are available as needed for projects while taking into consideration the rate paid by taxpayers. When the fourth tranche, 2022 series D, was offered in May of 2022, Moody's Investors Service (Moody's) gave BART's General Obligation Bond Program a credit rating of 'Aaa Stable.' Fitch Ratings has assigned a "AAA" rating with a stable outlook and issued BART an "AA Long-Term Issuer Default Rating." The service wrote the rating reflects BART's "low long-term liabilities and manageable capital spending pressures in the context of an unusually broad and deep economic resource base."

On July 24, 2023, Moody's affirmed the 'Aaa' ratings on the District's outstanding general obligation bonds but revised the outlook to negative from stable. Moody's wrote "the rating reflects the District's exceptionally large and diverse tax base that encompasses a major component of the Bay Area economy. The favorable wealth profile of service area residents supports BART's strong credit profile. The District's current healthy financial metrics, strong liquidity, conservative management, and ample federal aid position the District well to manage suppressed ridership due to the coronavirus pandemic and the longer-term shift to remote work in the near term, however projected outyear deficits represent a significant risk. The District's large capital needs as well as its moderate pension and OPEB burdens are also factored into its credit profile. The rating further incorporates the above average legal strength of the general obligation bonds, including a statutory lien and lock box". On April 14, 2023, Fitch affirmed the District's Issuer Default Rating at 'AA' with a negative outlook. Fitch also affirmed its credit rating on the remaining outstanding 2022D series GO bonds at 'AAA' with a stable outlook.

BART originally expected to offer bonds in equal installments every two years for 18 years. But Measure RR-funded rebuilding work has progressed faster than initial projections and as a result more funds have been needed sooner to ensure work continues. If BART stayed with its original financing plan only about \$1.2 billion in Green Bonds would have been issued up to this point.

Measuring up to Bond Requirements

IRS rules require that BART has a reasonable expectation that 85% of bond proceeds, including interest earnings on the proceeds, will be spent within three years of the issuance of the bond. BART has progressed on Measure RR work at a pace that exceeds this requirement. As of January 31, 2024, BART had spent \$1.78 billion on Measure RR projects. It's projected that the latest tranche will be spent by early 2025. This pace of spending reflects BART's ability to exceed IRS requirements. It also demonstrates that Measure RR-funded work is being delivered in a timely manner.

Measure RR bonds are supported and secured solely by an unlimited ad valorem tax upon all property subject to taxation by the District. Property taxes assessed in Alameda, Contra Costa, and San Francisco counties are being used to pay back Measure RR bonds. At the start of the program BART estimated the average yearly tax rate over the life of the bond program would be \$8.98 per \$100,000 of assessed property value. BART further projected that the yearly tax rate would range from \$0.80 to \$17.49 per \$100,000 of assessed value. BART's latest property tax assessment for Measure RR to cover debt service in FY 2023-2024 is \$8.60 per \$100,000 of assessed valuation.

RR PROGRAM EXPENDITURES OVERVIEW

Program	Expended Through December 2023	% Expended Out of Total Bond Investment		
			MID-TERM (Through 2025)	LONG-TERM (Through End of Bond)
Renew Track	\$405.1	65%	\$433.5	\$625
Renew Power Infrastructure	\$700.4	57%	\$868.0	\$1,225
Repair Tunnels and Structures	\$246.4	45%	\$318.3	\$549
Renew Mechanical Infrastructure	\$89.2	57%	\$133.0	\$156
Renew Stations	\$79.7	38%	\$107.1	\$210
Train Control Modernization	\$52.5	13%	\$113.1	\$400
Relieve Crowding, Increase System Redundancy, and Reduce Traffic Congestion	\$144.2	72%	\$127.8	\$200
Access Improvements	\$42.0	31%	\$69.2	\$135
TOTAL In (\$ Millions)	\$1,759.5	50%	\$2,170.0	\$3,500

The Bond Oversight Committee receives quarterly expenditure updates for BART staff on the Measure RR infrastructure rebuilding program. The latest information is also available to the public in the agenda packets for each Bond Oversight Committee meeting, which can be found at bart.gov/bondoversight.

MEASURE RR SPENDING BREAKDOWN

Total Measure Investment	\$ 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	\$549	16%	✓	✓	
Renew Mechanical Infrastructure	\$156	4%	✓	✓	
Renew Stations	\$210	6%	✓	✓	✓
Train Control Modernization	\$400	12%	✓	✓	✓
RELIEVE CROWDING, REDUCE TRAFFIC CONGESTION AND EXPAND OPPORTUNITIES TO SAFELY ACCESS STATIONS	\$335	10%	✓	✓	✓
Relieve Crowding, increase system redundancy, and reduce traffic congestion	\$200	6%		✓	✓
Access Improvements	\$135	4%	✓	✓	✓
TOTAL	\$3,500	100%			

ONLY PART OF THE SOLUTION

Measure RR goes a long way in addressing BART's need to rebuild its critical infrastructure. But the \$3.5 billion that will be raised over the lifetime of RR does not go far enough to fulfill all BART's capital needs. BART estimates its total capital need through Fiscal Year 2033 is \$22.4 billion. The agency has so far identified \$12.4 billion in funding, which leaves a gap of \$10 billion. The pie chart on this page shows the various funding sources to fund BART's capital program as well as the funding gap.

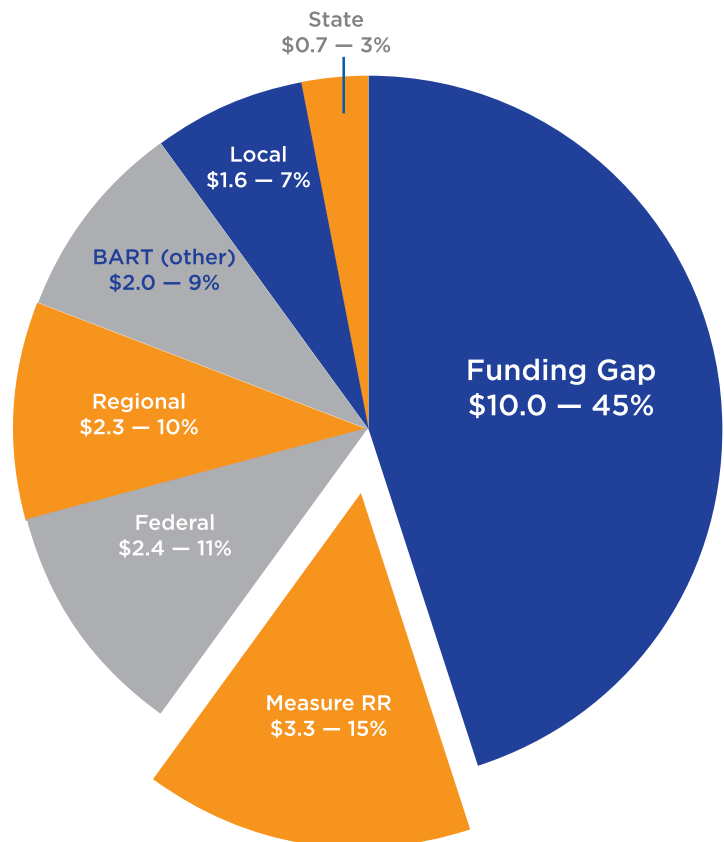
BART faces long-term capital funding challenges and continues to pursue additional grants by leveraging RR dollars. Through 2023, almost \$1.8 billion of Measure RR has been expended which has leveraged more than \$3.5 billion of external grant funding and other BART funding to support the RR Program. The external grant funding represents funding from the Federal Transit Administration to county transportation agencies. These grants funded a diversity of projects from core repair and basic maintenance investments to station modernization projects.

BART is in the process of developing an updated Capital Improvement Program, which will forecast the BART Capital Program and funding landscape over the next 15 years. That document is expected to be published later in 2024.

BART FY19-33 Capital Investment Needs and Funding Sources (Billions)

Total capital need: \$22.4
Total funding identified: \$12.4
15-year capital funding gap: \$10

NOTE: All numbers are noted in billions.



INFORMING THE PUBLIC ABOUT LARGE PROJECTS

The responsibilities of the Bond Oversight Committee include monitoring BART's efforts to inform the public about its work. This includes the many impacts riders and those who live near the BART system could experience from rebuilding projects. Potential impacts include rider delays and changes to station access as well as construction noise and lighting.

The latest example of BART's public outreach for a major rebuilding project is the work that happened in early 2024 near Richmond Station. That's where BART crews replaced an interlocking, which is a critical track component that allows trains to safely move from one line to another. Whenever a project of this magnitude occurs BART must temporarily shut down rail service in the area to ensure a safe work environment for construction crews. In this case passengers had to ride free buses instead of BART trains to travel between Richmond and El Cerrito del Norte stations. Also, Red Line (Richmond-Millbrae/SFO) service was cancelled on work weekends.

BART's Office of External Affairs takes the lead on public outreach for major track projects. The outreach team includes staff from Government and Community Relations (GCR), Marketing, and Communications. Outreach for the Richmond project started more than a month before the first shutdown weekend, which happened on Presidents' Day Weekend (February 17-19). The outreach was designed to reach different audiences in multiple languages. Key information that was shared with the public included the track shutdown schedule, bus bridge details, anticipated delay lengths, benefits of the work, and neighborhood impacts.

Stakeholder outreach targeted local elected officials, transit advocacy groups, neighborhood business groups, other community organizations, residents near the work area, and riders. GCR updated the Richmond city manager and offered briefings to the mayor and city council members. GCR shared text that could be included in a newsletter and linked to BART social media posts for elected official and community groups to amplify. GCR also developed two mailers that were sent to nearly 1,900 addresses within a quarter mile of the project work site, before each of the first two project weekends. The mailers offered information in English, Spanish, and Chinese.

Communications drafted a passenger bulletin that was posted at BART.gov and linked to all stations served by the Red Line. The article appeared on the home page of BART.gov as well as in the Alerts and Advisories section of the website. A news release was sent to a list of more than 300 reporters and news outlets. Multiple posts were made on various social media outlets for each shutdown weekend. Emails and text alerts were sent to BART news subscribers who signed up for updates at impacted stations or specific hours of service such as on weekends.

Marketing provided additional targeted outreach in multiple languages and on various platforms. Ads promoting the work and its impacts were placed in print and digital publications in Spanish, Vietnamese, Korean, and Chinese. Digital ads were placed on multiple social media platforms and Google targeting anyone near the track area. This meant anyone using a mobile device or computer near the work area would receive a targeted ad about the project if they opened social media or hit a keyword in a Google search.

There were also outreach activities within the BART system itself. Public address announcements about the project were made in English, Spanish, and Chinese. Systemwide messages were displayed on digital platform signs. Posters with project information and the bus bridge map were placed in stations along the Red Line.

SMALL BUSINESS OUTREACH

The Bay Area's small businesses are a vital part of the Measure RR rebuilding program. To ensure as many locally owned contractors can participate in this important work BART's Office of Civil Rights (OCR) leads an extensive contractor outreach campaign. In 2023 OCR organized 41 outreach events, drawing an average of 27 participants at each event. This includes 18 training and outreach events hosted by the District's Small Business Support Services (SBSS) program.

SBSS is administered by the Office of Civil Rights. SBSS was established as a free resource with the goal of providing pre-award and post-award supportive services to increase the number of qualified small, local, minority, women, disabled veteran, and LGBTQ+ businesses that can participate in BART contracting opportunities. The program also provides them with the type of customized technical assistance that would make them more competitive in the bidding process. SBSS guides their efforts to successfully bid on projects. Once a contract is awarded, the program provides support service to ensure the successful delivery of the project from start to finish.

Laner Electric Supply Company is one of 670 small businesses supported by SBSS. Sandra Escalante owns Laner Electric and has often been called a "unicorn." "I'm a woman, a minority, a member of the LGBT community," she said recently. "It's very difficult just to be an employee in the construction world. A business owner? Ha."

Each criterion for participation in SBSS applies to Escalante, who's been working with the program since its inception in 2018. "Programs like SBSS are the beginning of changing mindsets," she said. "If you don't change the mindset, nothing will change materially."

Escalante has served on multiple advisory councils in recent years, including BART's Small Business Advisory Council. It's a lot of time and effort, but she believes sharing her knowledge and experience is important. Owning a small business "is not easy," she said, and more so if you're a minority or member of the LGBT community.

Escalante knows the difficulties of owning and operating a business, but she's never given up, even after experiencing a debilitating stroke and heart attack in 2006, which forced her to sell her business at the time. Her responsibility to her employees keeps her going through it all, she said.

"You have to treat your employees how you want to be treated," she said, acknowledging that "being an entrepreneur requires tenacity, strength, and the guts to take risks."

That's why she's grateful for programs like SBSS that are "actually making a difference." "I hope BART continues to expand the program and keeps taking chances on small businesses," she said.

OCR also administers the District's Non-Discrimination Program for Subcontracting on non-federally funded contracts which ensures that prime contractors do not discriminate or give preference in the award of subcontracts on the basis of race, national origin, color, ethnicity, or gender.

Small businesses have been awarded 26% of all Measure RR contract dollars. Small businesses have been awarded 1,513 Measure RR contracts through the end of 2023. These contracts are valued at \$298.1 million.



EQUITY AND MEASURE RR

BART is working to incorporate equity into all aspects of its operations including infrastructure decision-making. It's essential for BART to do everything it can to ensure all community members and stakeholders have equal access to the system. Communities thrive when everyone has access to robust public transportation.

The Accessibility Improvement Program is actively identifying and implementing improvements needed system wide to meet ADA-regulations. Based on an initial assessment in 2011, BART conducted an evaluation of stations system-wide and identified improvements and upgrades required to meet federal ADA regulations and the California Building Code. There are currently 11 stations in the construction phase with Fremont and Bay Fair stations actively under construction.



The Public Address System Improvement Project scope includes installation of a new PA system, including electrical, communications, equipment installation, testing, and commissioning at Lafayette and Powell stations.

BART Wayfinding Improvements at 14 stations located in Alameda, San Francisco, and San Mateo counties. Work includes fabrication and installation of illuminated wayfinding signs, custom design cases, station ID pylons, kiosks, and real-time displays. Existing wayfinding directional and transit information signage and displays will be replaced to improve and enhance the transit wayfinding experience of transit users. The new signs and information displays will provide consistent and understandable information with the use of fewer written messages and more pictograms, graphic symbols, and operator logos. Design has been completed to 35% at each of the 14 stations, of which for two stations, MacArthur and Ashby there will be complete design and construction.

ADVANCING SUSTAINABILITY

Measure RR is helping BART to meet its sustainability goals. BART's commitment to sustainability is advanced by providing safe, affordable, equitable, and environmentally friendly transit to move people to jobs, recreation, and services. This involves projects that make BART easier to use for more people and help the Bay Area be less dependent on cars. BART riders get the equivalent of 73.3 miles per gallon as the system is three times as efficient compared with a typical car driven alone. BART is also working towards getting 100% of its power from zero-carbon sources by 2035.

The Bond Oversight Committee has a mandate to ensure Measure RR work measures up to BART's sustainability standards. Recent examples of RR-funded projects benefiting the local environment include:

- The Balboa Park Transit-Oriented Development project includes a new plaza and passenger loading zone. The new plaza increases access to transit, fosters community, and enhances quality of life. The plaza provides better access to transit, with stairs directly into the BART station, a new Bay Wheels bike share station, and an updated passenger loading area including a paratransit stop. There is access to both a Muni bus stop and multiple Muni rail lines adjacent to the development. The plaza has seating areas for transit customers, tenants, and the public, with the possibility of outdoor space being used by ground-floor retail or for community events. New trees were added throughout the plaza, along with ADA accessible paths, lighting, and security cameras.
- BART is advancing implementation of Measure RR-funded pedestrian and bike improvements at North Berkeley including widening of the Ohlone Greenway on BART's property. Other North Berkeley access improvements include a raised crosswalk at the station entrance, improved bike access from Acton Street to the station entrance, and widened pedestrian connections between Sacramento Street and the station.



Committee Activities, Suggestions & Expenditures

As part of this report, the Bond Oversight Committee also presents a summary of its activities and expenditures.

April 21, 2023

Staff presents first draft of RR Annual Report. Committee Member Vinit Shrawagi asks whether printed copies will be made available to public and staff says they will. Staff presents overview of RR program. Committee Member Sonja Stewart requests list of watch list items including a status update of what's been done.

June 16, 2023

Measure RR Annual Report draft is presented to full committee. Members of Annual Report subcommittee say they're pleased with the draft and how staff has responded to their requests. Report is approved unanimously, and Chair Michael McGill is appointed to present it to BART Board. Staff provides update on status of overall RR program. Committee Member Daren Gee proposes creating of new subcommittee to do deep dives on projects.

September 15, 2023

BOC approves meeting schedule for 2024 and '25. Committee Member McGill unanimously approved for new term as Chair. Committee Member Cindy Rosenthal unanimously approved as Vice Chair. Gee unanimously approved as chair of Deep Dive subcommittee. Stewart requests future updates on time, date, and location of future BART Board meetings where RR Report is discussed. Staff reviews public rollout of Annual Report. Staff provide update on RR program. Committee Member Janey Wang asks for actual vs historical comparisons for budget forecasts.

