

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

Wednesday, January 12, 2022
9:30 a.m. – 12:00 p.m.

COMMITTEE MEMBERS: Marian Breitbart, Daren Gee, Michael McGill (Chair), Catherine Newman (Vice Chair), Cindy Simon Rosenthal, Vinit Shrawagi, Sonja C. Stewart

Please note, pursuant to all necessary findings having been made by the Board of Directors of the San Francisco Bay Area Rapid Transit District (for itself as well as all subordinate legislative bodies) to continue remote public meetings in the manner contemplated under urgency legislation Assembly Bill No. 361, public participation for this meeting will be via teleconference only.

Presentation materials will be available at: www.bart.gov/about/bod/advisory/bond

You may join the Bond Oversight Committee (BOC) Meeting via Zoom
<https://us06web.zoom.us/j/85938427174?pwd=MVdBcTcwcVo4VFFSZjgvUjNBVEN6UT09>
or by calling 1 (669) 900-6833 and entering **meeting ID** 859 3842 7174

If you wish to make a public comment:

- 1) Submit written comments via email to ljohnso@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. in order to be included in the record.
- 2) Call 1 (699) 900-6833, enter **meeting ID** 859 3842 7174 dial *9 to raise your hand when you wish to speak.

Public comment is limited to three (3) minutes per person. Your phone will be muted until you are called upon.

AGENDA

1. Call to Order (9:30 am – 9:35 am)
 - A. Roll Call
 - B. Introduction of BART Executive and Senior Staff
2. Moment of Silence in Memory of Jamal Thompson (9:35 am – 9:40 am)
3. Meeting Minutes: September 17, 2021 (For Discussion/Action 9:40 am – 9:45 am)
4. Earned Value Subcommittee (For Discussion/Action 9:45 am – 9:50 am)
 - A. Elect Chair
 - B. Staff and Subcommittee Members Report

5. 2022 Annual Report Subcommittee (For Discussion 9:50 am – 10:10 am)
 - A. Staff and Subcommittee Members Report
6. Measure RR BART Safety, Reliability and Traffic Relief Program Presentation (For Discussion)
 - A. Recap of RR to Now (10:10 am – 10:20 am)
 1. Q&A (10:20 am – 10:35 am)
 - B. RR Controls/Project Management (10:35 am – 10:55 am)
 1. Q&A (10:55 am – 11:10 am)
 - C. DBEs (11:10 am – 11:25 am)
 1. Q&A (11:25 am – 11:40 am)
 - D. Measure RR Staff Organizational Chart (For Discussion 11:40 am – 11:45 am)
 - E. Proposal for Future BOC Updates & Request for Future Agenda Items (For Discussion 11:45 am – 11:50 am)
7. Updating Meeting Schedule
 - A. Replace Third Friday in December 2021 with Third Friday in January 2022 (For Discussion/Action 11:50 am – 11:53 am)
8. Committee Member Announcements (For Discussion 11:53 am – 11:55 am)
9. Public Comment (11:55 am – 12:00 pm)
10. Adjournment (12:00 pm)

BART provides service/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, September 17, 2021

9:30 AM – 12:00 PM

Via Zoom Conference Call

*******DRAFT*******

MEETING NUMBER	MEETING DATE	MEETING TIME
Term 3, Meeting 1	Friday, September 17, 2021	9:30 am – 12:00 pm
Attendees	Present Members Michael McGill, Chair Catherine Newman, Vice Chair Marian Breitbart Daren Gee Vinit Shrawagi Sonja C. Stewart Cindy Simon Rosenthal	Staff Robert Raburn (BART Director) Christopher Gan Rodd Lee Carl Holmes Aleric Degrafinried Sylvia Lamb Travis Engstrom Veronica Thomas Maceo Wiggins Linton Johnson Vicki Tan Chris Filippi Antoinette Conteh Joseph Tanner Jamal Thompson Wahid Amiri

Agenda Item	Meeting Notes
1. Call to Order (15 minutes)	
A. Roll Call	All committee members in attendance.
B. Introduction of New Committee Members	C. Rosenthal and V. Shrawagi introduce themselves.

C. Introduction of BART Executive and Senior Staff Members	BART staff introduce themselves.
2. Selection of Bond Oversight Committee Chair and Vice Chair for 2021-2023 Term	<p>M. Breitbart moves to nominate M. McGill as Chair and D. Gee seconds the motion. The motion passes unanimously.</p> <p>M. Breitbart moves to nominate C. Newman as Vice Chair and M. McGill seconds the motion. The motion passes unanimously.</p>
3. Meeting Minutes: June 18, 2021	D. Gee moves to approve the minutes. M. Breitbart seconds the motion. All members approve the motion except V. Shrawagi and C. Rosenthal who abstain as they were not members of the committee at the time of the last meeting.
4. Annual Report Subcommittee –2022 Annual Report	L. Johnson begins discussion.
A. Appoint Annual Report Subcommittee and Select Chair	C. Rosenthal moves to appoint D. Gee as the Chair of the Annual Report Subcommittee and S. Stewart and V. Shrawagi as members. Vice Chair Newman seconds the motion. Motion passes unanimously.
a. 2021 Annual Report Feedback and 2022 Content Suggestions	<p>C. Filippi gives update.</p> <p>S. Stewart says she would like to see in the next annual report information for stakeholders on how to stay engaged and if stakeholders have issues with Measure RR, how they can connect with BART to have those issues addressed.</p>
5. Measure RR BART Safety, Reliability and Traffic Relief Program Presentation	C. Holmes introduces M. Wiggins.
b. Office of Civil Rights	<p>M. Wiggins gives update on BART outreach to small businesses.</p> <p>C. Rosenthal would like to see more explanation on how small businesses are benefiting from the funding.</p>
c. Human Resources	<p>Vice Chair Newman liked the breakdown of vacant positions – but in the next meeting she would like to see: How many vacant positions BART needs filled immediately versus how many positions are vacant but are not needed to be filled until a later time.</p> <p>C. Rosenthal says she would like to see at next meeting highlights of key positions that will be</p>

	<p>needed to get projects off the ground. She would like staff to keep monitoring this prospectively.</p> <p>V. Shrawagi says he would like to see in future reports whether a position is either newly created or backfilling a position.</p>
d. Station Modernization Project – El Cerrito del Norte Station	W. Amiri presents project.
e. Program Update	<p>J. Thompson and V. Tan deliver the presentation.</p> <p>S. Lamb proposes Chair McGill create an Earned Value Subcommittee.</p> <p>M. Breitbart moves to create the subcommittee with D. Gee, S. Stewart, and C. Rosenthal. Vice Chair Newman seconds the motion. Chair McGill approves the committee (Per District Secretary’s Office, a subcommittee can be formed without a vote as long as it’s a non-voting subcommittee consisting of less than a quorum of members)</p> <p>M. Breitbart wants to know in the next meeting what staff is doing to adjust the bids that are coming in higher than estimates.</p>
6. Requests for Future Agenda Items	<p>Chair McGill and M. Breitbart would like to see in the next meeting how staff is estimating bids and dealing with rising construction costs. Chair McGill wants to also see as part of this agenda item, how the extended hours have helped with cost savings but also how the supply of goods has caused higher than expected bids.</p> <p>D. Gee wants to learn more about the bid that went 50% over engineers’ estimates. He proposes that in the new Earned Value subcommittee discussion on CPI, “maybe we can get a little bit of efficiency with a little more precise conversation on that.”</p> <p>Vice Chair Newman says staff need to bring forward a presentation about the financial audits that relate to Measure RR. She would also like to hear about two other topics. First, how BART approaches alerting the public about the impacts Measure RR projects have. Secondly, in the December or March</p>

	<p>meeting, she'd like to see what Measure RR has done in the first five years.</p> <p>S. Stewart wants staff to create a presentation that explains BART's project management methodology. She would also like an organizational chart that shows which staff member is responsible for what function in Measure RR.</p> <p>Chair McGill wants L. Johnson to work with him and Vice Chair Newman to figure out how to present all these future items to the committee.</p>
7. Committee Member Announcements	Chair McGill says that the Central Contra Costa Sanitary District voted yesterday to require mandatory vaccinations and the district is moving to "meet and confer" to implement the policy.
8. Public Comment	<p>There was no public comment</p> <p>Chair McGill requests that staff share with the BART Board D. Gee's compliment about how diverse the Bond Oversight Committee is in terms of the wide variety of experts sitting on the committee. D. Gee says he appreciates the value each committee member brings.</p>
9. Adjournment	Chair McGill adjourns meeting.

2022 RR Annual Report Outline

Overall themes

- *5 years in the books, where do things stand overall (percentage work complete well ahead of 25%)?
- *1+ year into the pandemic. What projects have been accelerated. Any future concerns (supply chains, costs, labor, etc)?
- *Raising the professional bar. Benefits of years of experience with RR. Project Management Culture.
- *Spotlight on rebuilding impacts on riders and neighborhoods. Highlight outreach efforts to all stakeholders. Look ahead to future projects.
- *Focus on delivering content in a way that's easily understood by the everyday rider. Eliminate or at least explain jargon wherever possible.

Report Content

1. Table of Contents

RR Big Picture

2. Committee Chair Welcome Letter

- A. Outline main themes of the last year's work and what will be highlighted in this year's report.

3. Executive Summary

- A. Major accomplishments of last year.
- B. Answer whether we are on time and on budget.

4. About the Committee

- A. Include any potential site visit.

5. The Story of RR

- A. History. Why Measure was proposed and how it made ballot.

6. Life Span of RR

- A. Updated chart with expected length of major project categories.

7. Pandemic impact on RR

- A. Subtle shift from initial reaction to long-term project impacts.
- B. What projects were accelerated thanks to increased wrench time?
- C. Supply chain impacts on costs/timing of projects going forward.

8. Monitor impacts of large projects

- A. Focus on series of projects taking place in South Hayward and interlocking renewal in Orinda.

9. Project Management Culture (new category)

- A. Emerging culture and data-driven approach driving enhance accountability on projects
- B. Project Managers Boot Camp and Forum

10 Planning ahead (new category)

- A. Deconfliction. How BART plans to avoid conflicts between projects.
- B. Multi-layered look ahead; planning that looks years ahead.

Major Project Categories

11. Renew Track

- A. How many miles of rail now replaced. Interlocking rebuilding

12. Renew Power

- A. M Line Cable Work
- B. New power substations being built

11. Tunnels and Structures

12. Mechanical Infrastructure

13. Renew Stations

- A. Progress with Market Street Escalator Project

14. Train Control

- A. Award of Full Funding Grant Agreement (why significant).

15. Relieve Crowding

- A. Link 21 progress including four agreements awarded.

16. Access Improvements

- A. Safe Routes to BART status update.

Measure RR Finances

17. Funding with Green Bonds

- A. Recap first three tranches, offer insight on fourth tranche if available.
- B. Highlight benefits of “green” bonds.
- C. Answer whether bond spending meeting IRS requirements.

18. Program Expenditures Overview

- A. Spending breakdown by category at given time with forecasted spending amounts

19. Spending Breakdown

A. Chart showing program allocations as percentage of total bond.

20. RR – Only Part of the Solution

A. Highlight BART's updated Capital Improvement Program (CIP)

21. Measuring Cost Effectiveness

A. Earned Value Management. Express in easily understood terms. Value as a tool.

22. Putting People to Work

A. Focus on workers behind the RR rebuilding program.

23. Small Business Outreach

A. Highlight outreach activities including new podcast series

Additional Resources

24. Committee Activities and Expenditures

25. Resources to Learn More

A. Highlight contact and social media info to make it easier for stakeholders to access RR info and provide feedback to staff.