January 19, 2024

Chair McGill announces committee member Gee has resigned from BOC because he took a job with a contractor who does business with BART. Committee unanimously votes for Stewart to succeed Gee as chair of Deep Dive subcommittee. Staff presents outline for '24 Annual Report. Stewart says it would help for BART to show the outreach to stakeholders done prior to putting RR before voters. Staff presents overview of RR program progress. Rosenthal asks for discussion on how to make it easier to find RR content at BART.gov.

Committee Expenditures: As of this report, the committee has spent \$xxx in Fiscal Year 2024 on the design and production of the RR Annual Report.

You are invited to participate in future Measure RR Bond Oversight Committee meetings. Those meetings are schedule to happen on the third Fridays of January, April, June, and September.

The meetings are open to the public and are listed on the BART website at <https://bart.legistar.com/Calendar.aspx>

The public can view meeting minutes at www.bart.gov/bondoversight

This committee will continue to publish annual reports throughout the life of the Measure RR rebuilding program.

Helpful Links

Additional information about the Measure RR Rebuilding Program can be found on bart.gov. Here is a list of helpful links if you'd like to learn more about the details of Measure RR.

Previous Measure RR Annual Reports published by the Bond Oversight Committee	The Bond Oversight Committee has published an annual report for each year of the Measure RR rebuilding program. All these past reports are available at BART.gov/bondoversight .
Measure RR Standing Rules and Original Documents	
Bond Oversight Committee Standing Rules	This document outlines the basics of how the Measure RR Bond Oversight Committee operates. https://bit.ly/466cSLh
Original Measure RR Bond Resolution	This is the document approved unanimously by the BART Board of Directors on June 9, 2016 that lead to Measure RR being placed on the November 2016 ballot in the BART District. https://bit.ly/3p9olne
2016 Treasurer's Tax Rate Statement	The statement from BART's Treasurer was issued in compliance with the state election code ahead of the November 2016 vote and offers best estimates of the highest tax rate which would be required to be levied to fund the bond issue, the total debt service and more. https://bit.ly/3qSfTyt
2016 Measure RR Fact Sheet	Includes details put before District voters in advance of the 2016 election. https://bit.ly/3Xeuf8s
Major Audits	
There were no major audits of the RR program during the period of this Annual Report. Starting in 2022, staff began giving regular audit presentations in the second meeting of the calendar year. The public can view these presentations at bart.gov/bondoversight .	
Additional Background	
Green Bonds	BART provides updated information on its climate-certified green bonds including preliminary offering statements and credit reports at www.bart.gov/greenbonds .
Procurement	Updated info on upcoming procurement opportunities and contracts out for bid at BART. https://www.bart.gov/about/business/procurement

PAST ACCOMPLISHMENTS 2016-2023

2016

- Voters passed Measure RR

2017

- Established a Bond Oversight Committee
- Underwriting Pool Request for Proposals
- Board approved Underwriting Pool
- Presentation to Rating Agencies
- Bond Pricing
- Planning Track Program
- A15 Track Interlock replaced in Oakland

2018

- M03 Track Interlock replaced in Oakland
- Issued \$300 million in green bonds that qualify for climate friendly projects
- Conducted extensive outreach with small businesses

2019

- \$96.5 million contract awarded to replace more than 40 aging escalators in SF
- Completed platform edge rehabilitation at MacArthur and Rockridge stations
- Construction underway on El Cerrito del Norte -Ohlone Greenway
- Construction underway on West Side Pedestrian Bridge at Warm Springs Station
- Awarded 8 General Engineering Service contracts totaling \$320 million

2020

- Reprofiled 149 miles of track
- 23 track switches replaced at junctures in the system
- Replaced 6 miles of 34.5kV cable in Oakland and SF
- Replaced 118 cross passage doors and 2 lower gallery doors in the Transbay Tube

2021

- 34 miles of worn rail replaced
- Replaced 27 miles of 34.5kV electrical cable
- Upgraded platform edges at 7 stations
- Replaced 58 miles of third rail coverboards
- Completed 4 major Station Modernization and Station Access projects

2022

- Substantial completion of 34.5kV cable replacement in downtown San Francisco
- Completed trackway demolition and restoration for Transbay Tube retrofit
- Completed station modernization projects at Powell Street and 19th Street
- Opened Warm Springs Pedestrian Bridge
- Issued \$700 million in climate-friendly green bonds.

2023

- Substantial completion of rail reprofiling (systemwide)
- Completion of 19th Street/Oakland City Center station modernization project
- Construction of Civic Center scissor stairs
- Completion of Willow Pass Road high voltage transformer replacement
- Completion of construction of Oakland Yard Tracks and platform lighting for Powell Street Station modernization

Appendix

Appendix 1: List of capital grants awarded to BART through 2023 through the use of Measure RR matching funds.

Fund Source	Awarded Through CY2023(\$M)*	Notes
FTA Capital Investment Grant	1,295.9	CIG, ARP CIG and supplemental CIG Award from FY23 Appropriations
State Funds	+\$256M of State Funds awarded in 2023.	SBI grants (TIRCP, LPP, SCCP), AHCS, and other state grants
City/County Funds	514.6	
BART Sales Tax Bonds	410.5	Measure AA and bond proceed interest
Capital Allocations	176.6	
Federal Formula/Other Federal Funds	160.5	
MTC/Regional Funds	62.9	RM1, RM2, RM3, and other bridge toll proceeds
Other	3.0	
Total	3,278.1	

*Reflects grant awards (allocated and not yet allocated) through CY2023

Appendix 2: Projects completed over the lifespan of RR. Total of 61 Completed Projects.

Project Name	RR Funds Invested	Project Name	RR Funds Invested
Platform Doors Feasibility	\$2,172,740	ADA Lighting Improvements	\$281,200
Corrosion assessment of metallic gas lines	\$1,339,766	Fare Evasion Barriers & Control	\$189,565
Fire hoses and piping	\$485,999	Embarcadero/Civic Center Bike Modernization	\$541,241
Fire Services Yards - OCY	\$7,462,119	WAYFINDING Improvements Phase II	\$78,729
Fire Services Yards - ORY	\$9,964,867	Last Mile Investments	\$796,596
Fire Services Yards - OKS	\$259,182	Outer C Line Access Study	\$22,793
Access Ladders	\$646,236	Replacement of Transbay Tube Emergency Door	\$105,184
Vacuum system (non-revenue vehicle shop)	\$1,546,957	Replacement of TBT Emergency Doors	\$12,011,147
Coverboard Enhancement - Phase 4 C Line & L Line	\$4,065,616	Berkeley Hills Tunnel Creep	\$1,765,100
Computer Room Fire Protection	\$9,742	Safety Barriers Phase 3	\$2,977,063
Replace Fire suppression system at LMA	\$1,251,907	A Line Operability Feasibility Study	\$3,810,453
Facilities HVAC equipment replacement system wide - Phase 1 & 2	\$9,258,018	Renew Sound walls of Guideway (C, R and L Lines)	\$1,434,577
Traction Power Cable Replacement: M line MBP-MTF	\$4,323,220	Platform Edge Structural Rehab	\$5,093,758
Traction Power Cable Replacement: M Line MTW-MBP	\$103,376,490	Substation Walls (Painting & Repair)	\$515,737
Substation Replacement: Richmond Yard	\$1,392,350	A15 Interlocking Replacement/ M03 Interlocking Replacement	\$149,017,215
UC Intermodal Station Phase 2A	\$8,020,938	System Joint Elimination	\$1,955,476
EL CERRITO DEL NORTE STN MOD	\$9,766,553	Rail Re Profiling Services	\$18,321,311
West Oakland Station Modernization Plan	\$298,333	CWS High Voltage Transformer Replacement	\$11,909,480
C55 Interlocking Replacement	\$9,030,974	K LINE Cable R	\$83,419,394
C35 Interlocking Replacement	\$19,406,194	Third Rail Replacement Phase 3 Closed	\$6,418,760
C25 Interlocking Replacement	\$13,199,523	Water intrusion in escalator & elevator machine rooms	\$1,088,536
Restraining Rail Closed	\$409,613	Aerial Fall Protection	\$27,465,687
A65/A75 Interlocking Replacement	\$23,933,245	Rehab expansion joints	\$828,111
Friction Modification Study	\$1,427,981	TBT RETROFIT #1	\$106,700,369
R65 Interlocking Replacement	\$8,543,617	Replace antiquated backflow preventers	\$947,087
Warm Springs Pedestrian Bridge	\$1,510,000	Rotocloners replacement (wet dust collectors)	\$4,335,234
eBART Additional Parking Lot	\$4,373,899	19th Street Station Modernizatin/Construction	\$9,617,000
El Cerrito Del Norte Gateway	\$8,608,879	Powell Street - Gateway Station	\$5,579,804
MacArthur Transit Improvements	\$4,208,167	BALBOA PARK-UPPER PLAZA KNR	\$627,275
Embarcadero Station Entrance Gates	\$110,435	Civic Center Platform Stairs	\$10,930,023

Keep up with Measure RR

The independent Bond Oversight Committee encourages you to stay updated on Measure RR and share comments or questions about BART's rebuilding efforts. Community engagement and feedback from stakeholders is essential to the success of the Measure RR program.

Follow and comment via social media:



Facebook
@bartssf



Instagram
@sfbayarearapidtransit



Twitter:
@sfbart



Email BART directly:
BetterBART@bart.gov




TikTok:
@sfbart

Attend a public meeting and email comments to the oversight committee:

Details on upcoming Bond Oversight Committee meetings can be found at **www.bart.gov/bondoversight**. Meetings are open to the public via videoconference during the pandemic. You may also email public comments that will be entered into the public record. List "public comment" as the subject line and email ljohnson@bart.gov.



2150 Webster St. • Oakland CA, 94612 • bart.gov



Link21 will transform the BART and
Regional Rail network into a faster, more
connected, equitable, affordable, and
accessible
train system for future generations

5. Link21 Overview Presentation

CONNECT NORTHERN CALIFORNIA

RR Bond Oversight Committee
April 19, 2024



Why Link21

Economy, Jobs & Housing:

- Fifth largest megaregional economy in country
- Jobs and affordable housing imbalance

Roadway Congestion & Climate Risks:

- Persistent traffic — back to pre-pandemic numbers
- Climate- and health-damaging air pollution

Passenger Service & Infrastructure:

- Inconvenient, disconnected train network with limited routes and service
- One transbay rail crossing — limits service reliability and redundancy
- Current network does not reach enough transit dependent populations



Why Link 21?

Planning The Future While Finding Solutions For Today

- Understanding travel needs
- Connecting people to affordable housing, jobs, and other desired destinations
- Finding transportation system solutions specifically for transit dependent
- Preserving our quality of life
- Achieving Climate Goals



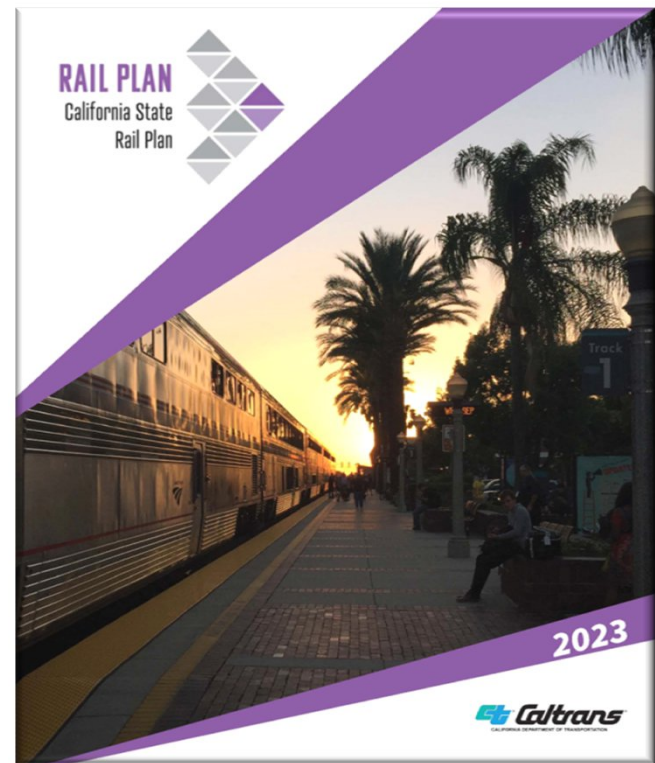
Link21 – Critical To Future Statewide Network

2023 CA State Rail Plan

“Future rail service in the Bay Area is highly dependent on a second Transbay crossing managed and led through the Link21 Program ... **The zero emission and integrated rail corridor** between the San Francisco Peninsula and Sacramento identified in the Vision **would not be possible without a second bay crossing.**”

MTC Plan Bay Area 2050

- A transbay crossing emerged as the top-ranked transit project for GHG reduction
- Optimizes the rail network
- Serves as the “anchor” of a regional rail plan for the next three decades



(Image Source: 2023 California State Rail Plan Public Draft cover)



Link21: A Program of Projects

A new transbay passenger rail crossing
between Oakland and San Francisco (BART or Regional Rail)

Improvements to both BART & Regional Rail
better travel time, frequency, hours of service, new markets

Synergies between projects in Megaregion
reduce perceived distance between destinations



Benefits Beyond Link21 Crossing

Connected Markets:

- Create opportunity to connect communities in the Megaregion

Improved Service:

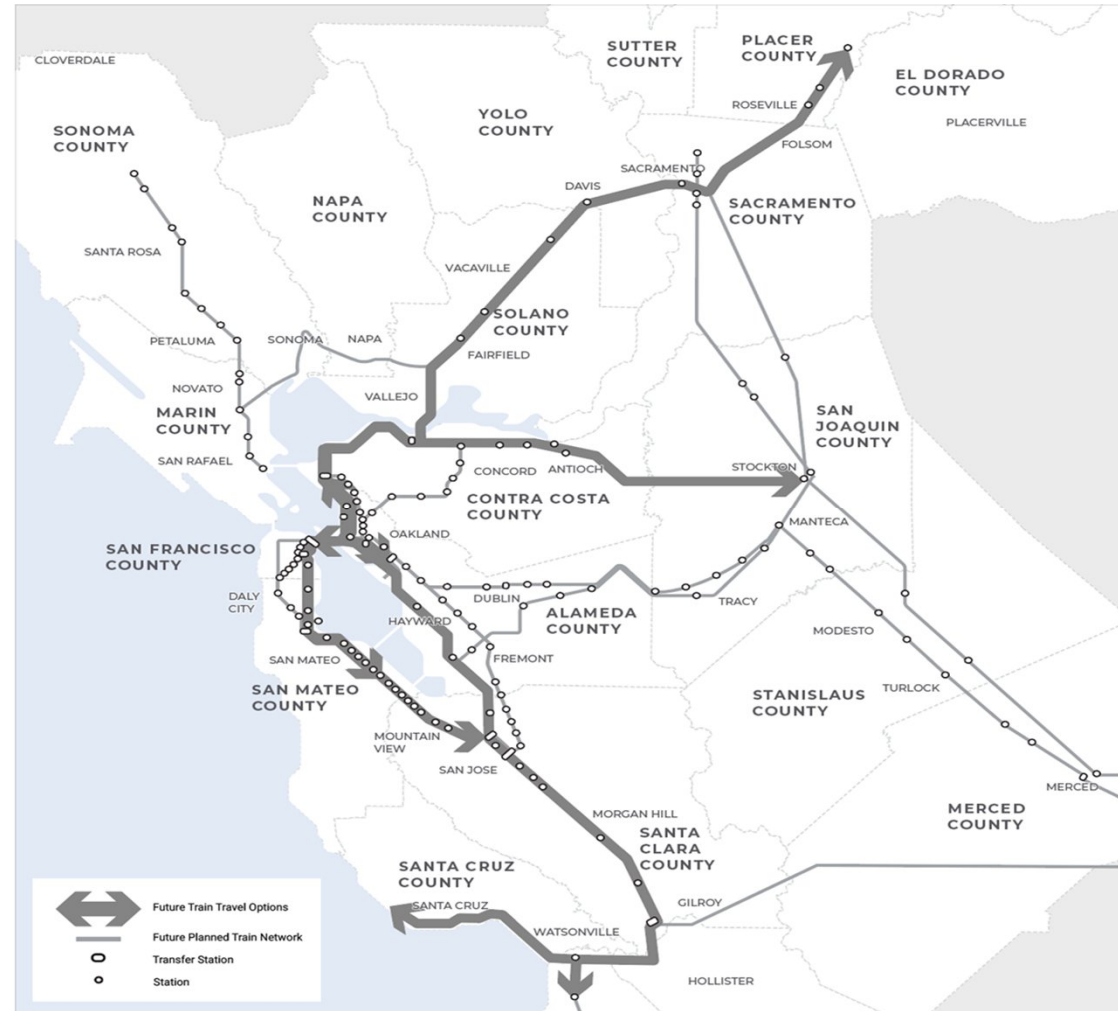
- Increase frequency and more one-seat rides
- Enhance access and create faster transfers between BART and Regional Rail networks