26. Helpful Links

27. Appendix

In Memoriam

28. Tribute to Jamal Thompson



Measure RR Update

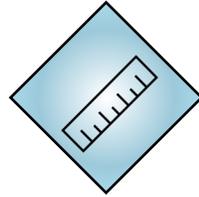
Bond Oversight Committee



Introduction



Recap of RR to Now



Project Management Maturity Progression



Disadvantaged Business Enterprise (DBE)



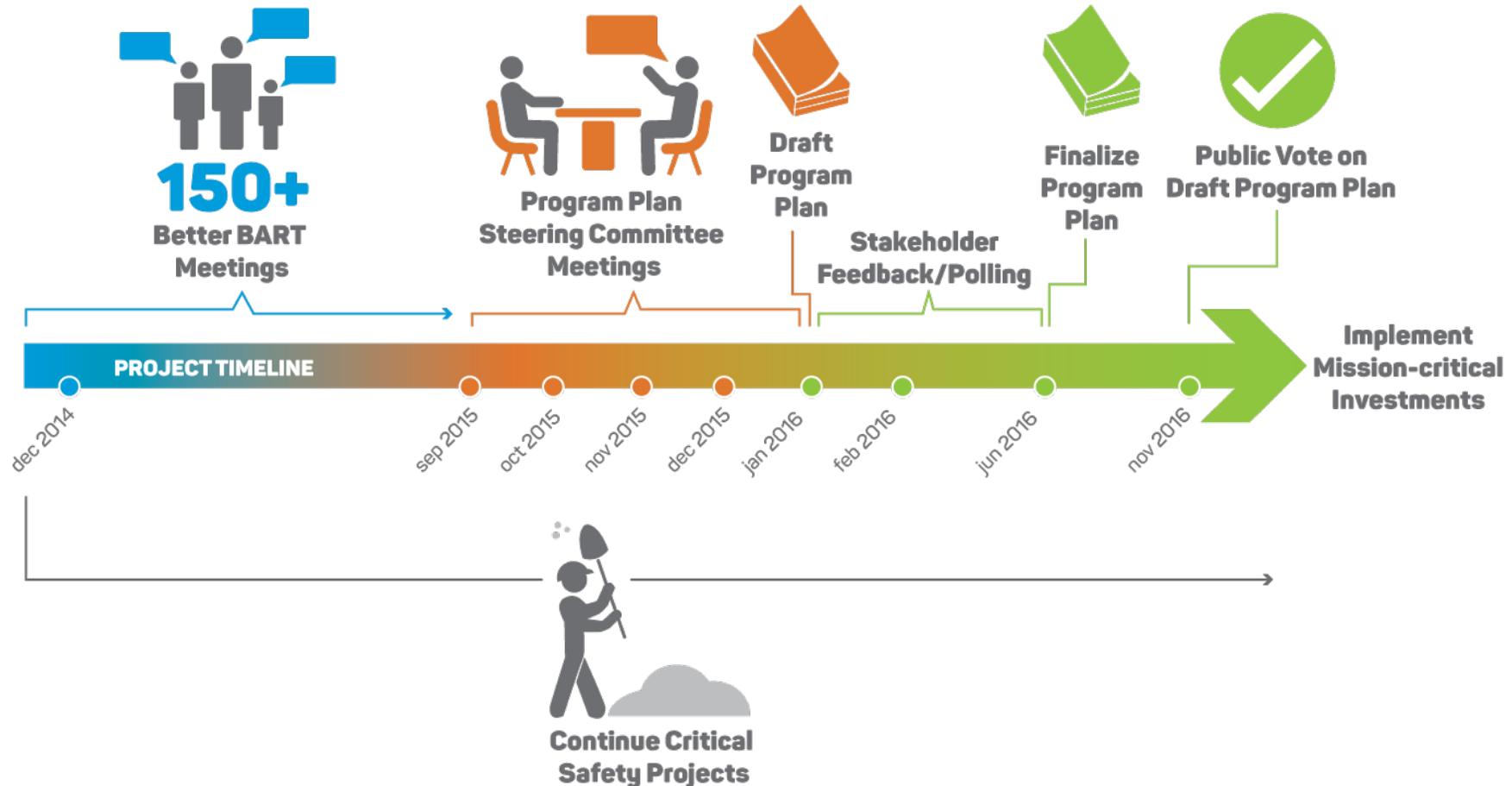
Future Meetings Framework

Public Outreach

BETTER BART PROGRAM

As presented in 2016

Your input matters. Our process includes:



Better BART Bond Community Stakeholder Committee



BETTER BART BETTER BAY AREA

As presented in 2016



The “fix it first” bond will address:



SAFETY

Maintain BART’s record of safe operations



RELIABILITY

Improve BART’s performance reliability

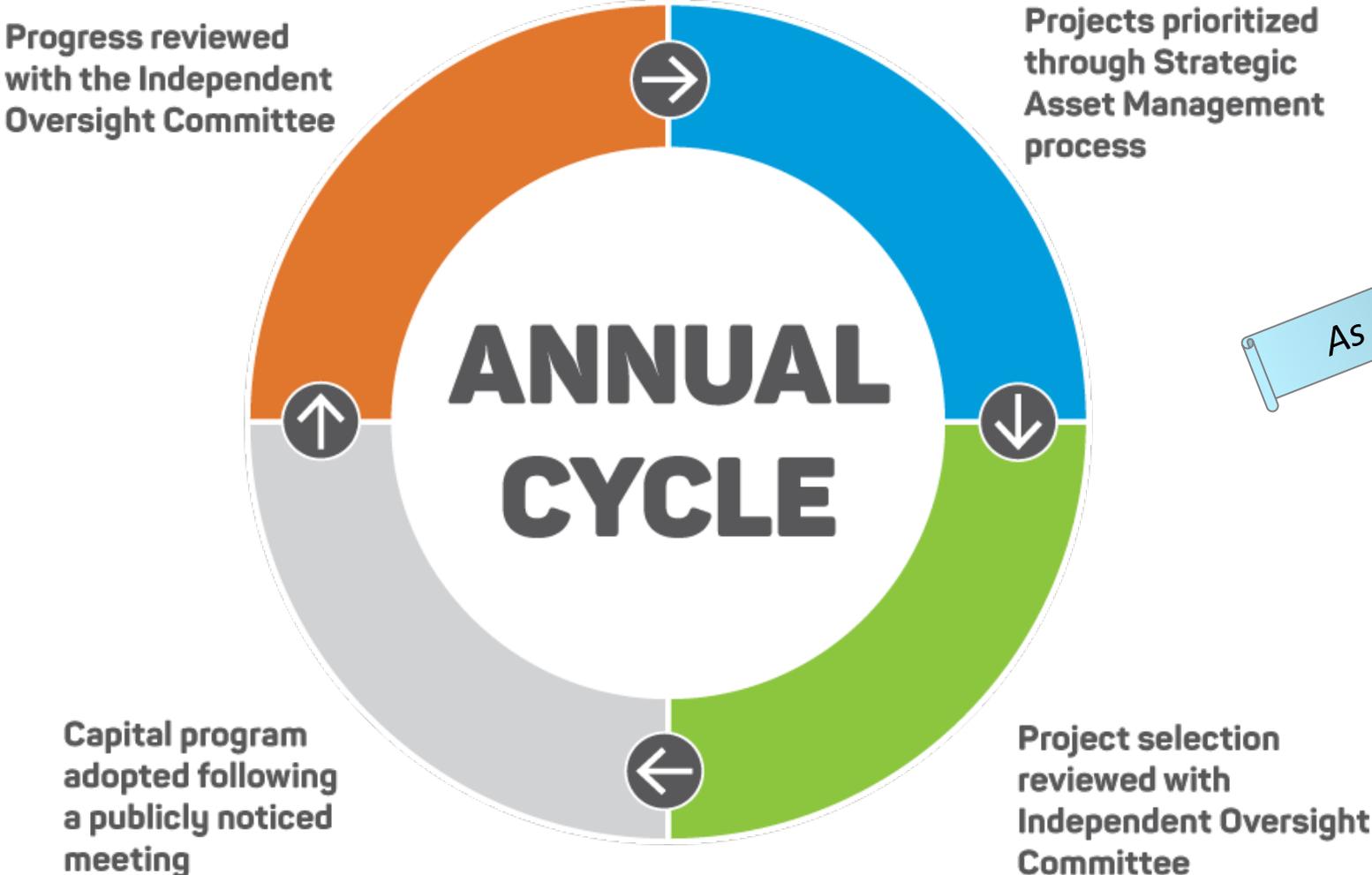


CROWDING RELIEF

Strategically increase capacity to relieve crowding, accommodate growth, and get more cars off the road