Enhanced Train Technology

- Greener, lighter, and faster trains
- Track, speed, and vehicle type

Improved Infrastructure

- Tracks, structures, signaling, and facilities

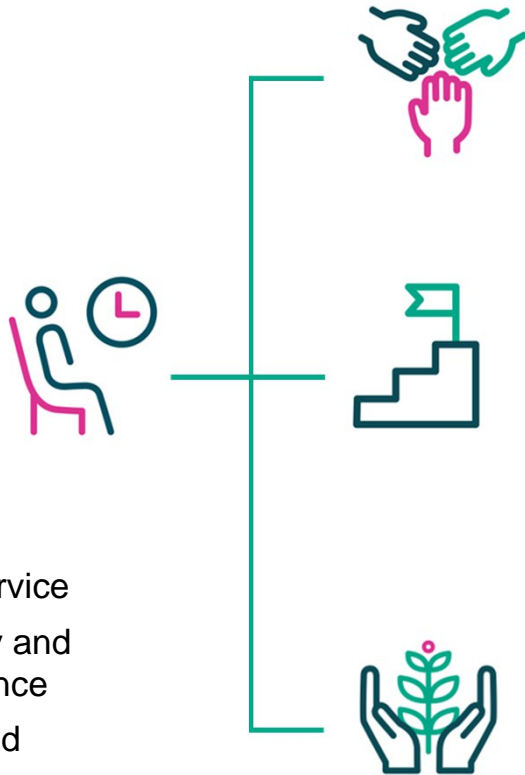


Link 21 Presentation (Measure RR)
April 2024

Link21 Program Goals & Objectives

Transform the Passenger Experience

- Provide better service
- Improve reliability and system performance
- Build ridership and mode share



Promote Equity and Livability

- Connect people and places
- Improve safety, health, and air quality
- Advance equity and protect against community instability and displacement

Support Economic Opportunity and Global Competitiveness

- Improve access to opportunity and employment
- Connect major economic, research, and education centers
- Enable transit-supportive and equitable land use

Advance Environmental Stewardship and Protection

- Increase climate change resilience
- Reduce greenhouse gas emissions
- Conserve resources

Link 21 Presentation (Measure RR)
April 2024



What We've Learned— BART and Regional Networks Can Work Better Together with Link21

Either BART or Regional Rail in crossing could:

- **Meet travel demand** between San Francisco & Oakland by 2050
- **Uninterrupted transbay rail service** if one crossing goes out of service
- **Improve service reliability** and transbay redundancy with two crossings
- Enable **increased train frequency** that can **grow ridership** — must be balanced with operating costs & larger fleet
- Provide **benefits to priority populations** across the network in different ways
- **Reduce potential future crowding** in existing BART crossing
- **Reduce traffic** on Bay Bridge
- **Improved / new transfers** between BART and Regional Rail to save travel time
- Additional **urban | metro service** (like BART today – frequent and fast, timely)
- **Extended Hours** on BART (Requires policy decision/action by BART)
- **Limited initial increase in intercity train frequencies** until future infrastructure built



Link 21 Presentation (Measure RR)
April 2024

Future Service with Link21: Independent of Technology

Urban | Metro Service



Electrified Caltrain service in 2024

Train Frequency: Arrives every 2 - 10 minutes

Stops/Stations: More stops/shorter distances between stations (1-5 miles apart)

Travel Speed: Medium average speeds

Vehicle Technology: BART or regional rail

Examples: BART, eBART, Caltrain (electrified)

Intercity | Express Service



Capitol Corridor will operate zero emission trains in the future

Train Frequency: Arrives every 30 minutes - 1+ hours

Stops/Stations: Fewer stops/longer distances between stations (5+ miles apart)

Travel Speed: Higher average train speeds/faster travel time

Vehicle Technology: regional rail

Examples: Capitol Corridor, San Joaquin's, Altamont Commuter Express, Amtrak long distance

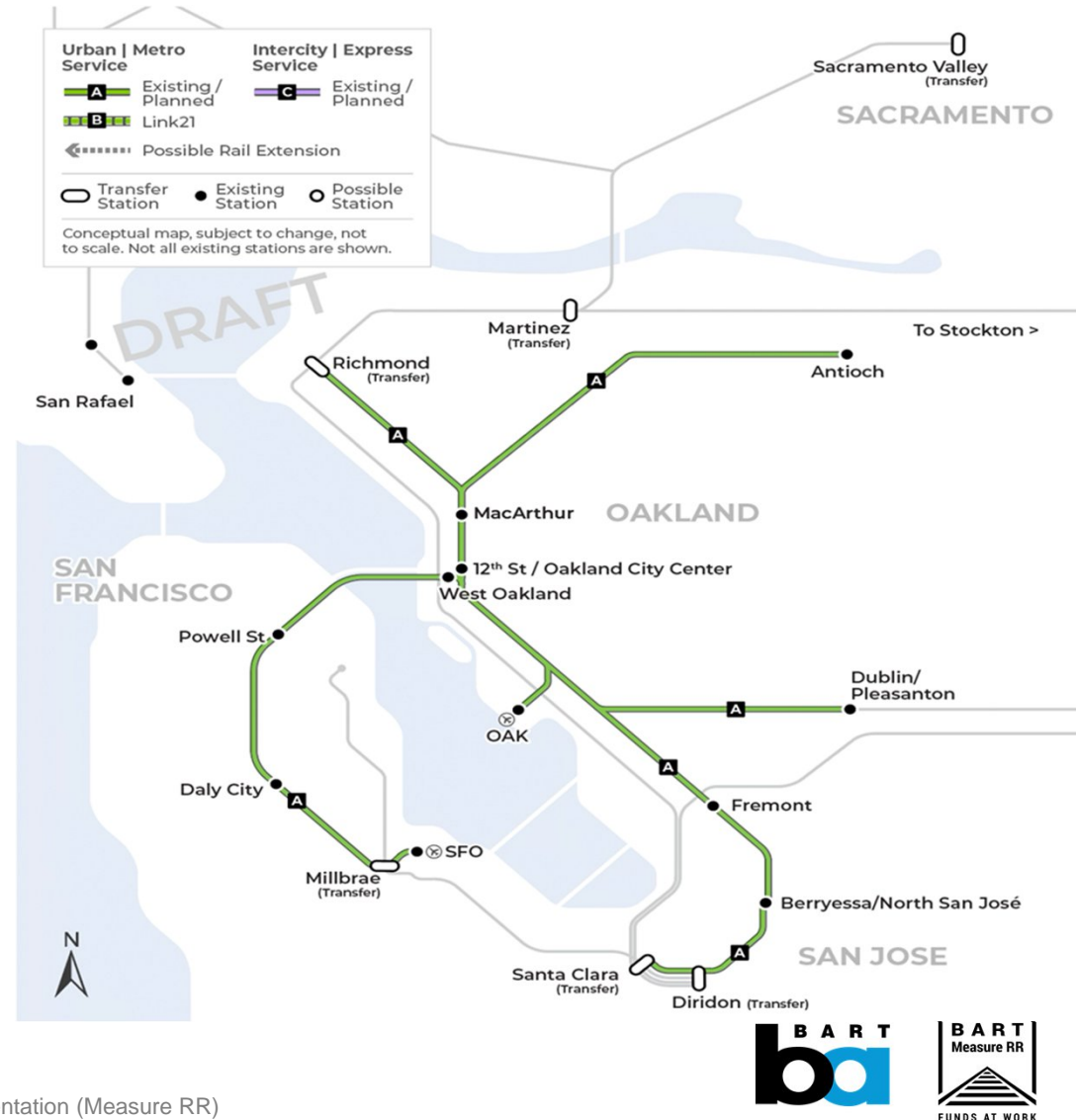
BART in the Crossing

Service Benefits:

- **Increased frequency** of East Bay BART lines
- Improved **access and connections to jobs/housing**
 - Throughout BART network and potential new (Mission Bay / SOMA)
- To **Priority Populations** within BART's service area
- **New transfers** to Regional Rail (Mission Bay and central Oakland)
- **Improved reliability** with alternative route to existing BART Transbay Tube
- **Leverages** existing and potential **BART improvements and connections**
 - Silicon Valley BART extension
 - Valley Link

Considerations:

- More established federal funding process
 - Limited Federal Transit Administration funding may require other sources
 - Might compete with other BART funding needs
- Likely does not require new governance



Link 21 Presentation (Measure RR)
April 2024

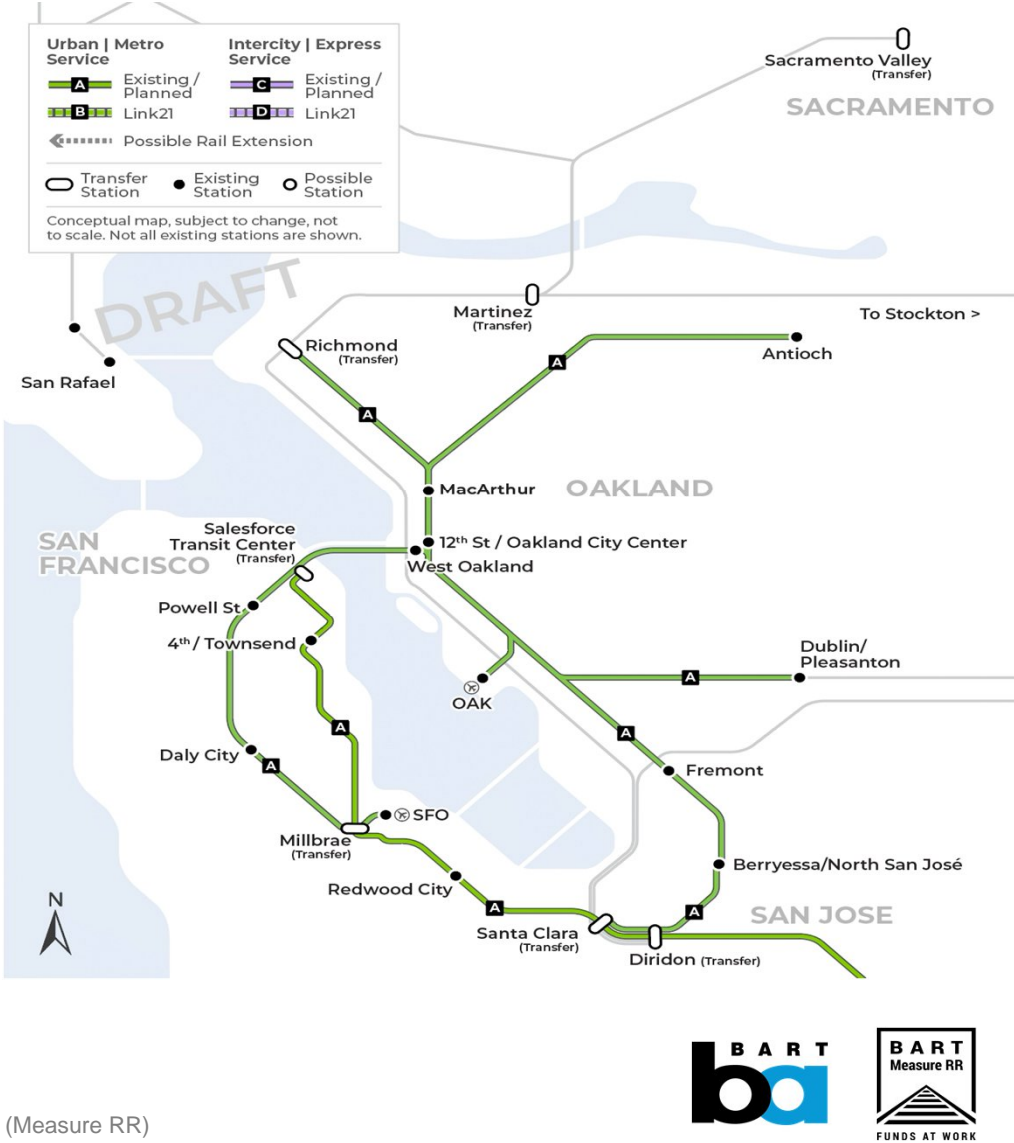
Regional Rail in the Crossing

Service Benefits:

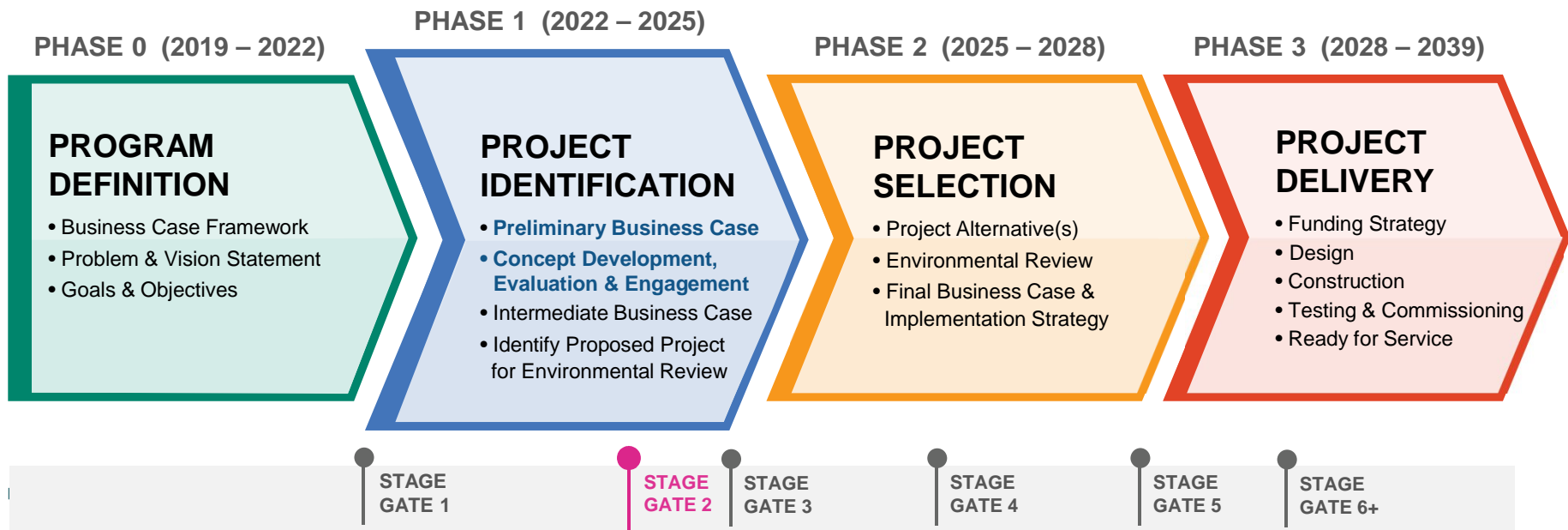
- **More direct service** (one-seat rides) and **travel time savings**
 - Megaregional trips to San Francisco and Peninsula
 - Inner-East Bay / Transbay trips - Richmond to Salesforce Transit Center
- **To Priority Populations** within existing/planned Regional Rail corridors
- Improved/expanded megaregional **access to jobs & housing**
- **New transfer** to BART in central Oakland
- **Creates inter-operability** of multiple train services via new crossing
- **Improved reliability** (separation of freight and passenger rail in Oakland)
- **Leverages** existing and potential **regional rail improvements/connections**
 - Caltrain electrification
 - Portal
 - High-Speed Rail
 - Capitol Corridor Vision Plan
 - Sacramento Valley Station

Considerations:

- Leverages more funding and financing options
 - More investment needed than BART in crossing
- At-grade improvements near Priority Populations may require additional mitigation
- Potential increased interagency involvement
- Collaboration with host railroad for change within right-of-way



Link21 Program Timeline



At Stage Gate 2 (April 2024) we will present to the BART and CCJPA Boards to:

“Advance the identified **Preliminary Project** to be refined, with continued community, stakeholder, and public engagement, into a Proposed Project ready for Environmental Review.”



Link 21 Presentation (Measure RR)
April 2024

Thank you





6. Measure RR BART Safety, Reliability and Traffic Relief Program Presentation

Bond Oversight Committee
April 19, 2024



Bond Oversight Committee Duties & Responsibilities

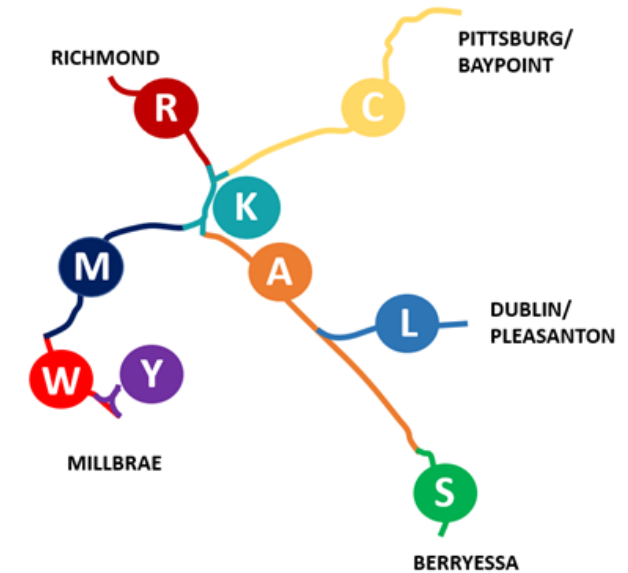
- Provide diligent, independent and public oversight over the expenditure of funds from the sale of District general obligation bonds.
- Assess how bond proceeds are invested to ensure that all spending is authorized by the ballot measure.
- Assess whether projects funded by bond proceeds are completed 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.

Bond Oversight Committee Framework

September: Deep Dive	January: The Annual View	April: Closing the Loop Meeting	June: Fiscal Year End Review
<p>In-depth view of 8 Programs:</p> <ul style="list-style-type: none"> Financial Outlook, Budget and Schedule Update Program Update <ul style="list-style-type: none"> Office of Civil Rights Human Resources/Staffing Project Status and Milestones 	<p>The Annual-view of:</p> <ul style="list-style-type: none"> Funding, bond, forecasting, context, mixed-funding, etc Procurement Human Resources/Staffing Small Business Outreach Public Outreach Update Staff Organization Chart 	<ul style="list-style-type: none"> Review of Measure RR Audits in the past year Project Controls Framework Bond Funded Program Watchlist Items Review 	<ul style="list-style-type: none"> Annual Report Approval Measure RR Project Successes for this Year Preview of Next Year's Projects by Program Staff Organization Chart Subcommittee summaries, discussion, member election

Executive Summary

- Through December 2023, \$1.76B of the Measure RR funds have been invested to complete 56% of the work
- Successes
 - Completion of Construction for the following:
 - A77 Interlocking Replacement
 - Stations Emergency Lighting Phase 2
 - Concord Turntable Replacement
 - Bike Racks at MacArthur Station
 - Issued Notice to Proceed for the Walnut Creek (CWC) Substation Contract



# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
5	29 (-3)	15 (-1)	47 (-2)	61 (+6)	157

+ (Projects added in the phase)
 - (Projects no longer in the phase)

Introduction



Measure RR Related Audits



Project Controls Framework



Calendar Year 2024 Track Shutdowns



Bond Funded Program Watchlist Items Review



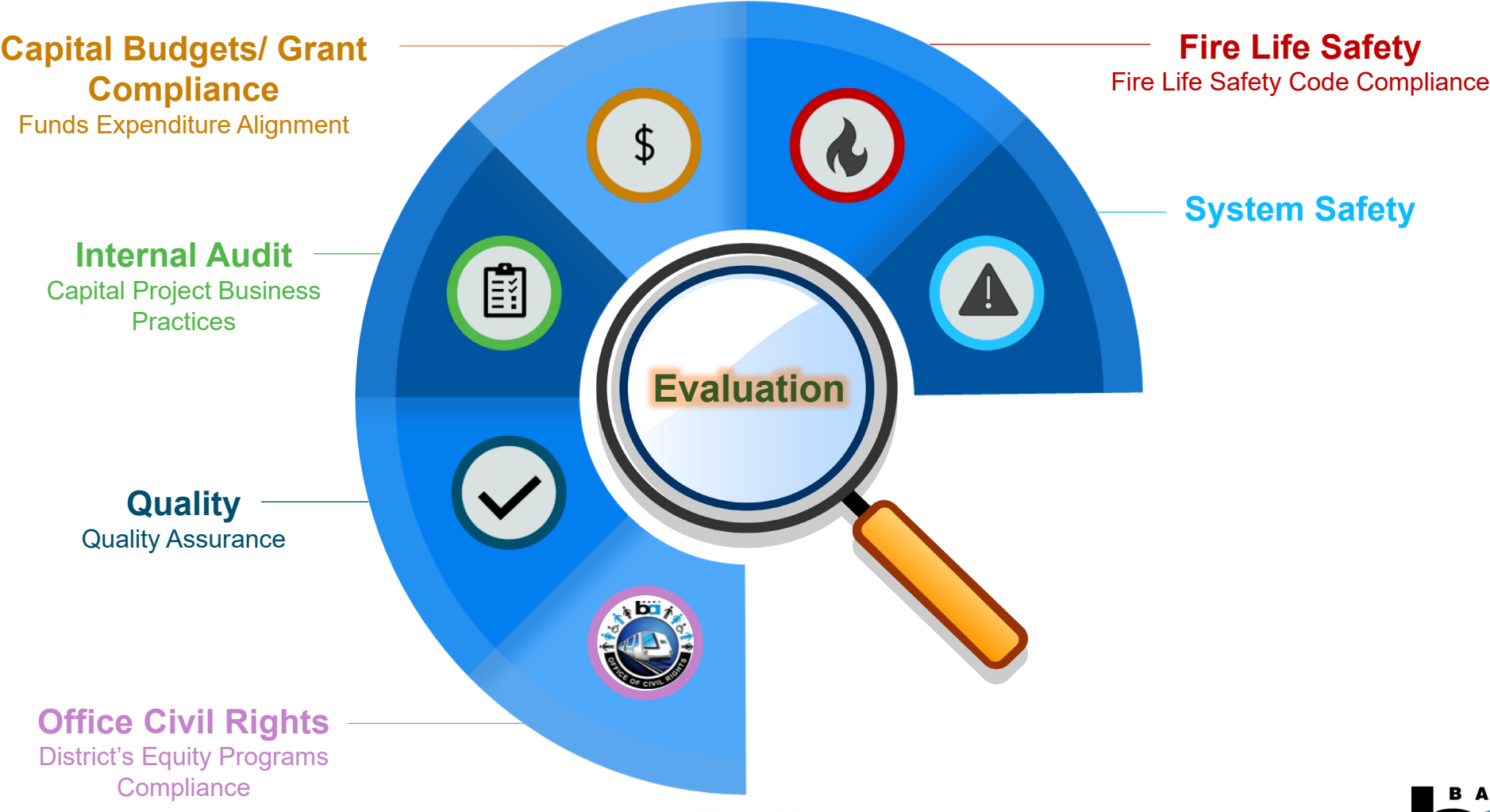
Appendix: Financial Outlook, Program Status & Milestones

6.A. Measure RR Related Audits

Maansii C. Sheth, RR Program Manager



RR Program Oversight



RR Program - Audit



Internal Audit

Overhead Rates (OH) & Provisional Labor Rates; Delay Claims; Termination Claims; Change Order (CO); Ad Hoc & Support Activities



External Audit

Annual

Audit the year-end financial statements of the business-type activities.



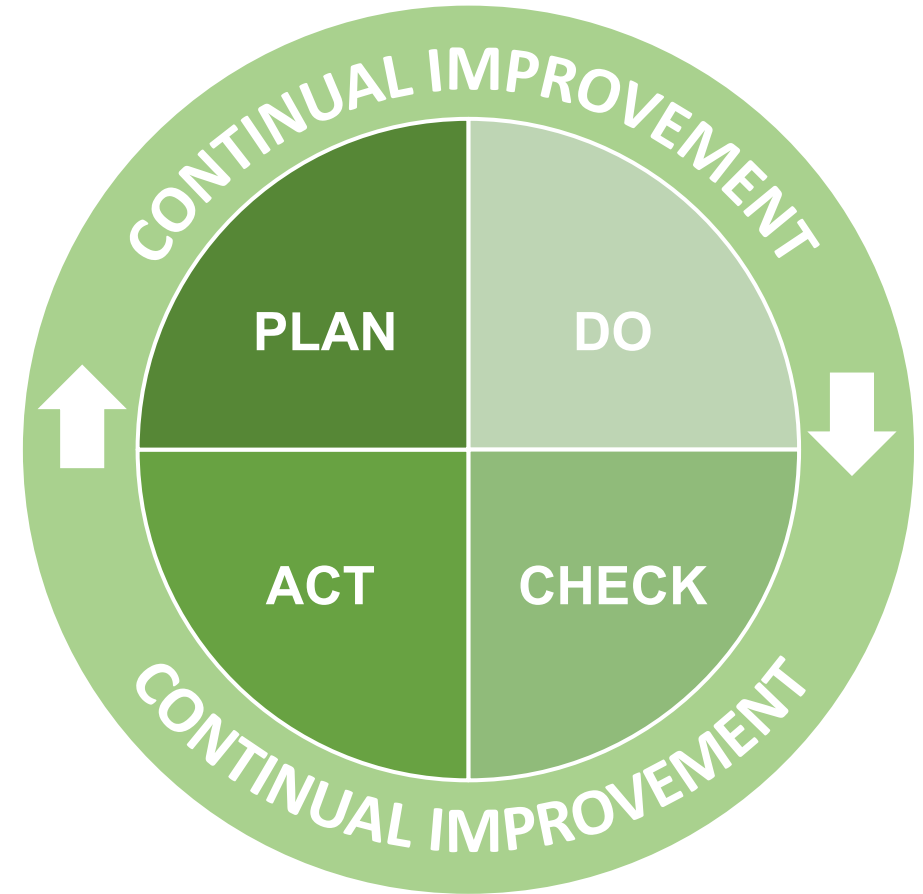
Quality Audit

Internal

To ensure it aligns to the BART and FTA Quality Management Guideline requirements processes and project records.

Design Quality Management Plan (DQMP)

- Aligns to International Standards for Quality Management (ISO 9001)
- Establishes: common methodology, language, and set of procedures for preparing project designs
- Reduce recurring problems/anomalies with project documents through standardized document control
- Increase efficiency: managing resources, using standardized forms and processes
- Reduce rework and changes during construction



6.A.1. Q&A



6.B. Project Controls Framework

Maansii C. Sheth, RR Program Manager

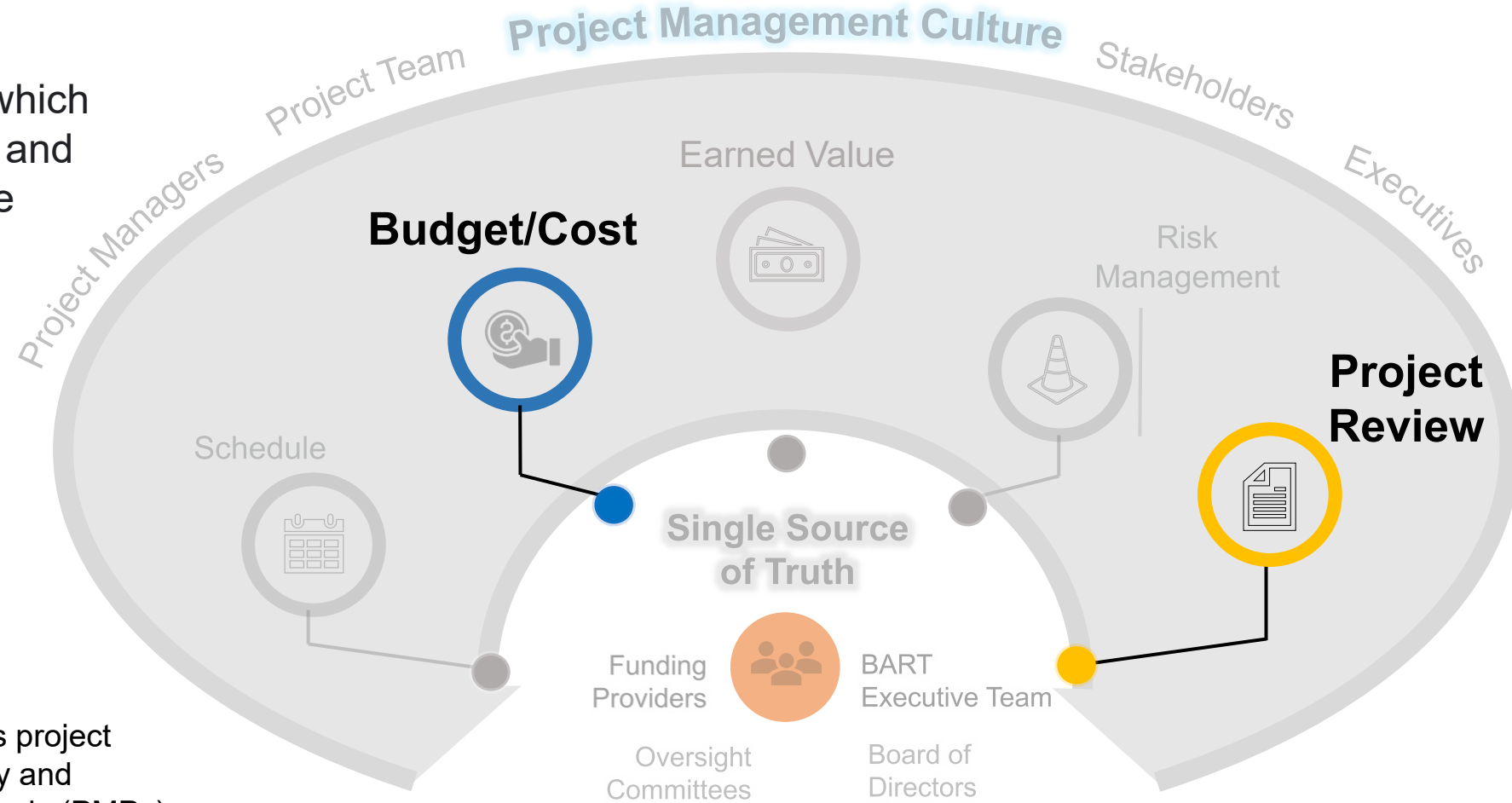


Project Controls Framework

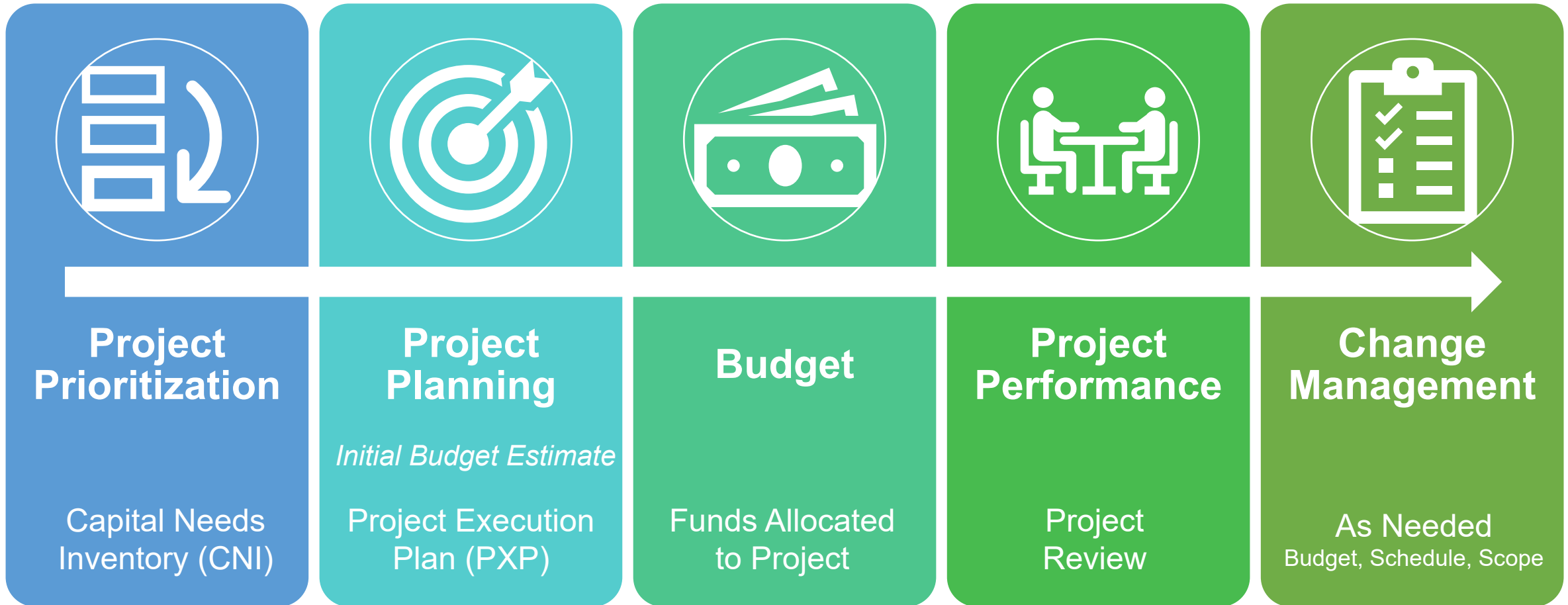
Project Controls: A process which utilizes resources, procedures, and tools to control all phases of the capital project lifecycle.



Project Management Institute (PMI) sets project management practice standards globally and certifies Project Management Professionals (PMPs).