As presented in 2016

Project Prioritization and Selection



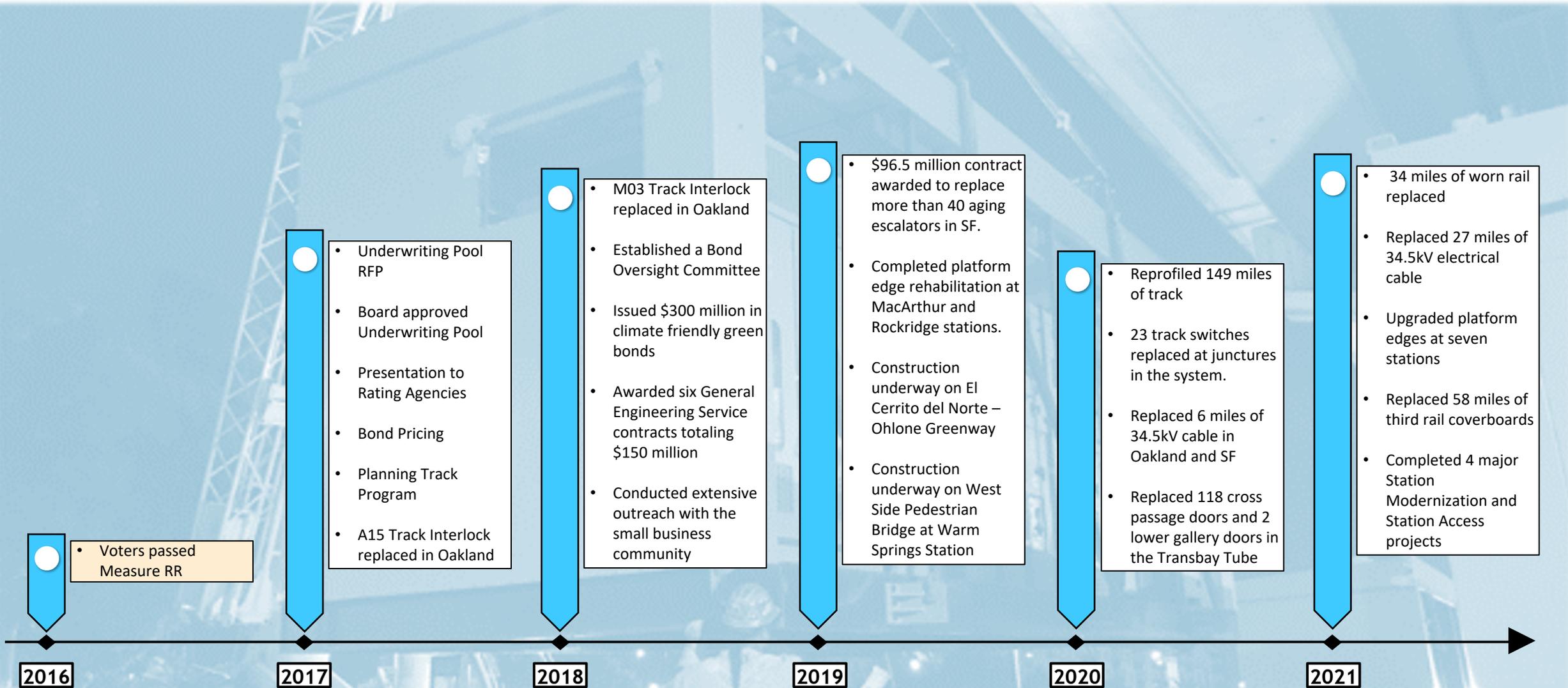
As presented in 2016

Total RR Measure Investment

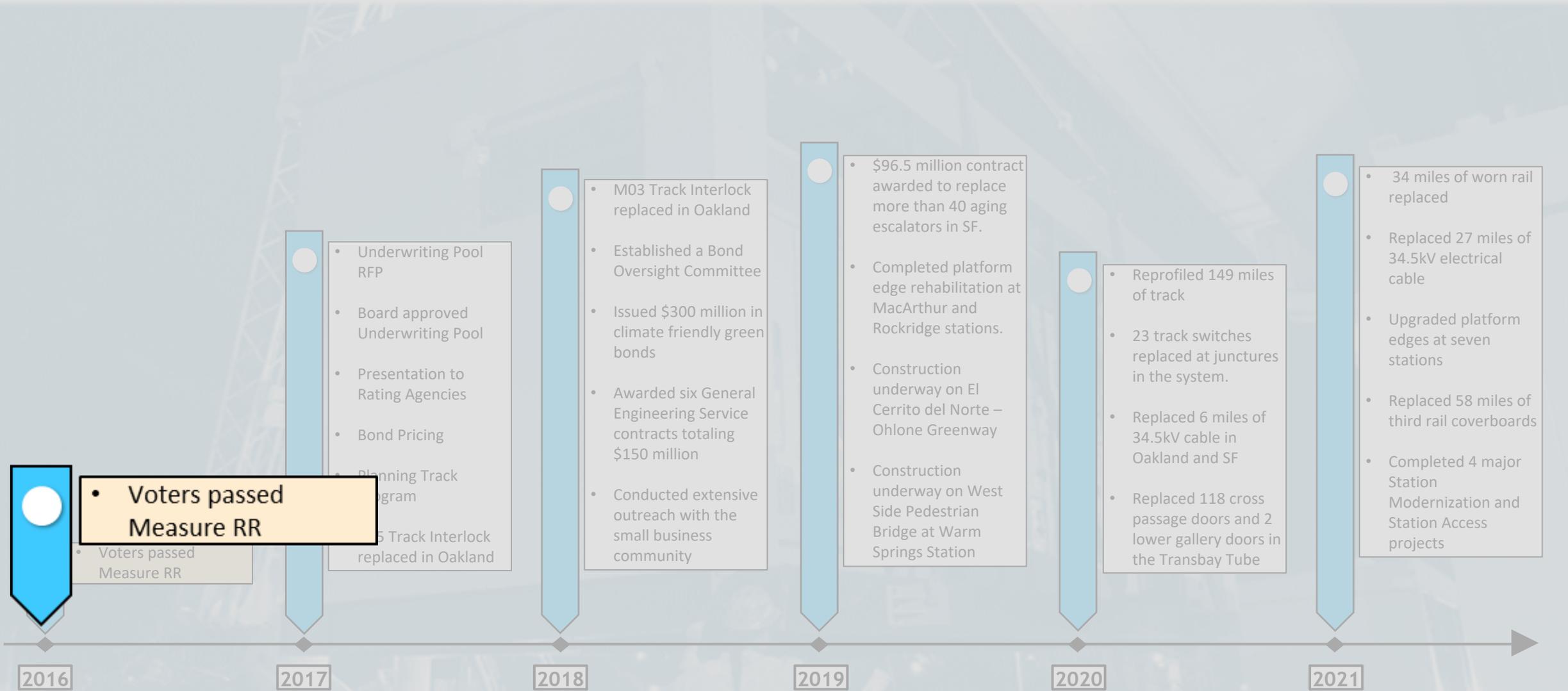
Total Measure Investment	\$ Millions	% of Total Bond	Benefits		
			 Safety	 Reliability	 Crowding + Traffic Relief
REPAIR AND REPLACE CRITICAL SAFETY INFRASTRUCTURE	\$3,165	90%	✓	✓	✓
Renew Track	\$625	18%	✓	✓	
Renew Power Infrastructure	\$1,225	35%	✓	✓	
Repair Tunnels and Structures	\$570	16%	✓	✓	
Renew Mechanical Infrastructure	\$135	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	\$200	6%		✓	✓
Access Improvements	\$135	4%	✓	✓	✓
TOTAL	\$3,500	100%			

As presented in 2016

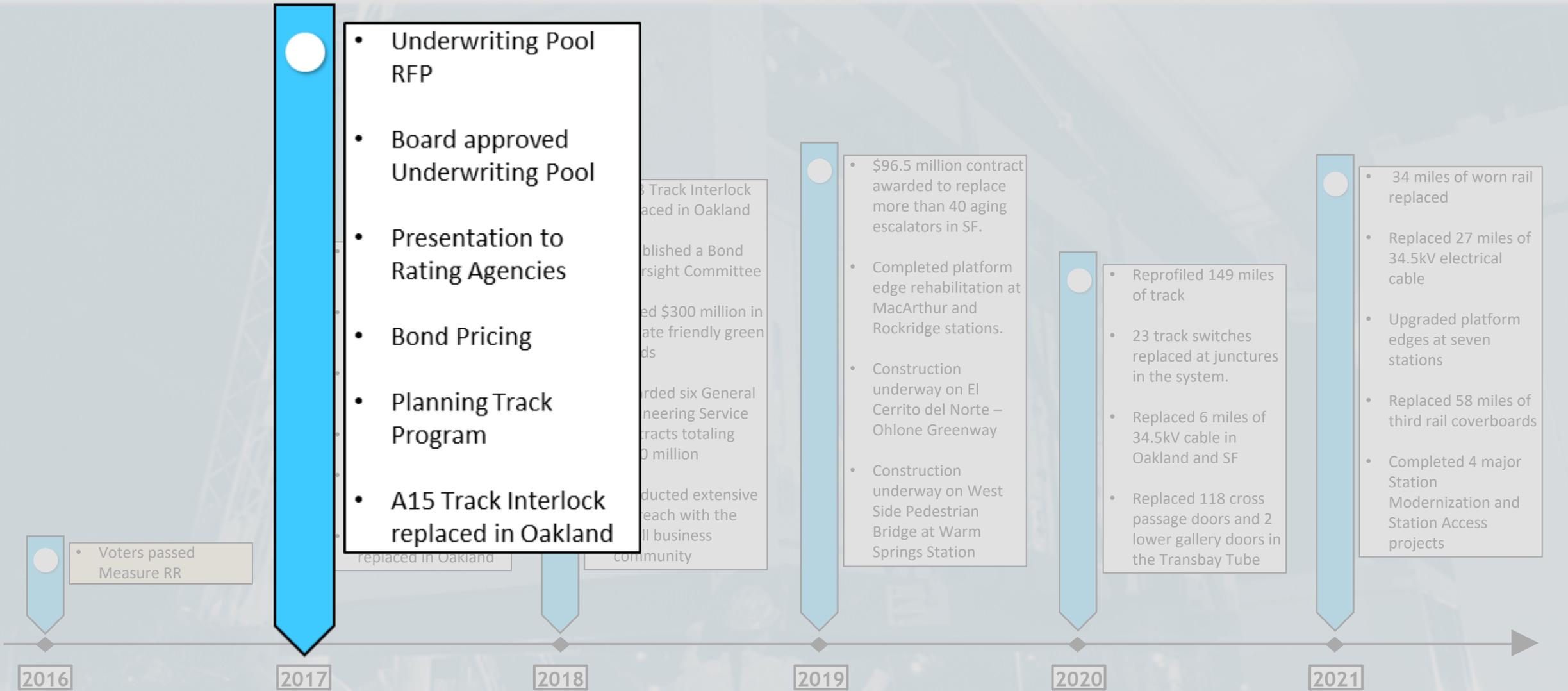
Past Accomplishments 2016-2021



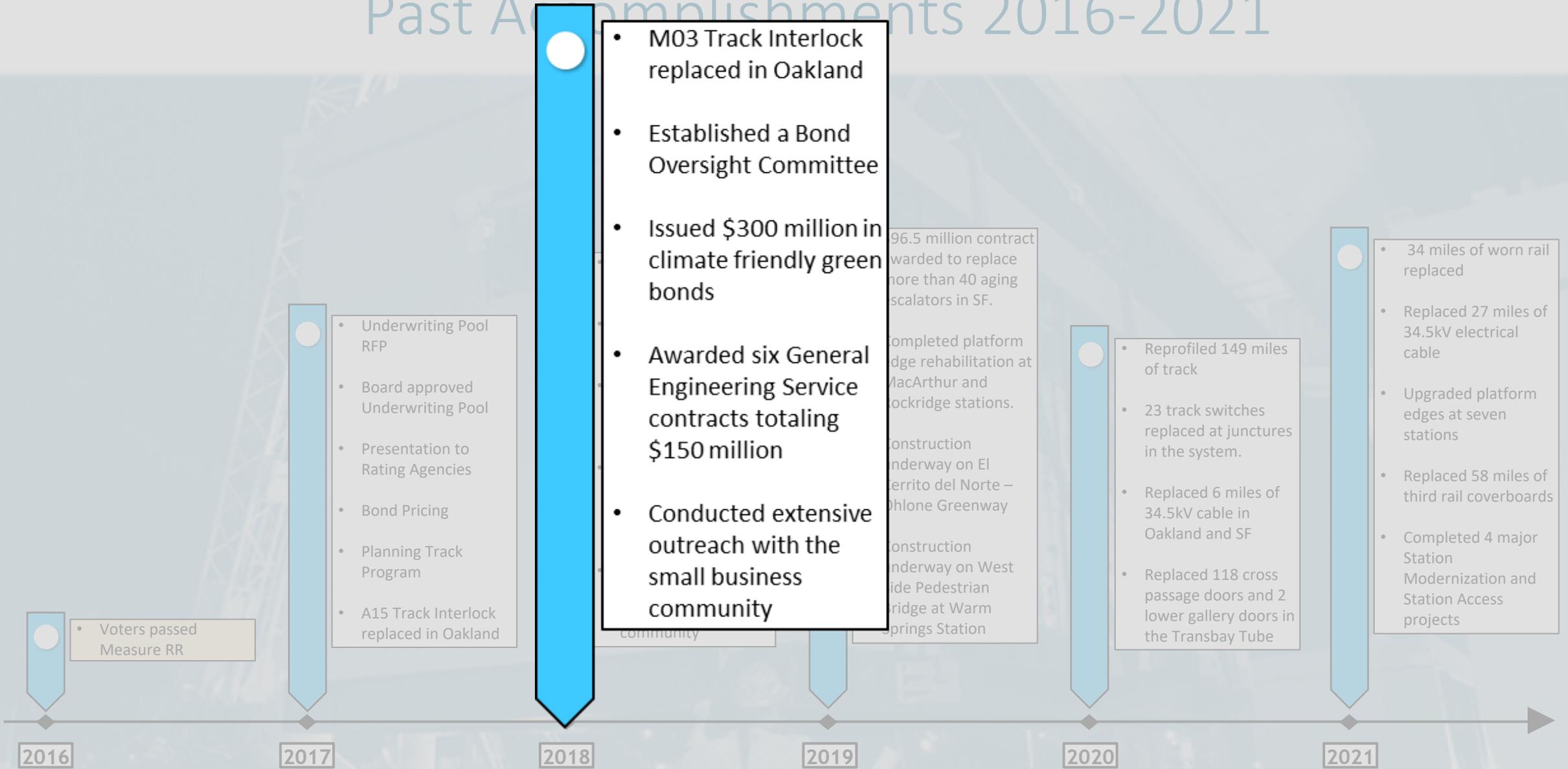
Past Accomplishments 2016-2021



Past Accomplishments 2016-2021



Past Accomplishments 2016-2021



- M03 Track Interlock replaced in Oakland
- Established a Bond Oversight Committee
- Issued \$300 million in climate friendly green bonds
- Awarded six General Engineering Service contracts totaling \$150 million
- Conducted extensive outreach with the small business community

- Voters passed Measure RR

- Underwriting Pool RFP
- Board approved Underwriting Pool
- Presentation to Rating Agencies
- Bond Pricing
- Planning Track Program
- A15 Track Interlock replaced in Oakland

- \$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 Elerrito del Norte – Ohlone Greenway