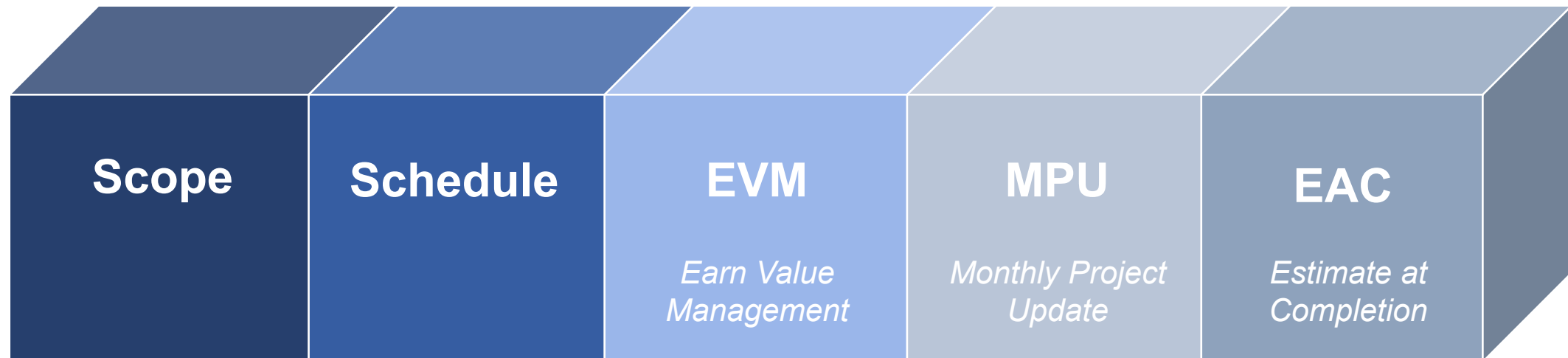
Budget And Cost Management



Project Budget Alignment



Project budget and cost are reviewed, validated and aligned across the various reporting tools.



Budget Review – Why & How



WHY?



- Navigating project costs & future planning
- Resource optimization
- Integrates with the scope & schedule
- Risk mitigation

HOW?

- Evaluate plan vs actual expenditure, adjust forecast as needed
- Review burn rate for project
- Review contingency



Project Review

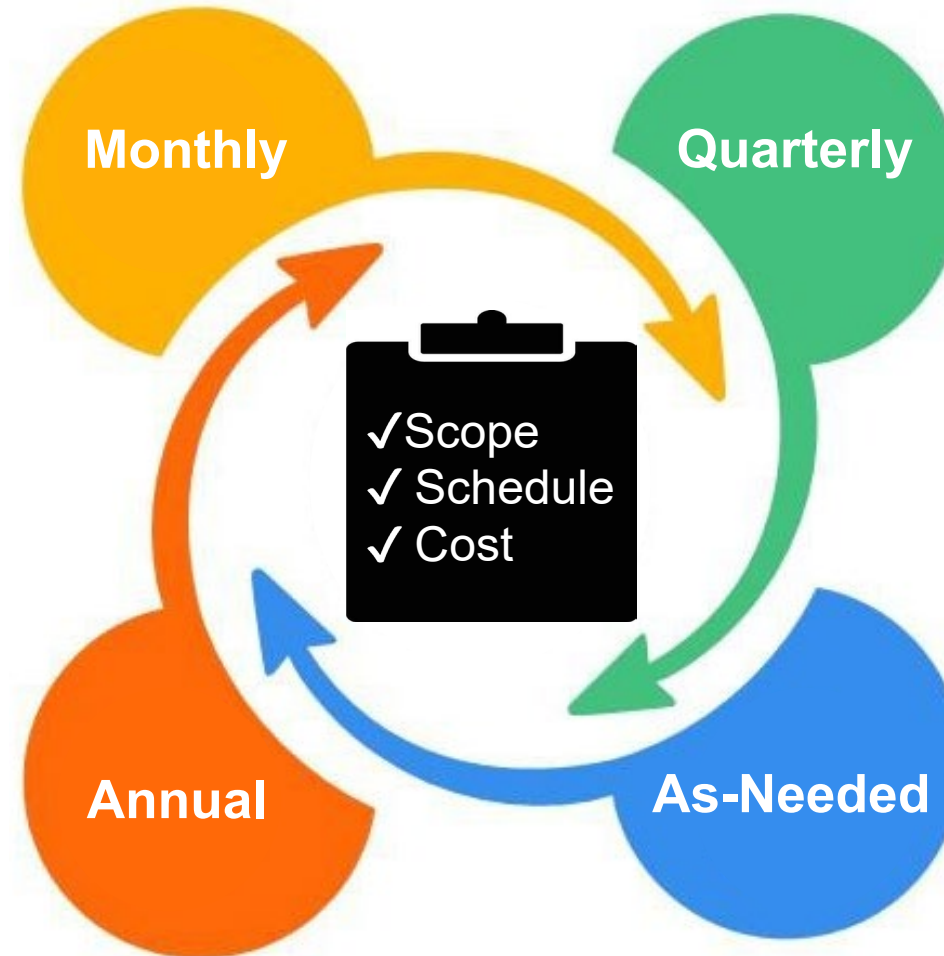


+ Quality

+ Funding

+ Risk

+ Forecast



+ Risk
+ Forecast

+ Funding needs
+ Change Management
+ Risk Management
+ Project Milestone

6.C. 10 Minute Break

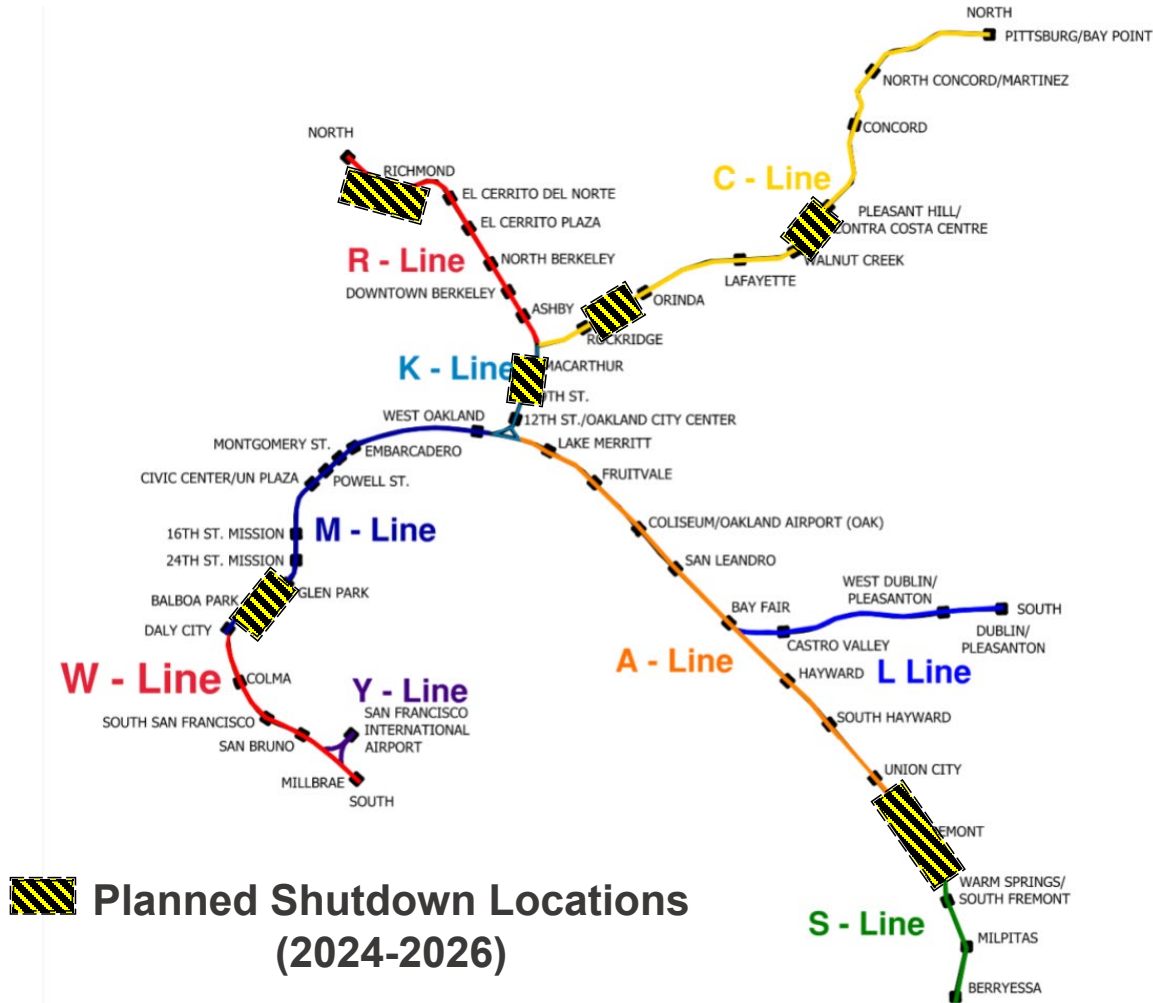


6.D. Calendar Year 2024 Track Shutdowns

Sarah Stroup, Project Manager



Track Shutdowns

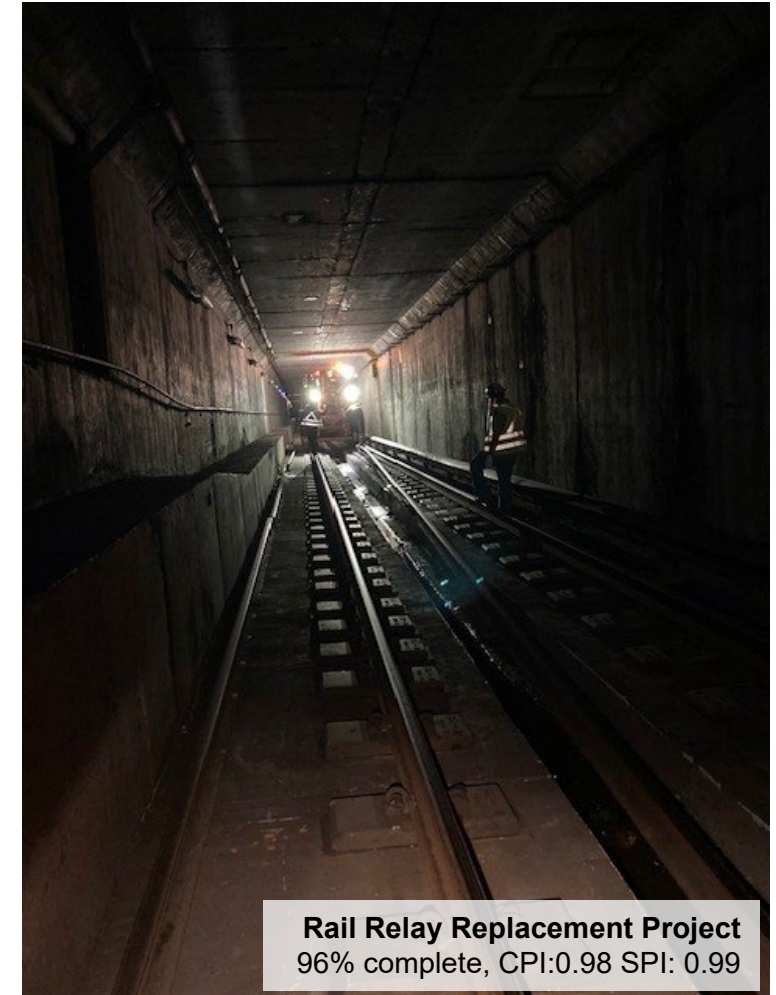


- A shutdown is a closure of a segment of track between 2 to 3 stations to allow for uninterrupted work
- There have been over 49 shutdowns completed since 2019
- 35 more planned over the next 3 years
- 15 shutdowns for calendar year 2024

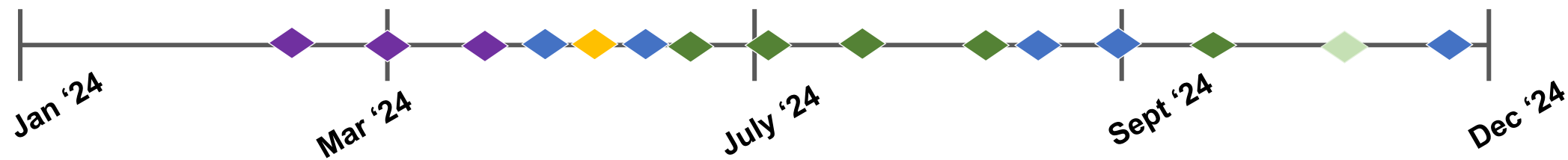
Track Shutdowns

Key Benefits:

- Expedite project schedule
- Major track rehabilitation in a short amount of time
- Allows multiple activities from different crafts and projects to be performed simultaneously
- Safer work environment – No live trains



Track Shutdowns - 2024 Timeline



R65 Leads (Mainline Interlocking- Richmond)

- 3 shutdowns: February 2024 - April 2024

K line Interlockings

- 5 shutdowns: June 2024 - October 2024

K-Line Duct banks

- 1 shutdown: November 2024

A85 Interlocking (serves Fremont Station) & Rail Replacement

- 1 shutdown: May 2024

C Line Rail Replacement

- 2 shutdowns: Single tracking weekends in August & September 2024
- 3 shutdowns: April 2024, June 2024, and December 2024

"Piggybacking" coordination between various departments & projects to utilize shutdown limits

Track Maintenance, Structures Maintenance, Grounds, Traction Power, Train Control, Buildings, Facilities, System Service, Enabling Works, OCIO Digital Railway

6.D.1. Q&A

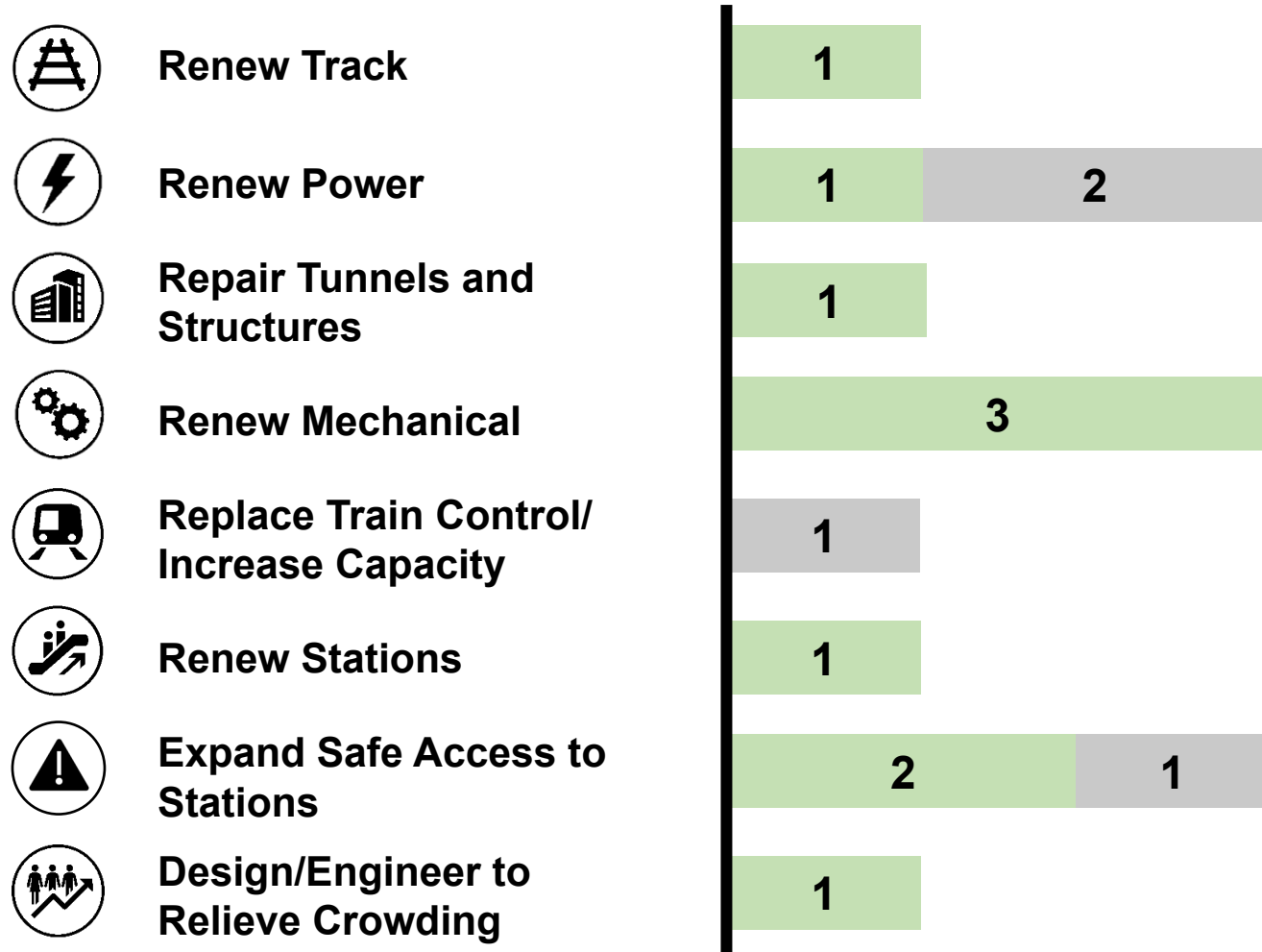


6.E. Bond Funded Program Watch List Items for Review

Maansii C. Sheth, RR Program Manager



Watchlist Review Summary



Legend: Open Closed

Total Open	Total Closed
10	4

Common Causes for Open Watchlist Items



**Market
Conditions**



**Differing Site
Conditions**



**Operational
Impacts**



Weather Impacts



Asset Degradation

Open Watchlist Items



Renew Track



Repair Tunnels and Structures



Renew Mechanical



Expand Safe Access to Stations



Expand Safe Access to Stations



Renew Stations



Design / Engineer to Relieve Crowding

Material Procurement Delays at K-Line

Evaluating re-sequence options of interlock construction to minimize impact of long lead items.