- Construction underway on Westside Pedestrian bridge at Warm Springs Station

- 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

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

2016

2017

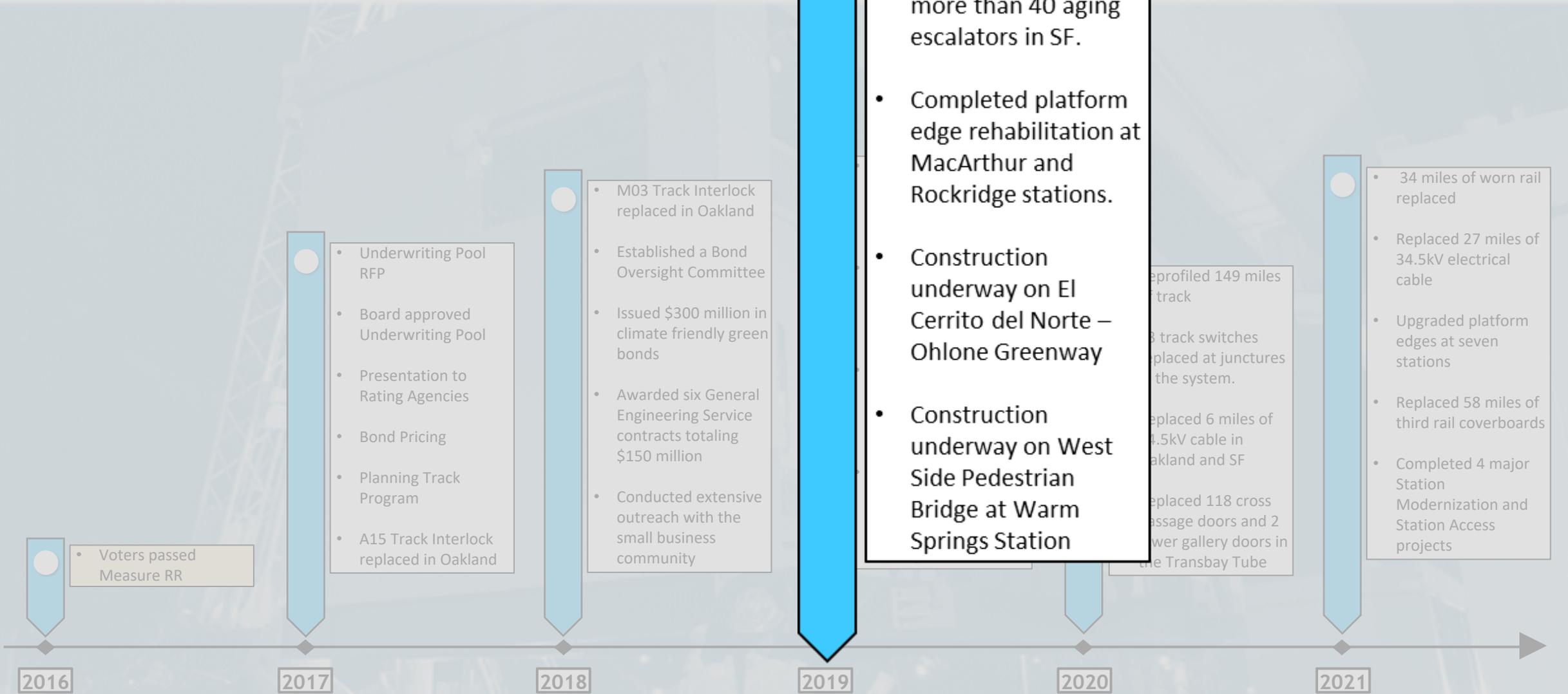
2018

2019

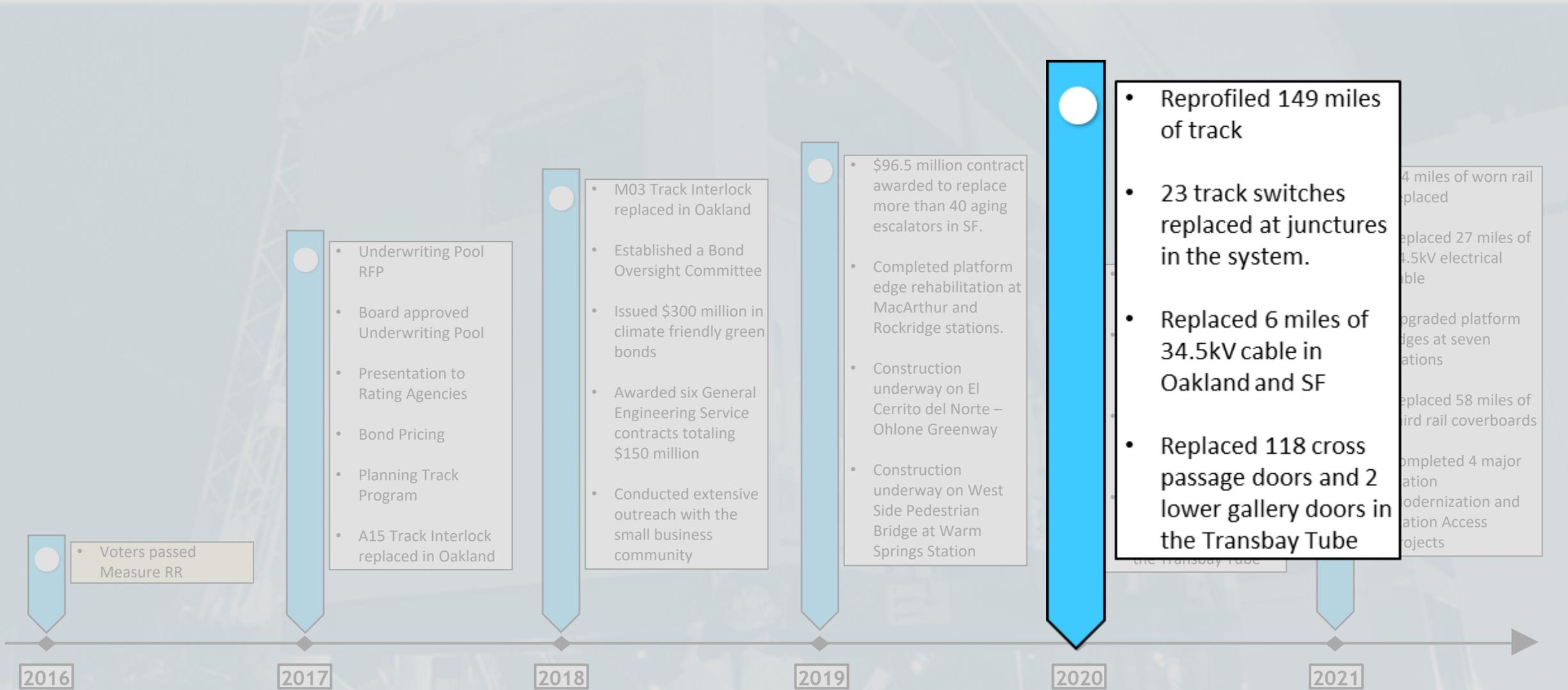
2020

2021

Past Accomplishments 2021



Past Accomplishments 2016-2021



Past Accomplishments 2016-2021



Yearly Program Expenditure



Rebuilding Train Control



Renewing Infrastructure



Repairing Structures



Relieving Crowding



Renewing Stations



Rebuilding Power Lines



Replacing Track



Improving Access

of Projects

30

106

141

148

150

- Relieving Crowding
- Improving Access
- Renewing Stations
- Rebuilding Train Control
- Renewing Infrastructure
- Repairing Structures
- Rebuilding Power Lines
- Replacing Track

\$15M

\$133M

\$386M

\$689M

\$1,080M

2016

2017

2018

2019

2020

2021

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

Program	Expended (thru June 2021)	Expended (thru September 2021)	Period Cashflow (July 2021 – September 2021)	% Expended out of Total Bond Investment	Forecast Expenditures	
					MID-TERM (thru 2025)	LONG-TERM (thru End of Bond)
Renew Track	\$277.8	\$289.4	\$11.6	46%	\$400	\$625
Renew Power Infrastructure	\$373.3	\$399.5	\$26.1	33%	\$608	\$1,225
Repair Tunnels & Structures	\$141.0	\$160.5	\$19.5	28%	\$268	\$570
Renew Mechanical	\$56.4	\$60.1	\$3.7	45%	\$65	\$135
Replace Train Control/Increase Capacity	\$39.9	\$42.8	\$2.9	11%	\$286	\$400
Renew Stations	\$44.3	\$42.8	(\$1.5)	20%	\$148	\$210
Expand Safe Access to Stations	\$30.2	\$30.9	\$0.7	23%	\$86	\$135
Design/Engineer to Relieve Crowding	\$51.0	\$54.3	\$3.3	27%	\$69	\$200
Total	\$1,013.9	\$1,080.2	\$66.3	31%	\$1,930	\$3,500

Bond Oversight Committee Duties and 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

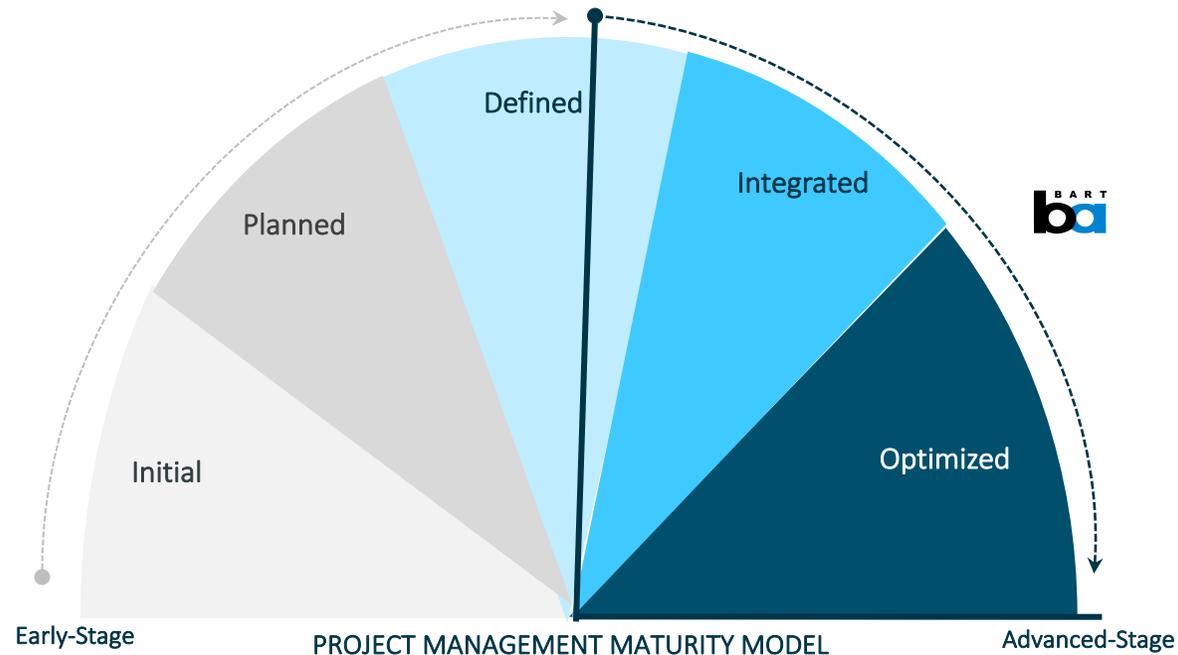
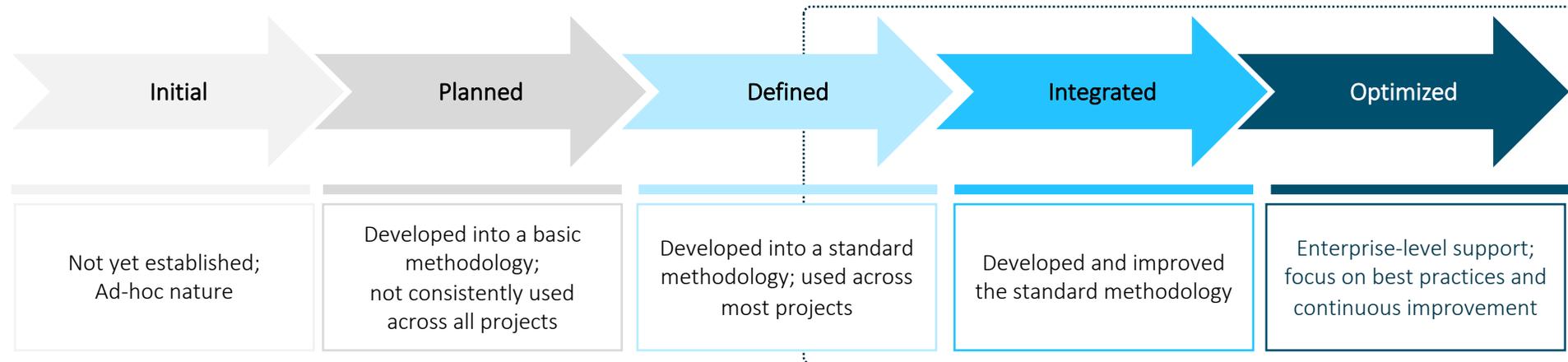
As presented in
RR Quarterly Report