Design for Water Intrusion at Train Control Rooms

Continue working with stakeholders and the design team to finalize the design.

Re-issue for Bid Fire Suppression Upgrade and Sewage Pumps Replacement

Evaluating the contract scope and revised the contract language to re-issue for bid and receive better market response.

City of Pittsburg BART Ped/Bike Connectivity Project Construction

Evaluating options, helping navigation with Caltrans and BART to obtain required permits for construction.

Iron Horse Trail Bridge at Dublin Blvd

In regular communication with the city's project manager. Concurrent and critical path activities are being tracked and monitored by the city and their consultant to recover lost time.

Construction of Canopies

Sequencing of work to prevent delays to the Market Street Escalator Project. Monitoring project schedules and continued communication and coordination with stakeholders.

Funding for Embarcadero Platform Elevator Construction

Evaluating scope options and funding opportunities.



6.E.1. Q&A



Next Steps

APRIL/MAY

- Subcommittee Review of the Measure RR Annual Report



JUNE

- Bond Oversight Meeting
- Adopt Measure RR Annual Report



SUMMER 2024

- Present Measure RR Annual Report to BART Board
- Public distribution of Measure RR Annual Report



Thank You



6.F. Appendix: Financial Outlook, Program Status & Milestones



RR Program Small Business and Outreach



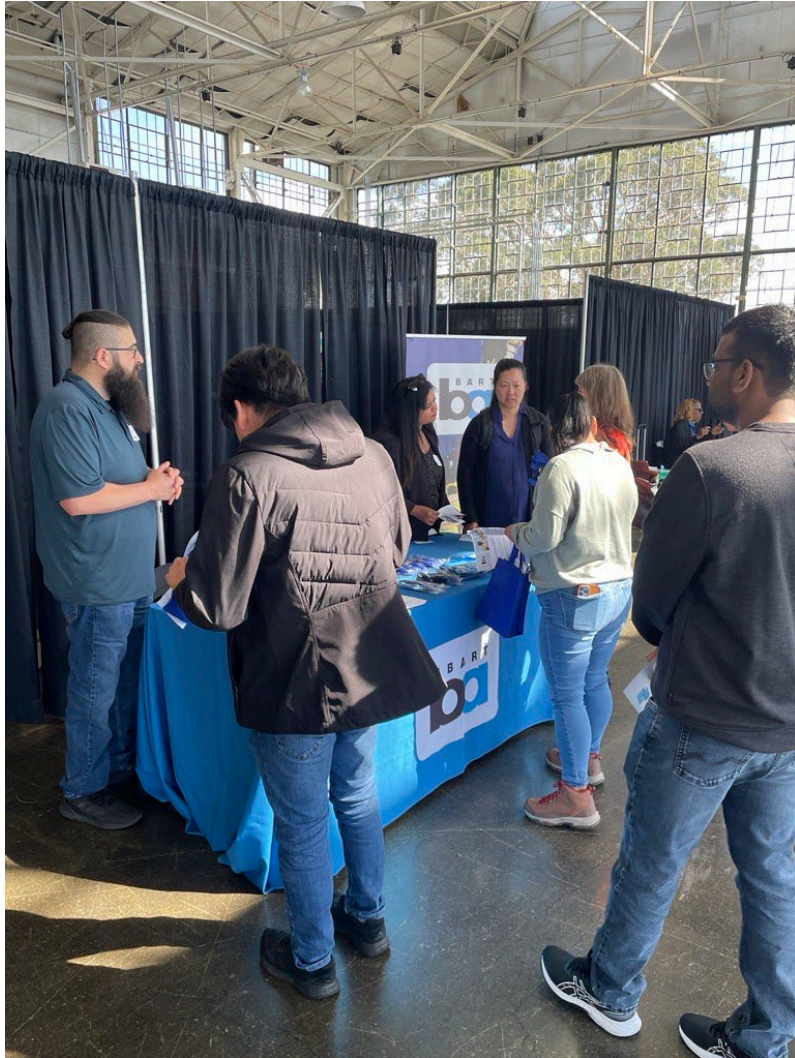
RR Program Update - Small Business

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	\$165.3 M (+\$4.6M)	\$38.2 M (+\$2.3M)	23%	184 (+24)	\$145.4 M	\$34.3 M	24%
Renew Power	\$439.0 M (+\$4.5M)	\$133.8 M	30%	395	\$327.4 M (+\$11M)	\$132.4 M (+\$2.2M)	40%
Repair Tunnels & Structures	\$160.0 M	\$35.8 M	22%	195	\$131.8 M	\$21.0 M	16%
Renew Mechanical	\$38.0 M	\$13.2 M	35%	92	\$29.3 M	\$11.8 M	40%
Replace Train Control/Increase Capacity	\$40.4 M	\$9.1 M	22%	170	\$28.9 M	\$4.0 M	14%
Renew Stations	\$161.0 M	\$30.7 M	19%	150	\$71.4 M (+\$3M)	\$13.9 M	19%
Expand Safe Access to Stations	\$22.7 M	\$6.9 M	30%	181	\$19.2 M	\$6.7 M	35%
Design/Engineer to Relieve Crowding	\$146.1 M	\$36.2 M	25%	228	\$118.2 M (+\$9M)	\$31.4 M (+\$1.2M)	27%
Total	\$1,172.5 M (+\$14.3M)	\$303.9 M (+\$5.8M)	26%	1594 (+81)	\$870.7 M (+\$29.2M)	\$255.5 M (+\$5.6M)	29% (-1%)

Notes: All amounts are based on RR fund percent only. Amounts are updated to February 29, 2024. 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 - Small Business Outreach



Recently Completed Events

- 2/29/24: Access to Opportunities – Contacts for Contracts”
- 2/21/24: Western Regional Minority Supplier Development Council Construction Day 2024 – San Francisco, CA
- 2/12/24: Associate General Contractors of CA Virtual Rail Showcase – Oakland, CA

Upcoming Events

- 4/29 to 5/3/24: BART Small Business Week Events - (BHQ/Zoom)
- 4/29/24: BART 2024 Small Business Summit – BHQ
- 6/13/24: California Unified Certification Program DBE/ACDBE Certification Workshop – San Jose, CA

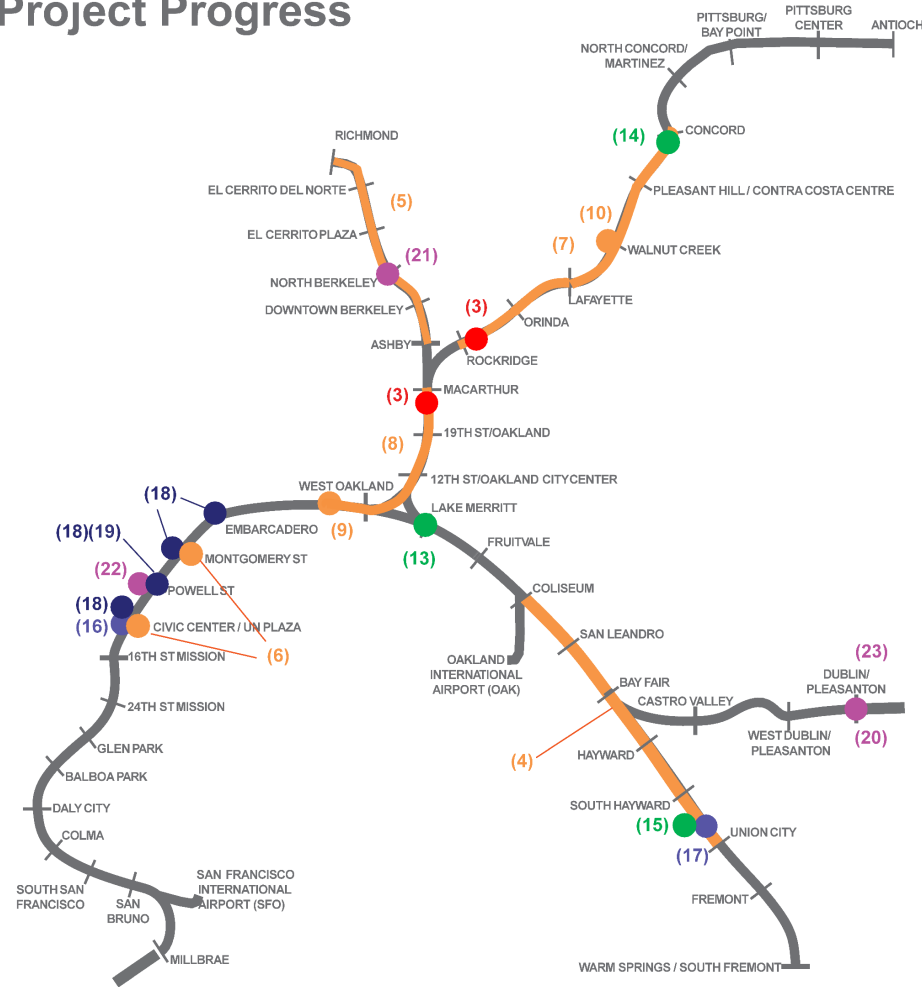


Example of Active RR Projects



Examples of Active RR Projects in Oct 2023 - Dec 2023

Measure RR – Project Progress



Renew Track

- 1 Frog Capital Maintenance (Systemwide Not Mapped) – Ongoing Construction
- 2 Rail Relay (Systemwide Not Mapped) – Ongoing Construction
- 3 K Line Interlocking Replacement – Ongoing Construction

Renew Power Infrastructure

- 4 A-Line 34.5kV Cable Replacement – Ongoing Construction
- 5 R-Line 34.5kV Cable Replacement – Ongoing Construction
- 6 Substation for Core Capacity – Ongoing Construction
- 7 C-Line 34.5kV Cable Replacement – Ongoing Construction
- 8 K-Line 34.5kV Cable Replacement – Ongoing Construction (MacArthur to Transbay Tube East)
- 9 Substation at Transbay Tube East - Ongoing Construction
- 10 Substation at Walnut Creek - Ongoing Construction

Renew Tunnel & Structures

- 11 Water Intrusion at Train Control Rooms - Ongoing Construction - (Systemwide Not Mapped)
- 12 Seal and Secure Substation Roofs (Systemwide Not Mapped) – Ongoing Construction

Renew Mechanical

- 13 LMA HVAC Renovation – In Design
- 14 Turntable Replacement Concord Yard - Ongoing Construction
- 15 Fire Services Yards (OHV) – Ongoing Construction

Design/Engineer to Relieve Crowding

- 16 Civic Center Scissor Stairs – Completion of Construction
- 17 Hayward Maintenance Complex (HMC) Phase 2: Civil & Grading – Ongoing Construction

Renew Stations

- 18 Market Street Canopies and Escalator – Ongoing Construction
- 19 Powell Street Station Modernization – Ongoing Construction

Expand Safe Access

- 20 Dublin Iron Horse Trail Bridge (SR2B) – Ongoing Construction
- 21 North Berkeley Access Improvements – Ongoing Construction
- 22 5th Street Improvement Project (SR2B) – Completion of Construction
- 23 Dublin/Pleasanton Access Improvement Project - In Design *

Replace Train Control/Increase Capacity

- 24 Enabling Works (Systemwide Not Mapped) – Ongoing Construction

*Updated projects

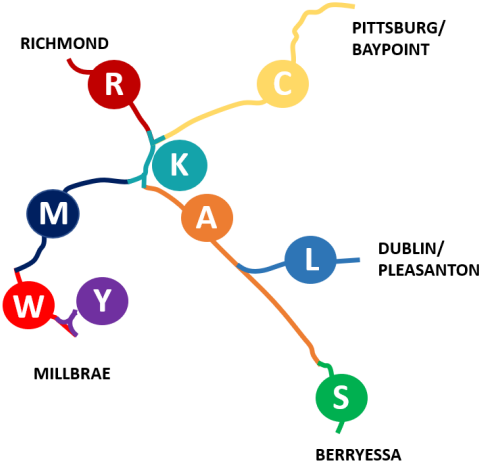
Individual Program Milestones



Renew Track

STATUS & MILESTONES

EXPENDED Thru 12/2023: \$405.1
FORECAST Thru 06/2025: \$433.5
TOTAL PROGRAM VALUE: \$625
PERIOD CASHFLOW: \$7.9



STATUS – Renew Track

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
0	1	1	8	10	20

MILESTONES			
Completed (Oct 2023 – Dec 2023)	Q3 (Jan 2024– Mar 2024)	Q4 (Apr 2024– June 2024)	Q1 (Jul 2024 – Sep 2024)
<ul style="list-style-type: none">Completion of Construction A77 Interlocking Replacement	<ul style="list-style-type: none">Contract Award for K Line Interlocking Replacement Traction Power Materials, MacArthur Station (K23/K25)Begin Construction of Richmond Yard Track Rehabilitation, Phase 1	<ul style="list-style-type: none">Begin Construction of K Line Switch Replacement	<ul style="list-style-type: none"><i>Begin Construction of Phase 2 Rail Replacement</i>

Watchlist:

- Material Procurement Delays at K-Line

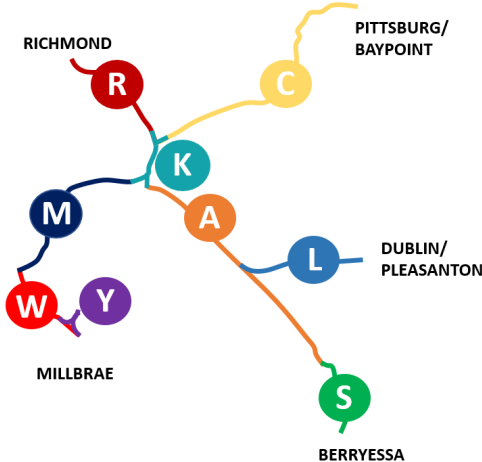
Italic: Modified milestones from previous report.



Tunnels & Structures

STATUS & MILESTONES

EXPENDED Thru 12/2023 : \$246.4
FORECAST Thru 06/2025: \$318.3
TOTAL PROGRAM VALUE: \$549
PERIOD CASHFLOW: \$5.4



STATUS – Repair Tunnels & Structures

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
0	4	5	5	12	26

MILESTONES			
Completed (Oct 2023 – Dec 2023)	Q3 (Jan 2024– Mar 2024)	Q4 (Apr 2024– June 2024)	Q1 (Jul 2024 – Sep 2024)
<ul style="list-style-type: none">Began Construction (In-house) of Renew Catwalks at Aerial Structure (Phase 3A)Began Construction (In-house) of Slope Stabilization Systemwide (L Line locations)	<ul style="list-style-type: none">Completion of Design for Street Grate and Vent Shafts (East Bay)Completion of Construction Water Intrusion at Train Control Rooms (Package 1-10 Locations)	<ul style="list-style-type: none">Issue for Bid Tunnel Waterproofing at M LineCompletion of Design - Water Intrusion at Train Control Rooms (Package 2- 4 Locations)	<ul style="list-style-type: none">Completion of Construction (In-house) of Renew Catwalks at Aerial Structure (Phase 3A)Completion of Design - Water Intrusion at Train Control Rooms (Package 3- 5 Locations)

Watchlist:

- Design for Water Intrusion at Train Control Rooms

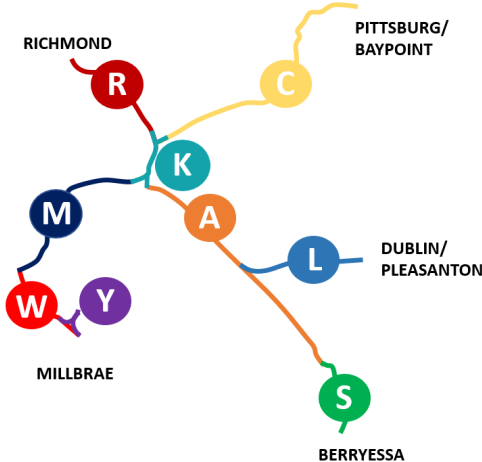
Italic: Modified milestones from previous report.



Renew Power

STATUS & MILESTONES

EXPENDED Thru 12/2023: \$700.4
FORECAST Thru 06/2025: \$868.0
TOTAL PROGRAM VALUE: \$1,225
PERIOD CASHFLOW: \$29.7



STATUS – Renew Power Infrastructure

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
2	6	3	17	6	34

MILESTONES			
Completed (Oct 2023 – Dec 2023)	Q3 (Jan 2024– Mar 2024)	Q4 (Apr 2024– June 2024)	Q1 (Jul 2024 – Sep 2024)
<ul style="list-style-type: none">• Notice to Proceed for Walnut Creek (CWC) Substation• <i>Completion of Construction Stations Emergency Lighting Phase 2</i>	<ul style="list-style-type: none">• Completion of Construction for R-Line 34.5kV Cable Replacement• Issue for Bid for Cast Coil Transformer Replacement Project	<ul style="list-style-type: none">• Completion of Construction of Cable Segment between West Oakland and Washington St., for K-Line 34.5kV Cable Replacement• Completion of Construction for Oakland Transition Structure (KTE) Traction Power Substation Replacement• Completion of Construction for Civic Center (MCC) Substation• <i>Contract Award for Cast Coil Transformer Replacement Project</i>	<ul style="list-style-type: none">• <i>Issue for Bid for TCCCP East Bay: Transbay Corridor Core Capacity East Bay Substation</i>• <i>Issue for Bid MET-G Generator Replacement Project</i>

Watchlist:

- Substation Construction

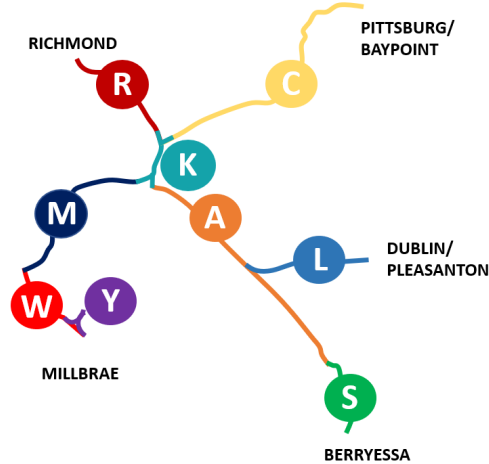
Italic: Modified milestones from previous report.