Measure RR Accountability

**Project
Management
Maturity
Progression**

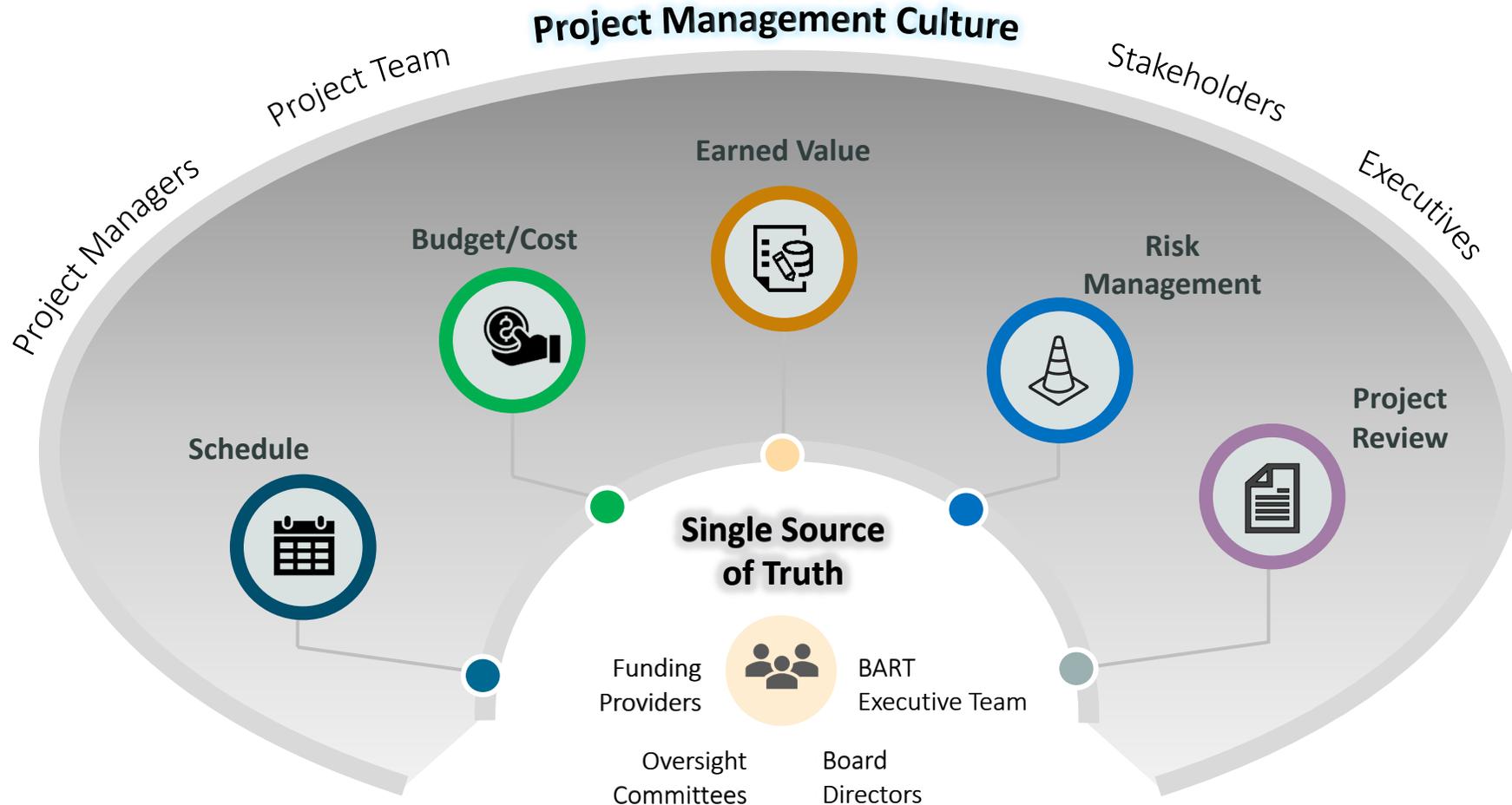
- Commitment to RR Bond Oversight Committee
- Responsibility to report accurately on project performance
- Increased accountability to public on project management
- Transparency of project management supporting future funding

Project Management Evolution



Capital Project Controls Framework

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

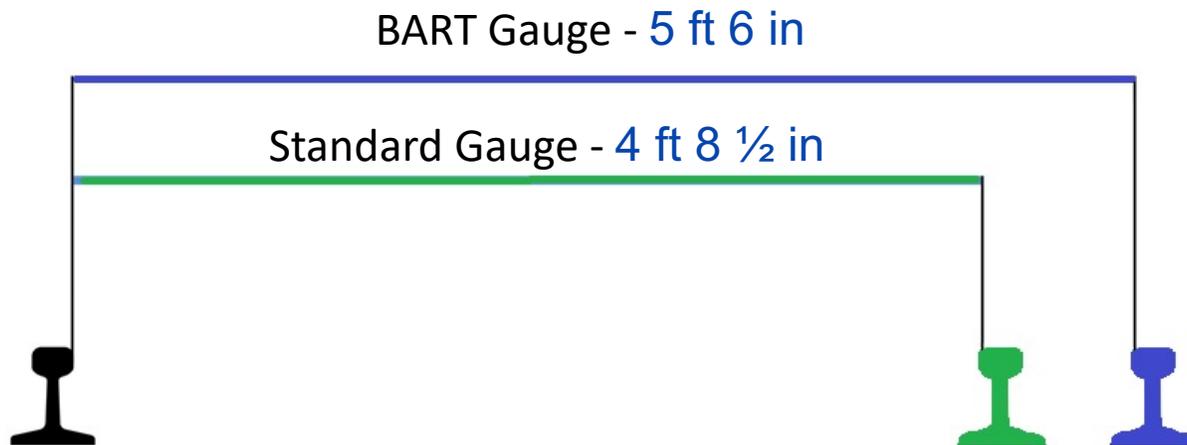


Complexity Factors

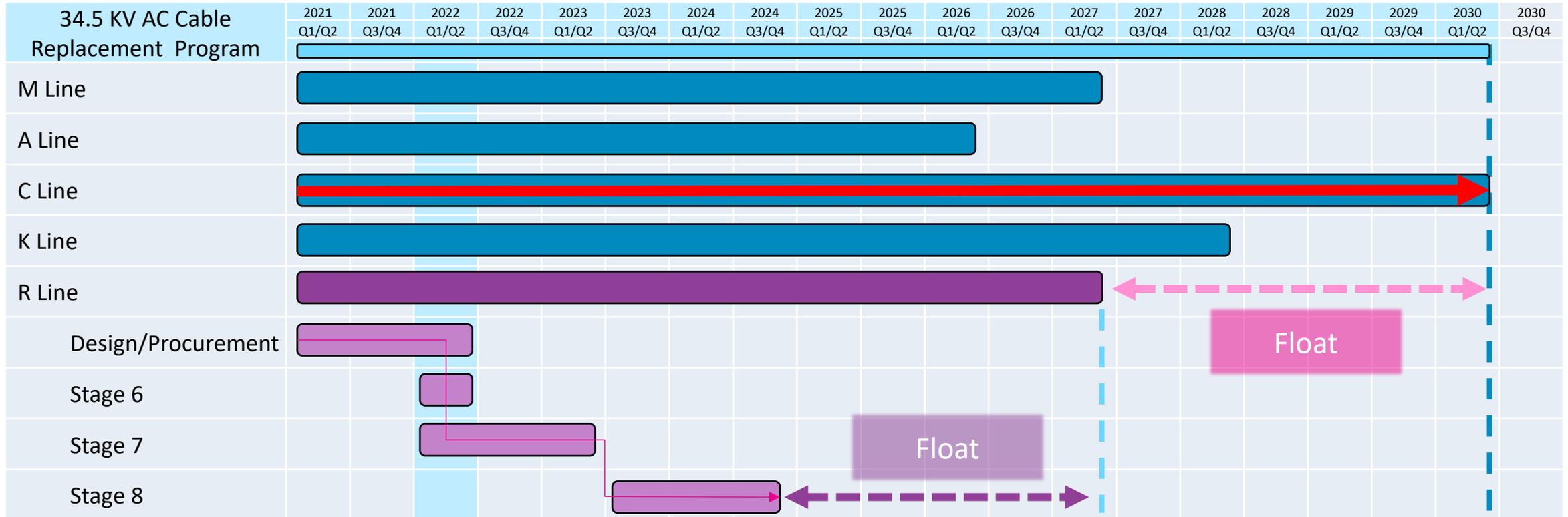
Schedule	Forecasting	Earned Value	Risk Management
<i>Baseline Milestones Forecast</i>	<i>Available Funding Within Budget Scope Validation</i>	<i>Cost Performance Index (CPI) Schedule Performance Index (SPI)</i>	<i>Risk contingency</i>

Complexity Factors

- External Commitment
- Dependency on other Resources
- Environmental Conditions
- Public Impact
- Amount of BART Access Required
- Specialized Equipment or Materials
- Priority Ranking



Program Scheduling – Critical Path & Float Example



Earned Value Management (EVM)

- ✓ Method to objectively assess a project's progress
- ✓ Snapshot in Time
- ✓ *What gets measured gets improved!*

Value of Earned Value (A Project Control Tool):

Validate
Commitment

Ensure Production Rates
Evaluate \$ per Quantity

Early Warning

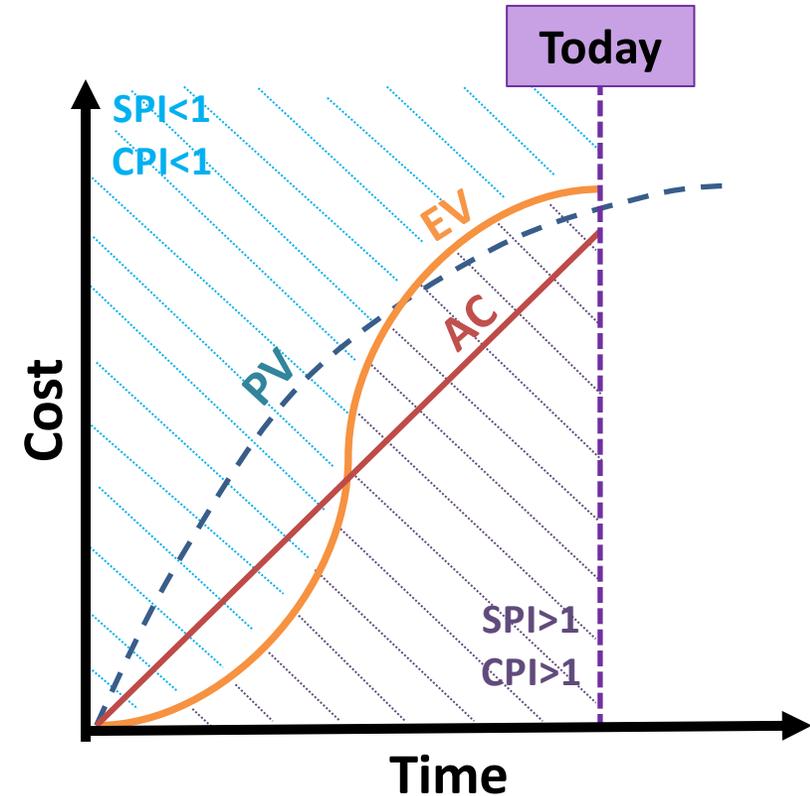
Assess Mitigation Measures
Identify Holes in the Process

Report Progress

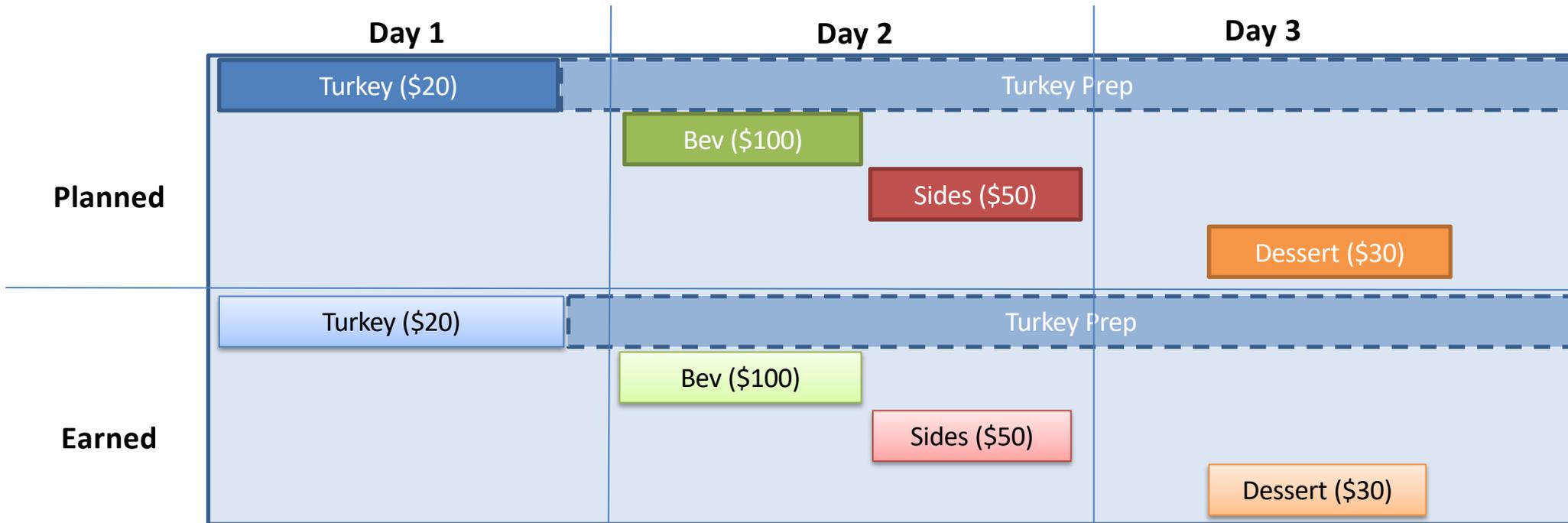
Report Objective Measures
Discuss Risk & Mitigations
Withstand Scrutiny

How is EVM Measured

Planned Value (PV)	<ul style="list-style-type: none">The total value of planned work at a specific point in time
Earned Value (EV)	<ul style="list-style-type: none">The total value of work completed at a specific point in time
Actual Cost (AC)	<ul style="list-style-type: none">The total cost of work completed at a specific point in time
Cost Performance Index (CPI)	<ul style="list-style-type: none">$CPI = EV/AC$$CPI > 1$ – Spent less than value of completed work$CPI < 1$ – Spent more than value of completed work
Schedule Performance Index (SPI)	<ul style="list-style-type: none">$SPI = EV/PV$$SPI > 1$ – More work completed than planned$SPI < 1$ – Less work completed than planned



Measuring SPI Example – Turkey Dinner with a \$200 Budget



Deliverable	PV	EV
Turkey	\$20	\$20
Total	\$20	\$20

Deliverable	PV	EV
Turkey	\$20	\$20
Beverages	\$100	\$100
Sides	\$50	\$50
Total	\$170	\$170

Deliverable	PV	EV
Turkey	\$20	\$20
Beverages	\$100	\$100
Sides	\$50	\$50
Desert	\$30	\$30
Total	\$200	\$200

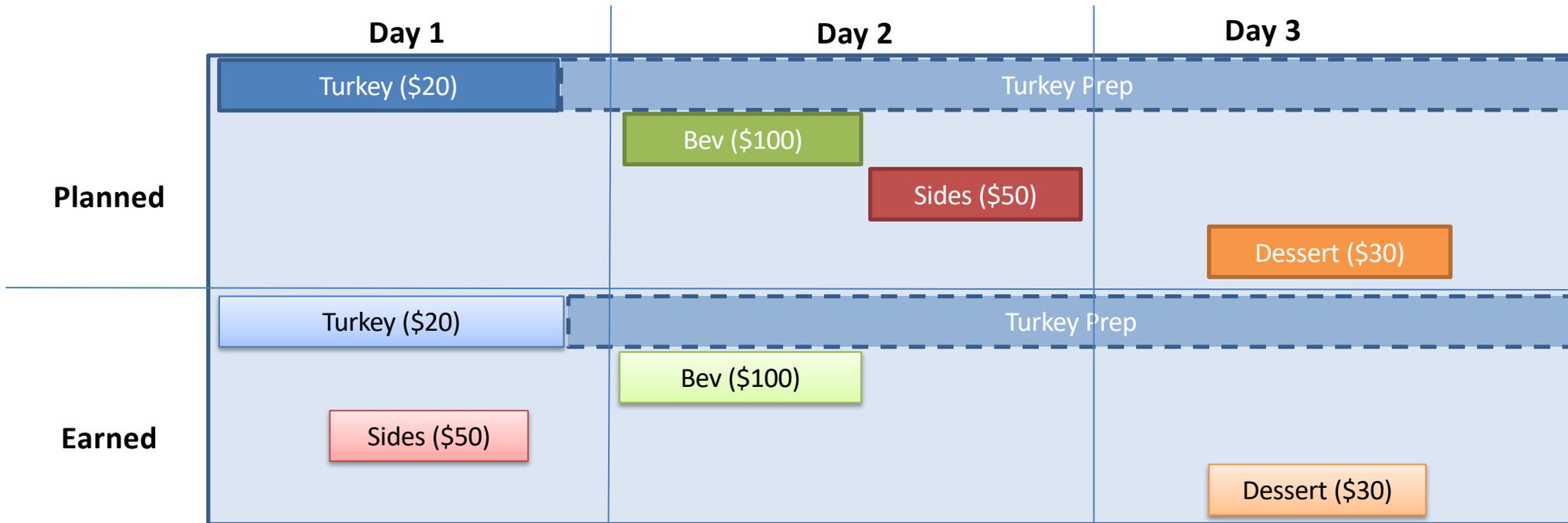
$SPI = EV/PV$

$SPI = \$20/\$20 = 1.00$

$SPI = \$170/\$170 = 1.00$

$SPI = \$200/\$200 = 1.00$

Measuring SPI Example – What Happens if Sides are Purchased Earlier than Planned?



Deliverable	PV	EV
Turkey	\$20	\$20
Sides		\$50
Total	\$20	\$70

Deliverable	PV	EV
Turkey	\$20	\$20
Beverages	\$100	\$100
Sides	\$50	\$50
Total	\$170	\$170

Deliverable	PV	EV
Turkey	\$20	\$20
Beverages	\$100	\$100
Sides	\$50	\$50
Desert	\$30	\$30
Total	\$200	\$200

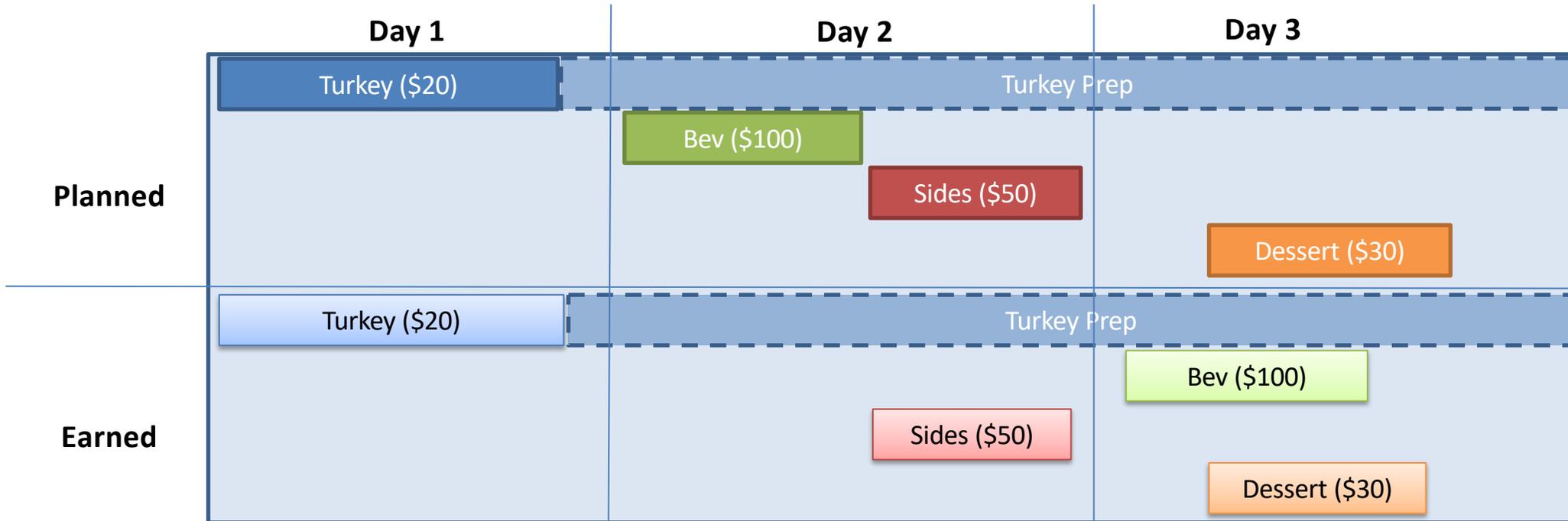
$SPI = EV/PV$

$SPI = \$70/\$20 = 3.50$

$SPI = \$170/\$170 = 1.00$

$SPI = \$200/\$200 = 1.00$

Measuring SPI Example – What Happens if Beverages are Purchased Later than Planned?



Deliverable	PV	EV
Turkey	\$20	\$20
Total	\$20	\$20

Deliverable	PV	EV
Turkey	\$20	\$20
Beverages	\$100	
Sides	\$50	\$50
Total	\$170	\$70

Deliverable	PV	EV
Turkey	\$20	\$20
Beverages	\$100	\$100
Sides	\$50	\$50
Desert	\$30	\$30
Total	\$200	\$200

$SPI = EV/PV$

$SPI = \$20/\$20 = 1.00$

$SPI = \$70/\$170 = 0.41$

$SPI = \$200/\$200 = 1.00$



Measuring CPI Example – What Happens if Sides are Purchased Earlier than Planned?

$CPI = EV/AC$

No impact to CPI!
 CPI only compares the value of the work to the actual cost

$CPI = \$70/\$70 = 1.00$

Deliverable	EV	AC
Turkey	\$20	\$20
Sides	\$50	\$50
Total	\$70	\$70

Day 1

$CPI = \$170/\$170 = 1.00$

Deliverable	EV	AC
Turkey	\$20	\$20
Beverages	\$100	\$100
Sides	\$50	\$50
Total	\$170	\$170

Day 2

$CPI = \$200/\$200 = 1.00$

Deliverable	EV	AC
Turkey	\$20	\$20
Beverages	\$100	\$100
Sides	\$50	\$50
Desert	\$30	\$30
Total	\$200	\$200