Renew Mechanical

STATUS & MILESTONES

EXPENDED Thru 12/2023: \$89.2
FORECAST Thru 06/2025: \$133.0
TOTAL PROGRAM VALUE: \$156
PERIOD CASHFLOW: \$0.9



STATUS – Renew Mechanical

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
1	6	2	4	13	26

MILESTONES			
Completed (Oct 2023 – Dec 2023)	Q3 (Jan 2024– Mar 2024)	Q4 (Apr 2024– June 2024)	Q1 (Jul 2024 – Sep 2024)
<ul style="list-style-type: none">Completion of Construction for Concord Turntable Replacement	<ul style="list-style-type: none"><i>Completion of Maintenance Acceptance for Facilities HVAC Replacement Phase 1 and 2</i>	<ul style="list-style-type: none">Completion of Construction Hayward Yard Fire Services<i>Issue for Bid Fire Suppression Systems Upgrade</i>	<ul style="list-style-type: none"><i>Completion of Design for Sewage Pumps Replacement</i>

Watchlist:

- Re-issue for Bid Fire Suppression Upgrade
- Re-issue for Bid Sewage Pumps Replacement
- Design for LMA HVAC Renovation

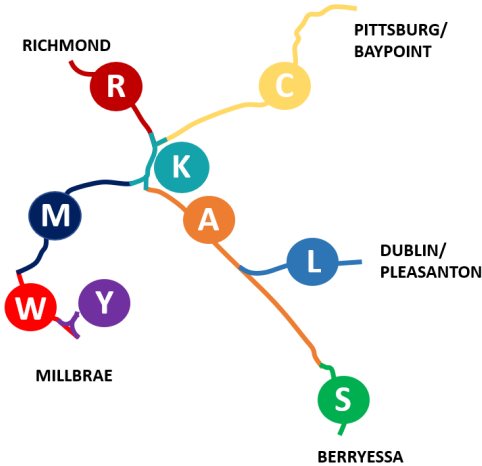
BART Safety Reliability and Traffic Relief Program (Measure RR)
April 2024

Italic: Modified milestones from previous report.



Replace Train Control STATUS & MILESTONES

EXPENDED Thru 12/2023: \$52.5
FORECAST Thru 06/2025: \$113.1
TOTAL PROGRAM VALUE: \$400
PERIOD CASHFLOW: \$1.6



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	1	5	0	6

MILESTONES			
Completed (Oct 2023 – Dec 2023)	Q3 (Jan 2024– Mar 2024)	Q4 (Apr 2024– June 2024)	Q1 (Jul 2024 – Sep 2024)
<ul style="list-style-type: none">• Completion of CBTC Wayside Installation Final Design Review (FDR) Gate 2• CBTC Phase 1 Equipment Available for Construction• Delivery of Hi-Rail Vehicles for Enabling Works• Contract Award for TCMP Enabling Works	<ul style="list-style-type: none">• Completion of CBTC Wayside Installation Final Design Review (FDR) Gate 3• Completion of Factory Test Hayward Test Track (HTT) Train Control House• Notice to Proceed for TCMP Enabling Works	<ul style="list-style-type: none">• Delivery of Transponders for W Line (Phase 2)• Build Concrete Foundation for Hayward Test Track (HTT) Train Control House	<ul style="list-style-type: none">• <i>Completion of installation of CBTC equipment in the existing HTT Train Control House</i>• <i>Delivery of new Train Control House at HTT</i>

Watchlist:

- None

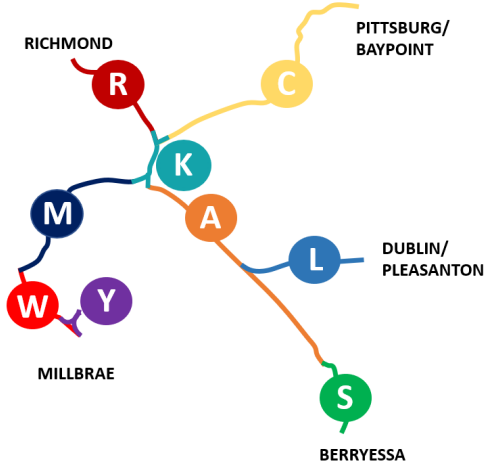
Italic: Modified milestones from previous report.



Renew Stations

STATUS & MILESTONES

EXPENDED Thru 12/2023: \$79.7
FORECAST Thru 06/2025: \$107.1
TOTAL PROGRAM VALUE: \$210
PERIOD CASHFLOW: \$4.1



STATUS – Renew Stations

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
0	1	0	2	5	8

MILESTONES			
Completed (Oct 2023 – Dec 2023)	Q3 (Jan 2024– Mar 2024)	Q4 (Apr 2024– June 2024)	Q1 (Jul 2024 – Sep 2024)
<ul style="list-style-type: none">Completion of Construction for Civic Center P1 Platform Escalator.<i>Completion of Construction for Canopy 11 at Montgomery Station and Canopy 15 at Powell Station.</i>	<ul style="list-style-type: none">Completion of Construction for Montgomery St. P3 Platform Escalator	<ul style="list-style-type: none">Completion of Construction for Canopy 2 at Embarcadero Station, Canopy 9 at Montgomery Station, and Canopy 6 at Embarcadero Station<i>Completion of Construction for Embarcadero P6 Platform Escalator</i>	<ul style="list-style-type: none"><i>Completion of Construction for Montgomery St. P1 Platform Escalator, Powell St. P1 Platform Escalator, and Civic Center P4 Platform Escalator.</i>

Watchlist:

- Construction of Canopies

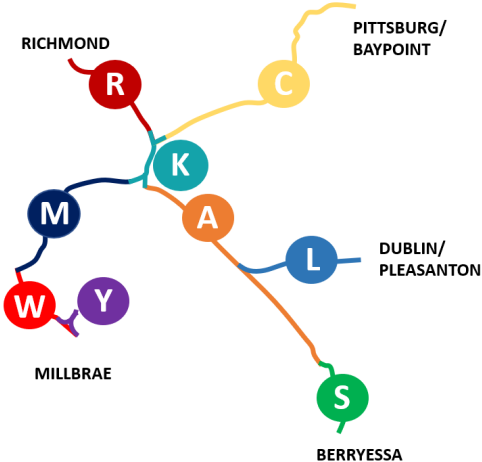
Italic: Modified milestones from previous report.



Station Access

STATUS & MILESTONES

EXPENDED Thru 12/2023: \$42.0
FORECAST Thru 06/2025: \$69.2
TOTAL PROGRAM VALUE: \$135
PERIOD CASHFLOW: \$1.4



STATUS – Expand Safe Access to Stations

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
0	9	3	5	13	30

MILESTONES			
Completed (Oct 2023 – Dec 2023)	Q3 (Jan 2024– Mar 2024)	Q4 (Apr 2024– June 2024)	Q1 (Jul 2024 – Sep 2024)
<ul style="list-style-type: none">Completion of Construction of SR2B-funded Walnut/Liberty Protected Intersection near Fremont StationCompletion of Construction of Bike Racks at MacArthur Station	<ul style="list-style-type: none">Begin Construction of Ashby Access Improvement ProjectBegin Demolition for ADA Access Corrections at Hayward Station	<ul style="list-style-type: none">Begin Demolition for ADA Access Corrections at Castro Valley StationCompletion of Construction of Stairway Channels at 12th Street and Walnut Creek StationsCompletion of SR2B-funded Iron Horse Trail Bridge Project	<ul style="list-style-type: none">Completion of Design for the Dublin/Pleasanton Access Improvement ProjectCompletion of Design for the 19th Street Access Improvement Project (Bike Station)Begin Exterior Construction for ADA Access Corrections at San Leandro, Fruitvale, Rockridge, and Richmond Stations

Watchlist:

- City of Pittsburg BART Ped/Bike Connectivity Project Construction
- Iron Horse Trail Bridge at Dublin Blvd

Italic: Modified milestones from previous report.



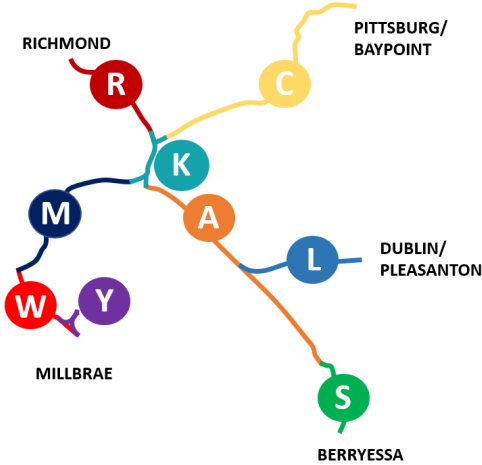
FUNDS AT 106

Relieve Crowding*

STATUS & MILESTONES

*Full Title: Design and Engineer Future Projects to Relieve Crowding, Increase System Redundancy, and Reduce Traffic Congestion

EXPENDED Thru 12/2023: **\$144.2**
FORECAST Thru 06/2025: **\$127.8**
TOTAL PROGRAM VALUE: **\$200**
PERIOD CASHFLOW: **\$10.8**



STATUS – Design / Engineer to Relieve Crowding*

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
2	2	0	1	2	7

MILESTONES			
Completed (Oct 2023 – Dec 2023)	Q3 (Jan 2024– Mar 2024)	Q4 (Apr 2024– June 2024)	Q1 (Jul 2024 – Sep 2024)
<ul style="list-style-type: none">Complete R1 Access Road Construction for HMC2: Civil Grading ContractLink21: Public Outreach - Concept Refinement	<ul style="list-style-type: none">Complete Security Fence Installation for HMC2: Civil Grading ContractComplete Civil Grading Scope of Work	<ul style="list-style-type: none">Complete Value Engineering Analysis for HMC2 East Storage Yard	<ul style="list-style-type: none"><i>Complete East Storage Yard Optimization Plan</i>

Watchlist:

- Funding for Embarcadero Platform Elevator Construction

Italic: Modified milestones from previous report.



Budget and Schedule Status

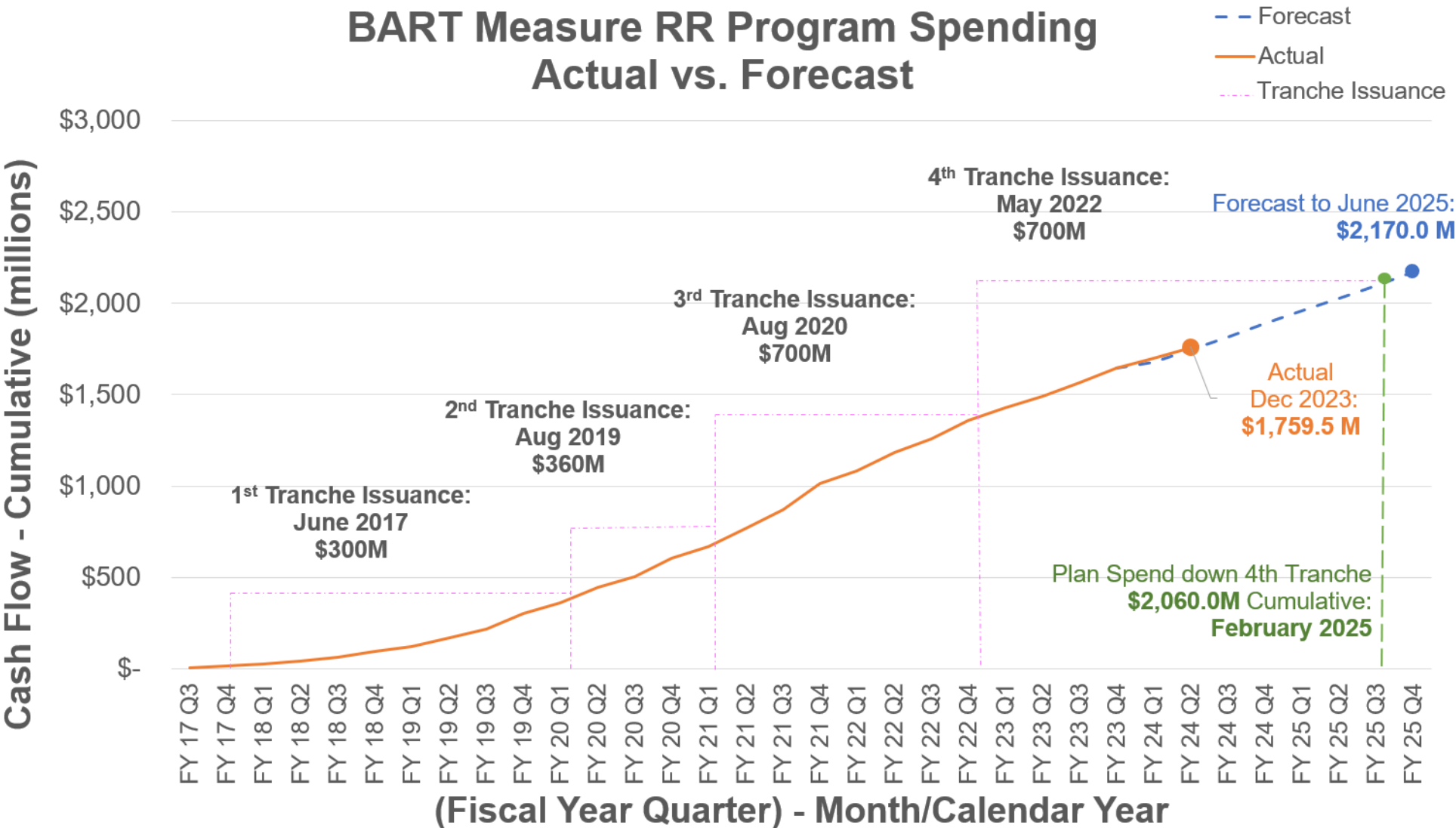


Measure RR Cashflow (\$ Millions): Mid-Term & Long-Term Outlook

Program	Expended (thru September 2023)	Expended (Thru December 2023)	Period Cashflow (September 2023 - December 2023)	% Expended out of Total Bond Investment	Forecast Expenditures	
					MID-TERM (thru 2025)	LONG-TERM (thru End of Bond)
Renew Track	\$397.2	\$405.1	\$7.9	65%	\$433.5	\$625
Renew Power Infrastructure	\$670.7	\$700.4	\$29.7	57%	\$868.0	\$1,225
Repair Tunnels & Structures	\$241.0	\$246.4	\$5.4	45%	\$318.3	\$549
Renew Mechanical	\$88.3	\$89.2	\$0.9	57%	\$133.0	\$156
Replace Train Control/Increase Capacity	\$50.9	\$52.5	\$1.6	13%	\$113.1	\$400
Renew Stations	\$75.6	\$79.7	\$4.1	38%	\$107.1	\$210
Expand Safe Access to Stations	\$40.6	\$42.0	\$1.4	31%	\$69.2	\$135
Design/Engineer to Relieve Crowding*	\$133.4	\$144.2	\$10.8	72%	\$127.8	\$200
Total	\$1,697.7	\$1,759.5	\$61.8	50%	\$2,170.0	\$3,500

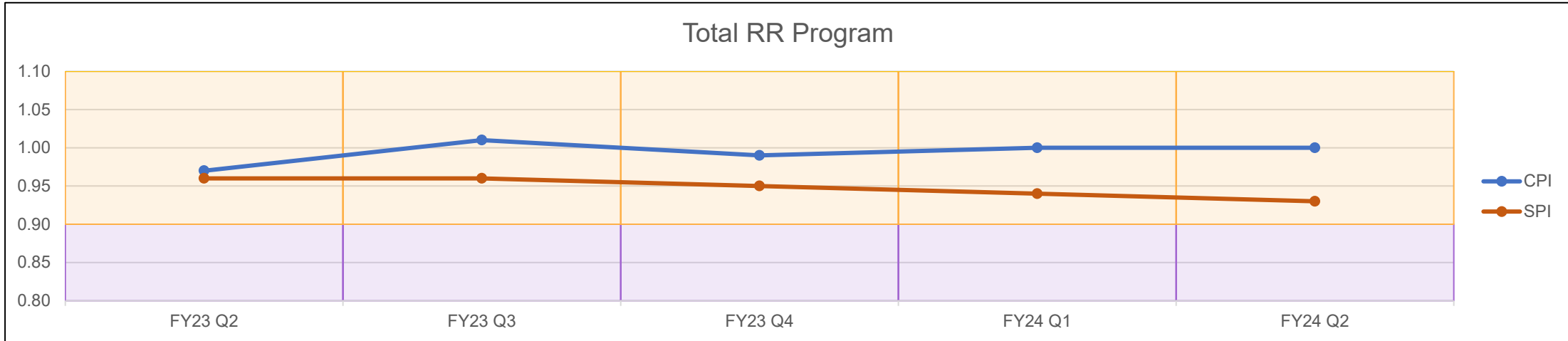
*Full Title: Design and Engineer Future Projects to Relieve Crowding, Increase System Redundancy, and Reduce Traffic Congestion