Day 3

Measuring CPI Example – Turkey Dinner with a \$200 Budget

CPI = EV/AC



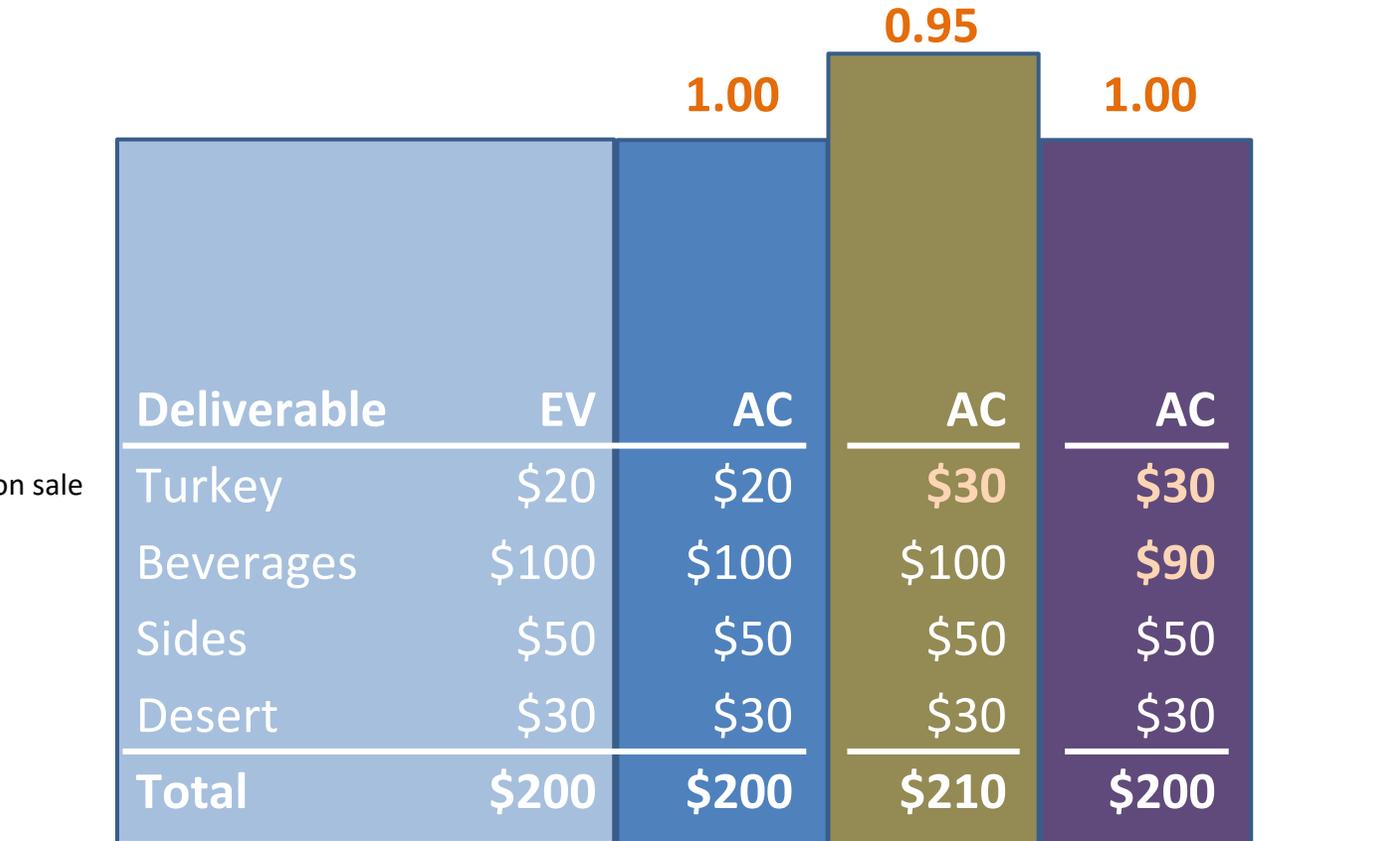
On target



Expensive Turkey

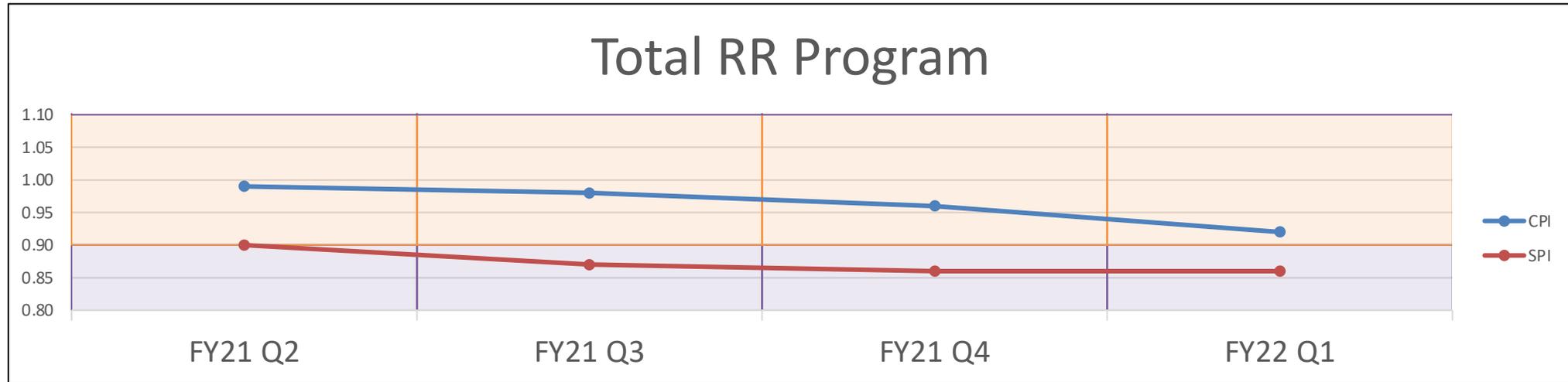


Expensive Turkey; Beverage on sale



Earned Value Rollup by Program As of September 2021

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	54%	\$330.93	\$334.57	\$327.21	1.02	1.01
Renew Power	\$1,225	35%	\$529.41	\$427.68	\$485.56	0.88	0.81
Repair Tunnels and Structures	\$549	26%	\$206.61	\$140.79	\$169.69	0.83	0.68
Renew Mechanical	\$156	41%	\$67.59	\$63.84	\$63.67	1.00	0.94
Replace Train Control/ Increase Capacity	\$400	8%	\$36.04	\$30.49	\$42.79	0.71	0.85
Renew Stations	\$210	22%	\$47.23	\$46.33	\$42.94	1.08	0.98
Expand Safe Access to Stations	\$135	23%	\$34.85	\$30.60	\$32.48	0.94	0.88
Design/Engineer to Relieve Crowding	\$200	28%	\$61.55	\$55.24	\$60.44	0.91	0.90
Total	\$3,500	32%	\$1,314.20	\$1,129.54	\$1,224.79	0.92	0.86

CPI – Cost Performance Index

SPI – Schedule Performance Index

Risk Management

Risk Management Process

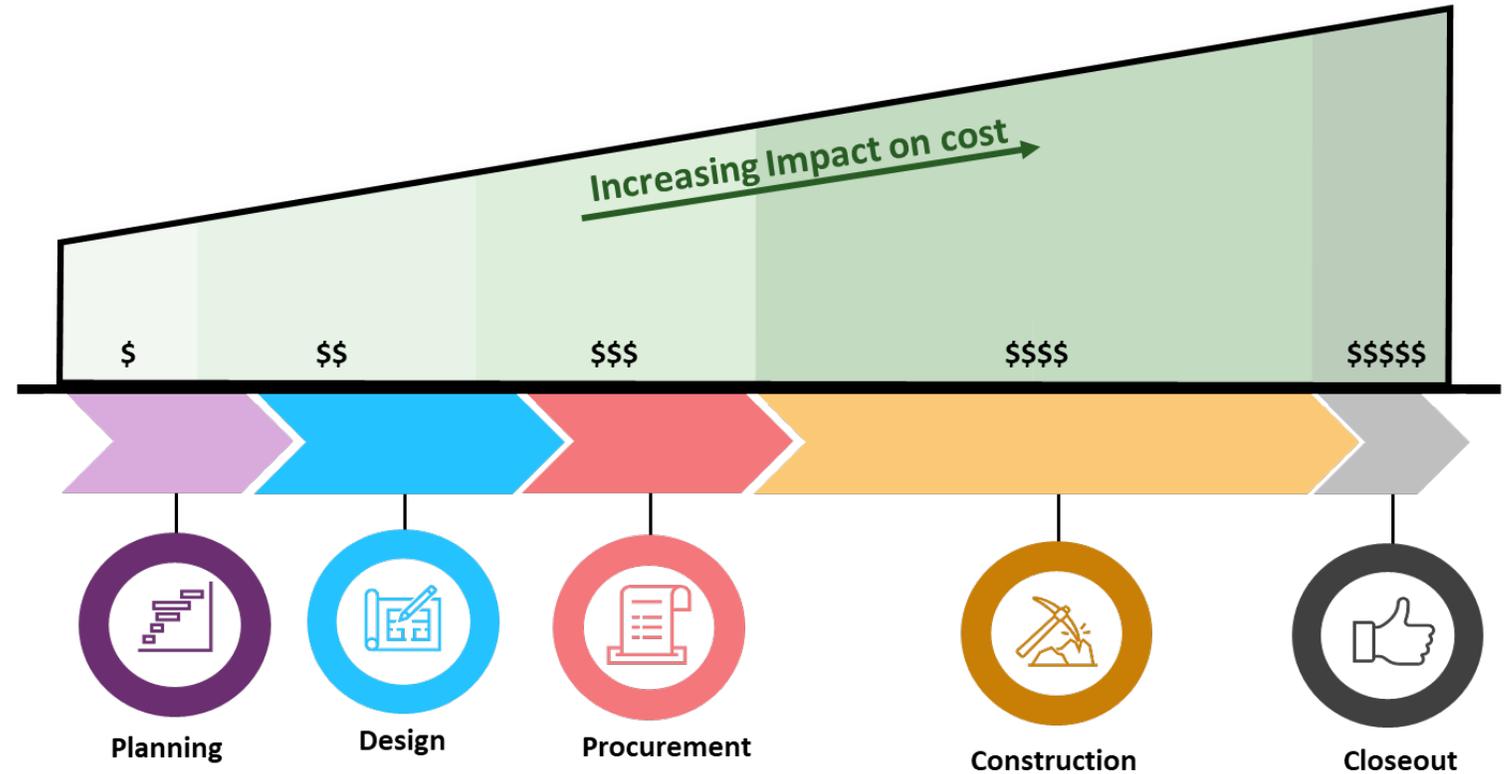


Risk Identification			Risk Description		Qualitative Assessment- Unmitigated Profile					Quantitative Assessment- Unmitigated			Qualitative Assessment- Mitigated Profile				Quantitative Assessment- Mitigated Profile			Mitigation Strategies (Actionable/Measurable)	
Risk ID	Type	Status	Risk Title-Description	Risk	Probability	Impact to Cost	Impact to Schedule	Max Impact	Rank (Max 50)	Most Likely Impact to Schedule (x \$ 1000s)	Risk Expected Value (x \$1000s)	Impact to Cost	Impact to Schedule	Max Impact	Rank (Max 50)	Probability Percentage	Most Likely Impact to Schedule (x \$ 1000s)	Risk Expected Value (x \$1000s)	Approach	Mitigation Strategies (Actionable/Measurable)	
001	Threat	Active	COVID-19 constrains resources	Delay to the completion of project	1	1	1	1	2	27	5	1	2	2	6	20%	71	28	Avoid	Follow recommended mitigation strategies. Communicate with stakeholders to ensure backup in support of project activities.	
002	Threat	Active	Equipment and support availability	Unavailability of resources to meet the schedule as planned	2	2	2	2	8	71	58			0		0%	-	-	Reduce	Coordinate with other stakeholders to ensure the needed resources are available and will commit to support the project activities.	
003	Threat	Active	Complaints from neighbors	More labor required for public outreach.	1	1	1	1	2	27	5			0		0%	-	-	Reduce	Ensure BART has a reach out team to address any complaints or reach out to neighbors.	
004	Threat	Active	Unforeseen conditions of BART infrastructure	Encountering existing conditions that were not accounted for during planning/design.	2	1	1	1	4	27	19			0		0%	-	-	Reduce	Extensive potholing and surveying activities to mitigate unforeseen infrastructure. Possibility of using GPR if utilities are missed by potholing/existing drawings. GPR can be inaccurate if used. Coordination with UPRR and TBT.	
005	Threat	Active	Lay Down Area UPRR Restrictions	Delay construction	3	2	1	2	9	27	123			0		0%	-	-	Reduce	Coordinate with designer and UPRR to verify	
006	Threat	Active	Jurisdictional authority and permitting	Approval required from city for	3	1	2	2	9					0					Reduce	Coordinate with designer and UPRR to verify	

Risk Management

Why is it important?

Strategy	
Threat	Avoid
	Reduce
	Transfer
	Accept
Opportunity	Exploit
	Share
	Enhance



Risk Management – Risk Scoring Matrix

Impact Descriptors				Impact					Probability Descriptors				
				Very little, slight		Small, mild		Moderate, noticeable			Significant, strong	Critical, grave	
Probability	Very High	5	90%	100%	10	20	30	40	50	Almost certain, very sure			
	High	4	70%	90%	8	16	24	32	40	Very likely, repeatable			
	Moderate	3	30%	70%	6	12	18	24	30	Likely, possible or probable			
	Low	2	10%	30%	4	8	12	16	20	Unlikely, seldom			
	Very Low	1	1%	10%	2	4	6	8	10	Improbable, uncommon			
				1 Very Low		2 Low		3 Medium		4 High		5 Very High	
Cost-Relative to Project Estimate				0.25%	1.0%	1.0%	3.0%	3.0%	6.0%	6.0%	10.0%	10.0%	15.0%
Schedule-Relative to Project Duration				0.5%	1.0%	1.0%	3.0%	3.0%	6.0%	6.0%	10.0%	10.0%	15.0%

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	\$146.2 M	\$32.0 M	22%	136	\$99.6 M	\$21.0 M	21%
Renew Power	\$351.0 M	\$111.5 M	32% (-14%)	286 (+104)	\$197.0 M (+70M)	\$96.1 M (+14M)	49%
Repair Tunnels & Structures	\$141.8 M	\$29.5 M	21%	136	\$97.9 M	\$13.1 M	13%
Renew Mechanical	\$34.5 M	\$11.8 M	34%	71	\$22.0 M	\$8.9 M	40%
Replace Train Control/Increase Capacity	\$30.2 M	\$6.2 M	21%	78	\$19.1 M	\$2.2 M	11%
Renew Stations	\$148.3 M	\$27.9 M	19%	103	\$32.0 M	\$8.2 M	26%
Expand Safe Access to Stations	\$18.8 M	\$5.7 M	30%	148 (+48)	\$11.8 M	\$4.4 M	37%
Design/Engineer to Relieve Crowding	\$102.9 M	\$22.5 M	22%	142 (+63)	\$49.5 M	\$13.3 M	27%
Total	\$973.8 M	\$247.1 M	25% (-4%)	1099 (+247)	\$528.9 M	\$167.2 M	32% (-2%)

Notes: All amounts are based on RR fund percent only. Amounts are updated to November 30, 2021. Includes formal contracts only; does not include informal purchases or work performed by BART's own forces. SB totals include DBEs, MSBES, SBs, and LSBs. Sources: RR commitments are based on RR Requisitions report, Procurement Sealed Bids Report and PeopleSoft Work Plans application. RR% for each project is based on Financial Analysts' report, RR Funds / Total Project Budget. Payments based on PeopleSoft and B2GNow.