RR Overall Program Budget Progress



Earned Value Rollup by Program As of Dec 2023

Goal: CPI and SPI between 0.9 and 1.1



RR Program	Total RR Budget	Physical % Complete	Planned Value	Earned Value	RR Accrued to Date	CPI	SPI
Renew Track	\$625	73%	\$466.06	\$459.22	\$443.32	1.04	0.99
Renew Power	\$1,225	66%	\$858.65	\$812.95	\$848.88	0.96	0.95
Repair Tunnels and Structures	\$549	48%	\$286.12	\$261.00	\$256.48	1.02	0.91
Renew Mechanical	\$156	59%	\$108.86	\$92.49	\$89.43	1.03	0.85
Replace Train Control/ Increase Capacity	\$400	12%	\$57.69	\$49.98	\$51.09	0.98	0.87
Renew Stations	\$210	41%	\$86.25	\$85.22	\$79.06	1.08	0.99
Expand Safe Access to Stations	\$135	32%	\$58.27	\$43.34	\$41.07	1.06	0.74
Design/Engineer to Relieve Crowding*	\$200	72%	\$165.22	\$144.28	\$141.83	1.02	0.87
Total	\$3,500	56%	\$2,087.12	\$1,948.48	\$1,951.15	1.00	0.93

CPI – Cost Performance Index

SPI – Schedule Performance Index

*Full Title: Design and Engineer Future Projects to Relieve Crowding, Increase System Redundancy, and Reduce Traffic Congestion

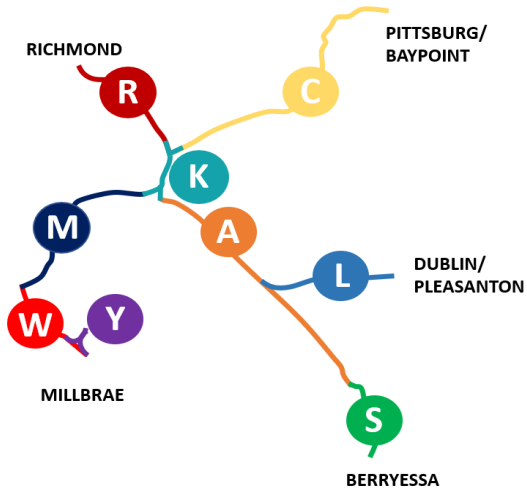
BART Safety Reliability and Traffic Relief Program (Measure RR)

April 2024



Track Program Drill Down

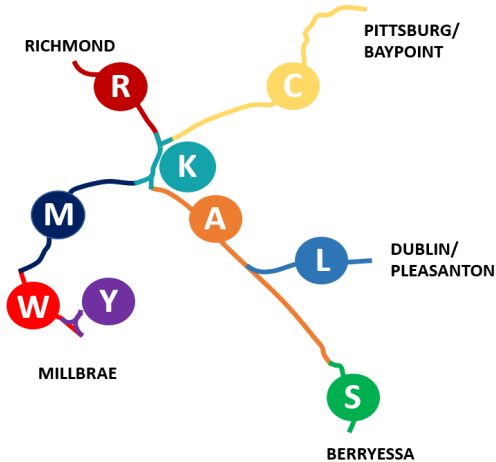
Project	Count
Number of Projects (>25% Spent)	18
CPI <0.9 or >1.1	1
SPI <0.9 or >1.1	3
Number of Risk Register Updates Performed in Previous Period	6
Number of Project(s) with Quality Reviews Performed in Previous Period	7



Project	Physical % Complete	CPI	SPI	Comments
Switch Replacement	69%	0.88	1.19	Realized efficiencies during construction
Replace Direct Fixation Pads	83%	1.02	1.12	Realized efficiencies during construction
Frog Capital Maintenance	82%	1.09	0.82	Schedule impact due to asset degradation

Power Program Drill Down

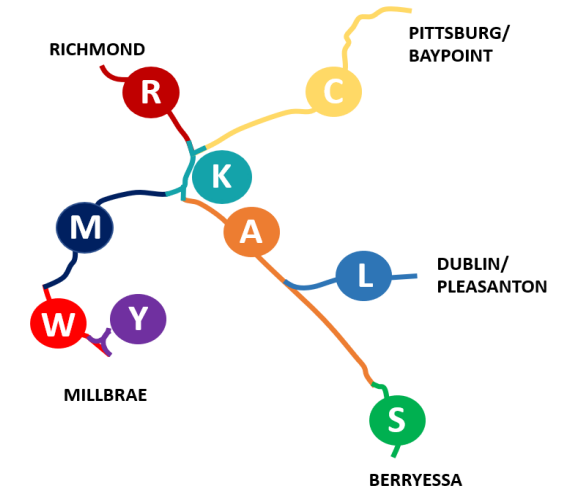
Project	Count
Number of Projects (>25% Spent)	24
CPI <0.9 or >1.1	4
SPI <0.9 or >1.1	9
Number of Risk Register Updates Performed in Previous Period	3
Number of Project(s) with Quality Reviews Performed in Previous Period	0



Project	Physical % Complete	CPI	SPI	Comments
A-Line 34.5kV AC Cable Replacement	91%	0.90	1.15	Contractor meeting milestones ahead of project schedule
MPR Install and Rectifier Rehab	49%	0.78	0.66	Schedule Impact continues from previous quarter due to emergency repair work
R-Line 34.5kV AC Cable Replacement	79%	0.78	1.45	Spending more than planned due to emergency repair work performed by in-house forces. Contractor is meeting the milestones ahead of the schedule
K-Line 34.5kV AC Cable Replacement	43%	1.09	0.59	Prior 6 months delay still impacting the schedule. Availability of assigned crews has stabilized the schedule
C-Line 34.5kV AC Cable Replacement	20%	0.58	0.67	Carrying over the schedule impact from previous quarter due to emergency repair work on the R-Line Cable project
PG&E Power feed to MXP Gap Breaker	27%	0.98	0.27	Impacted by coordination with external agencies
SFTS Transformer / Bus Upgrade	39%	0.68	0.39	Impacted by coordination with external agencies for transformer design, testing, and installation
Battery Replacement for TC Rooms Ph. 2	85%	1.07	0.85	Impacted by Contractor's delay
Substation for Core Capacity	83%	0.94	0.82	Delayed due to increased environmental remediation and design changes due to differing site conditions

Tunnels & Structures Program Drill Down

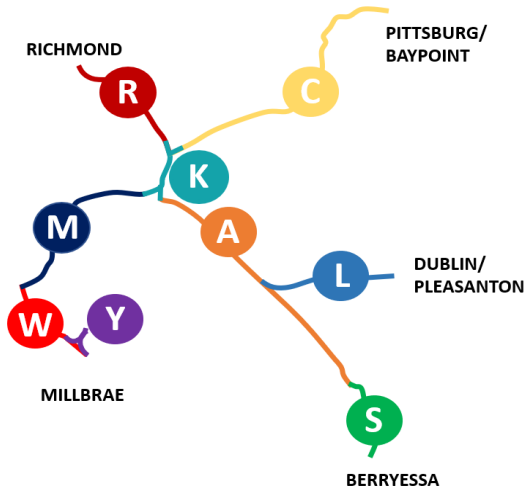
Project	Count
Number of Projects (>25% Spent)	26
CPI <0.9 or >1.1	2
SPI <0.9 or >1.1	5
Number of Risk Register Updates Performed in Previous Period	8
Number of Project(s) with Quality Reviews Performed in Previous Period	4



Project	Physical % Complete	CPI	SPI	Comments
Aerial Catwalk Renewal	41%	1.30	1.53	A Line installation ahead of schedule and more cost efficient than planned
Slope stabilization (AC, CCC, SFC)	30%	0.99	0.38	Delay from extended environmental clearance
Substation Roofs	52%	1.00	0.71	Additional safety requirements impacted the schedule
Wayside Signage Inspection and Inventory	52%	0.93	0.78	Installation rates have slowed due to availability of resources
Cross Passage Doors and Hardware	90%	1.00	0.73	Delays due to stakeholders sign off on the pilot completion

Mechanical Program Drill Down

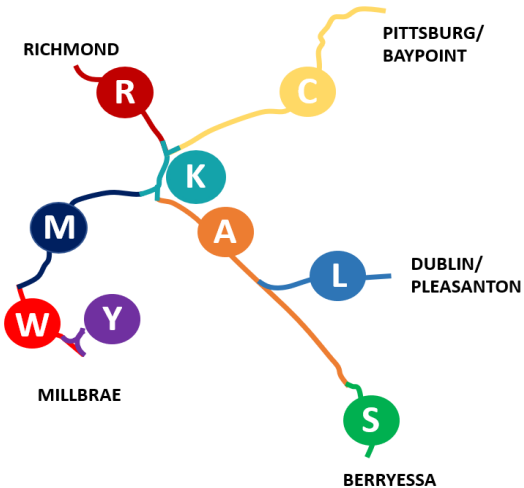
Project	Count
Number of Projects (>25% Spent)	21
CPI <0.9 or >1.1	2
SPI <0.9 or >1.1	1
Number of Risk Register Updates Performed in Previous Period	4
Number of Project(s) with Quality Reviews Performed in Previous Period	4



Project	Physical % Complete	CPI	SPI	Comments
Replace Backflow Preventers	98%	2.25	0.98	Change in delivery method (to self-performed) created a benefit to both cost and schedule
Turntable Replacement Concord Yard	98%	1.13	0.97	Original construction management costs less than planned.
Fire Services Yards – Hayward Yard	83%	1.02	0.83	Behind schedule due to pending change orders related to differing site conditions

Renew Stations Program Drill Down

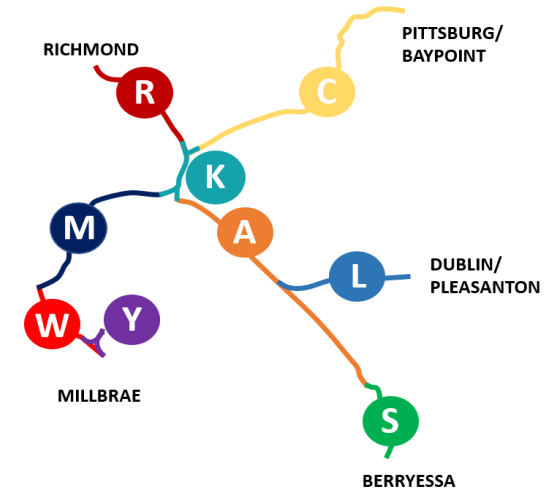
Project	Count
Number of Projects (>25% Spent)	7
CPI <0.9 or >1.1	1
SPI <0.9 or >1.1	1
Number of Risk Register Updates Performed in Previous Period	0
Number of Project(s) with Quality Reviews Performed in Previous Period	0



Project	Physical % Complete	CPI	SPI	Comments
Powell Street - Gateway Station	99%	1.13	0.86	Contractor performing rework to incorporate final punch list items

Relieve Crowding* Program Drill Down

Project	Count
Number of Projects (>25% Spent)	5
CPI <0.9 or >1.1	1
SPI <0.9 or >1.1	1
Number of Risk Register Updates Performed in Previous Period	2
Number of Project(s) with Quality Reviews Performed in Previous Period	0

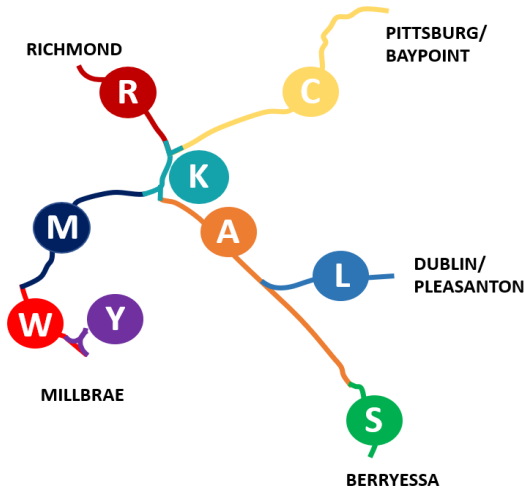


Project	Physical % Complete	CPI	SPI	Comments
HMC East Storage Yard	26%	0.81	0.75	Currently being reevaluated due to significant funding gap

*Full Title: Design and Engineer Future Projects to Relieve Crowding, Increase System Redundancy, and Reduce Traffic Congestion

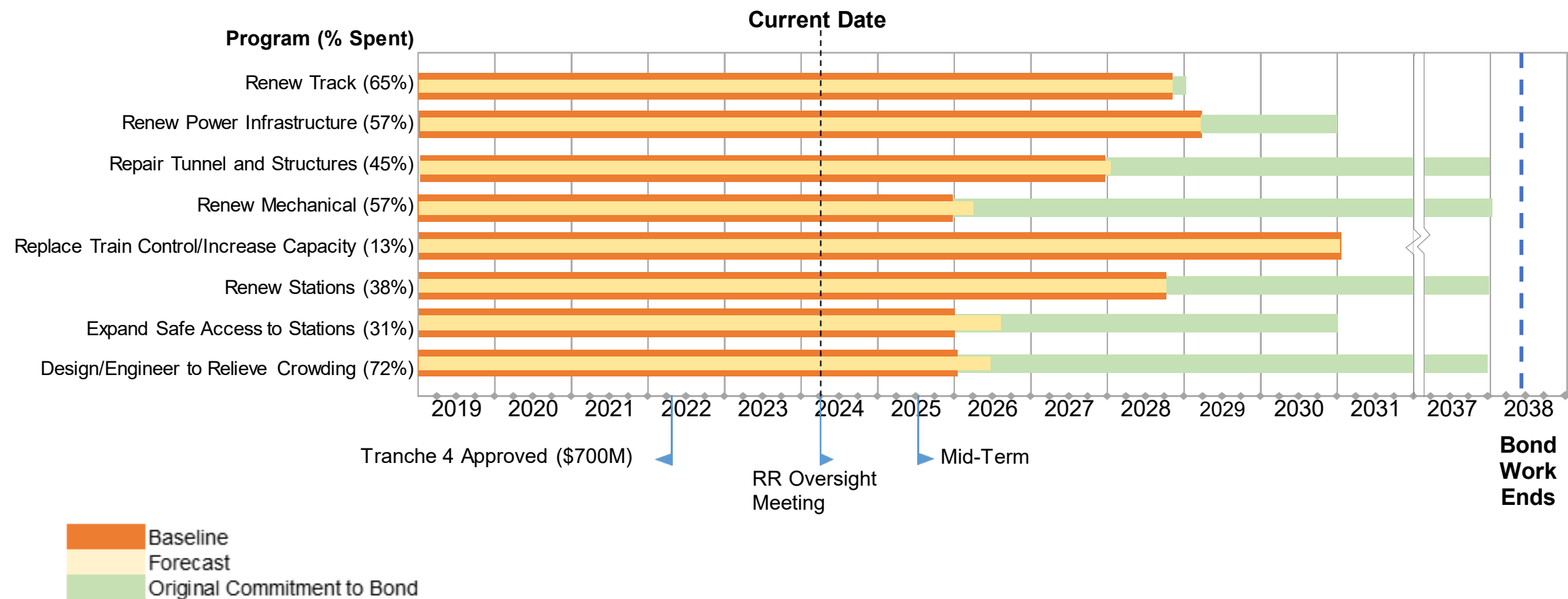
Station Access Program Drill Down

Project	Count
Number of Projects (>25% Spent)	16
CPI <0.9 or >1.1	1
SPI <0.9 or >1.1	1
Number of Risk Register Updates Performed in Previous Period	0
Number of Project(s) with Quality Reviews Performed in Previous Period	0



Project	Physical % Complete	CPI	SPI	Comments
North Berkeley Station Access Improvement	51%	1.33	0.58	Project is pending resource assignment in the field

Program Level Schedule Update



6.F.1. Q&A



Acronyms

ADA	Americans with Disabilities Act
CBTC	Communications Based Train Control
CPI	Cost Performance Index
DBE	Disadvantaged Business Enterprise
EAC	Estimate At Completion
ETC	Estimate to Complete
EVM	Earn Value Management
HMC	Hayward Maintenance Complex
LSB	Local Small Business
MPU	Monthly Project Update
MSBE	Micro Small Business Entity
OCIO	Office of the Chief Information Officer
OID	Office of Infrastructure Delivery
SB	Small Business
SPI	Schedule Performance Index
TCMP	Train Control Modernization Program