RR Program Update – 2021 Outreach



• Year in Review

- 38 outreach events held in calendar year 2021 with an average audience of 25 attendees
- Highlights:
 - 24 Small Business Support Services (SBSS) Trainings/Outreach
 - BART Outreach—Meet Project Staff (M&E, PDC, Stations)
 - Business Outreach Committee -Meet the Primes & How to do Business
 - Northern California Procurement Technical Assistance Center -NorCal PTAC Matchmaking

RR Program Update – Small Business Economic Opportunity Programs: Federal



DISADVANTAGED BUSINESS ENTERPRISE (DBE)

Provides both race/gender conscious and neutral strategies to help DBEs gain opportunities at BART on US Department of Transportation (USDOT) funded contracts, including:

- Establishing contract specific DBE goals (where appropriate)
- Facilitating outreach
- Providing supportive services



MICRO SMALL BUSINESS ENTITY (MSBE) SET ASIDE

This program sets aside specific contracts for which certified MSBEs have the exclusive right to bid. The MSBE Set Aside contract values shall not exceed:

- \$3 million for construction contracts or procurement services
- \$6 million for professional service contracts

RR Program Update – Small Business Certification: Federal

1 DISADVANTAGED BUSINESS ENTERPRISE

A DBE is a for-profit small business:

- At least 51% owned by socially & economically disadvantaged individual(s);
- Certification is through the California Unified Certification Program (CUCP)

2 SMALL BUSINESS ENTITY

An SBE is a for-profit small business:

- At least 51% owned by economically disadvantaged individual(s)
- Certification is through BART

3 MICRO SMALL BUSINESS ENTITY

A MSBE is a for-profit small business:

- whose average gross receipts are \$10M or less for construction contracts and \$6M or less for all others;
- Certification is through BART

RR Program Update – Small Business Economic Opportunity Program: Non-Federal



SMALL BUSINESS PROGRAM (SB)

- Provides a preference to SB prime bidders of up to 5%*.
- When a subcontracting goal applies, provides a preference of 5%* for prime bidders who meet the SB Subcontractor Participation Goal.
- On RR contracts the SB preference applies only to Local Small Businesses located in Alameda, Contra Costa, & San Francisco counties.

* 5% preference is based on the lowest responsible bidder's bid



NON-DISCRIMINATION PROGRAM FOR SUBCONTRACTING (ND)

- Seeks to ensure that prime contractors do not discriminate in their selection of subcontractors.
- This program applies to state and locally funded contracts in all procurement categories.

RR Program Update – Small Business Certification: Non-Federal

01 Small Business

SBs are firms certified by the California Department of General Services (DGS) as SBs and found in the DGS database for SBs @ dgs.ca.gov.

02 Local Small Business

LSBs are firms that are certified as an SB by the DGS and whose principal place of business is located in Alameda, Contra Costa, or SF counties, as verified by BART.

04 LGBTBE

Lesbian, Gay, Bisexual, and Transgender Business Enterprises are firms that are certified as an LGBTBE by the National Gay & Lesbian Chamber of Commerce or the CA Public Utilities Commission, and certified as a SB by the DGS.

03 DVBE

Disabled Veteran Business Enterprises are firms that are certified as a DVBE and as a SB by the DGS and found in the DGS database

RR Program Update – Small Business

Local Small Business (LSB) Verification



Vendor Certification

Join our database of certified vendors

Apply for New / Renew Certification with BART

Search Directory of Certified Firms

Search Directory of CUCP DBE Certified Firms

Search Directory BART's Specific Certification Program Firms

Outreach

Opportunities for vendor involvement

View Outreach Opportunities

System Training

Account Access

Lookup Vendor accounts or reset user passwords

Account Lookup

Forgot Password

Upcoming Events

View our upcoming events

Events List

About the System

Learn more about this system and how it works today

Information for Vendors

BART Small Business Support Service (SBSS) Program Services



SMALL BUSINESS SUPPORT SERVICES

PRE-AWARD

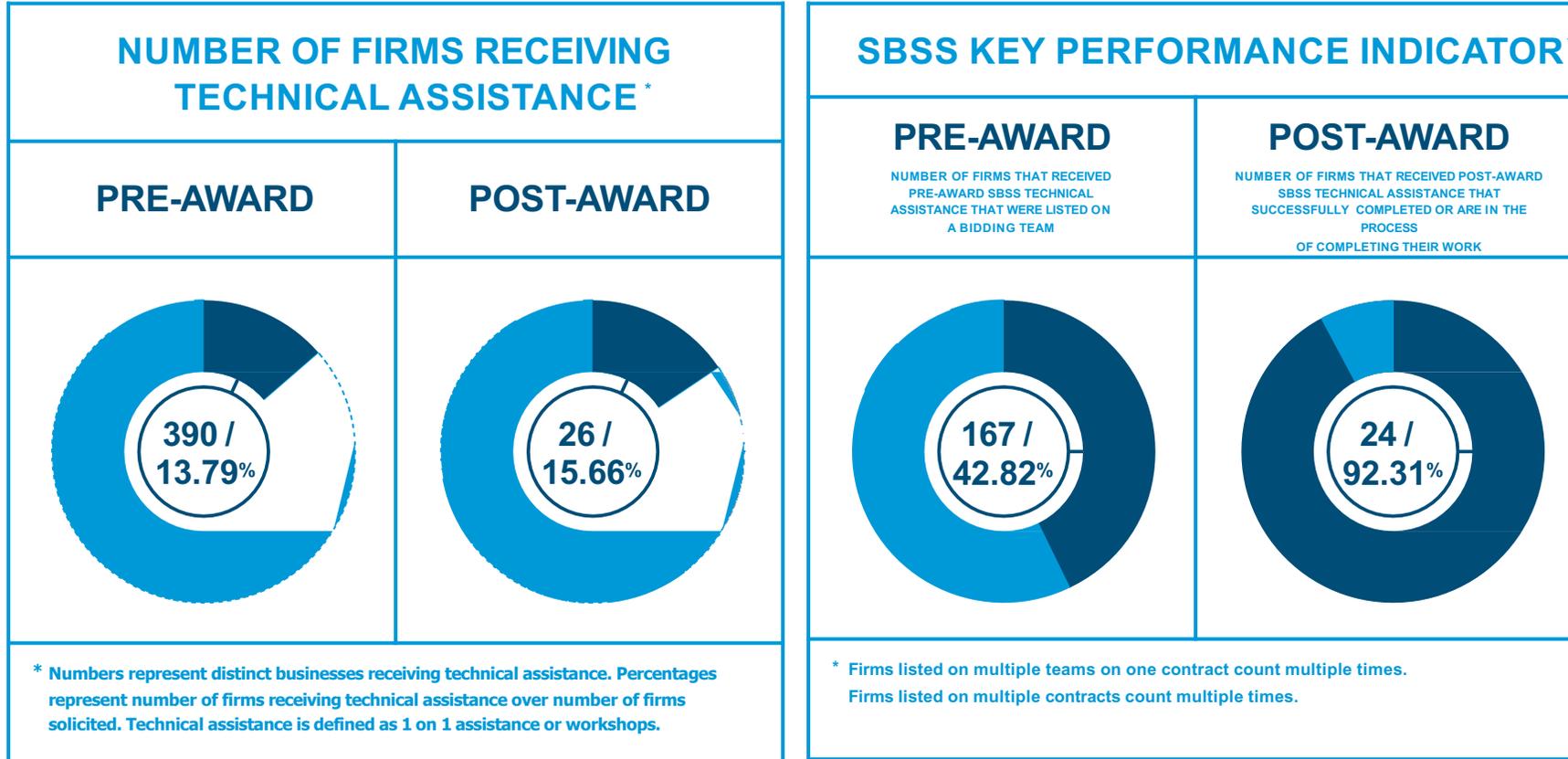
- SB/DBE/SB Certification Assistance
- BART Procurement Portal Navigation
- Estimating and Bidding Strategies
- Plans, Scope & Specs Analysis
- Matchmaking & Teaming Introductions
- Communication Asset Analysis
& Development
- Presentation Skills Training
- Financial Resiliency and Education
- Workforce Education & Compliance
- Assistance with Schedule of Values & Site Specific
Workplan Development

POST-AWARD

- Preconstruction Submittals
- Base Line Schedule and Schedule of Values
- Health and Safety Requirements
- Site Specific Work Plans (SSWP's)
- Invoicing/Progress Payment Processing
- Differing Site Conditions
- Request for Information (RFIs)
- Change Notices / Change Orders
- Time Impact Evaluations
- Claims filing and supporting documentation
- Elations / Certified Payroll Reporting
- Notice of Potential Claims and documentation



Key Performance Metrics (KPIs) For 2020/2021



BART Headquarters SB Participation



<p>BART SB GOAL:</p> <p>32%</p>	<p>SB UTILIZATION ACHIEVED:</p> <p>34.7%</p>	<p>NUMBER OF SB FIRMS UTILIZED:</p> <p>34</p>
<p>4</p> <p>LARGE SCALE OUTREACH MEETINGS</p>	<p>349</p> <p>FIRMS PARTICIPATED</p>	<p>60</p> <p>ONE-ON-ONE MATCHMAKING EVENTS HELD</p>

Community Engagement



AAAE Asian American Architects & Engineers
Alameda County Bldg. & Construction Trades Council
Asian American Architects
Asian Pacific Environmental Network
Builders Exchange of Alameda County
CalAsian Chamber of Commerce
California American Indian Chamber
California Disabled Veterans Alliance
California Hispanic Chamber
Contractors Assistance Center
Cypress Mandela Training Center
Filipinos for Affirmative Action
Golden Gate Business Association
MBDA Business Center
Metro Chamber
NorCal PTAC (Procurement Technical Assist Center)
Oakland Black Board of Trade & Commerce

Oakland Builders Alliance
Oakland Chinatown Chamber of Commerce
Oakland Private Industry Council
Port of Oakland
Richmond Works
RichmondBuild
Sacramento Rainbow Chamber
SF Contractors Assistance Center
Silicon Valley Hispanic Chamber
Silicon Valley Rainbow Chamber of Commerce
Tradeswomen
Unity Council
US Small Business Administration
Vietnamese Chamber of Commerce
West Oakland Job Resource Center
WRMSDC

All Bay Area Glass

WEBSITE

The screenshot shows the ABAG website layout. At the top is a navigation menu with links for WHO WE ARE, WHY ABAG, OUR SERVICES, PROJECTS, CLIENTS, and CONTACT. Below the menu is a gallery of project photos. A central section titled 'WHO WE ARE' features a photo of four people and a text block describing the company as a premium Oakland-based, woman-owned contractor. To the right is a 'CAPABILITY STATEMENT' section listing services like Curtain Wall, Storefront, and Windows. Below that is a 'RECENT PROJECTS' list including Lucille Packard Children's Hospital and Alameda Elementary School. The footer contains contact information for Oakland, CA and a large photo of the BART HQ building.

SOQ

LOGO



BART HQ

Professional Glass Installations, Inc.

WEBSITE

The screenshot displays the website layout for Professional Glass Installations, Inc. At the top, there is a navigation bar with links for HOME, SERVICES, ABOUT, CERTIFICATIONS, and CONTACT. The main header features a large image of a worker in a hard hat with the PGI logo overlaid. Below this is a 'OUR SERVICES' section with three columns: CURTAIN WALL SYSTEMS, PARTITION FRAMES, and EMERGENCY BOARD-UPS. The 'ABOUT US' section provides a brief history of the company. The 'CONTACT' section includes the company name, address, phone numbers, and email. A 'Project Highlight' section mentions the Palmdale Community College District project. The footer features a large PGI logo.

LOGO

SOQ

LEROY BROCK

MELVIN RUCKER

Stay Connected



SMALL BUSINESS SUPPORT SERVICES

Fei Liu



BART OFFICE OF CIVIL RIGHTS

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Iris Martin Lopez



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Harry Overstreet II



POST-AWARD

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Future Meetings Framework



Appendix

Quarterly Measure RR Updates (not to be presented)

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



Bond Oversight Committee
January 12, 2022

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

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• Work Progress Since Last Meeting	55
• Individual Program Milestones	57
• Budget and Schedule Status	66
• Next Steps	76

Executive Summary

- Through September 2021, \$1.08B of the Measure RR funds have been invested to complete 32% of the work.
- Successes
 - Completion of Transbay Tube M1 Bore Earthquake Retrofit
 - Completion of Construction for Union City Station Modernization
- Challenges
 - COVID-19
 - Material availability

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
5	41 (-3)	15 (+1)	53 (-8)	36 (+9)	150 (-1)

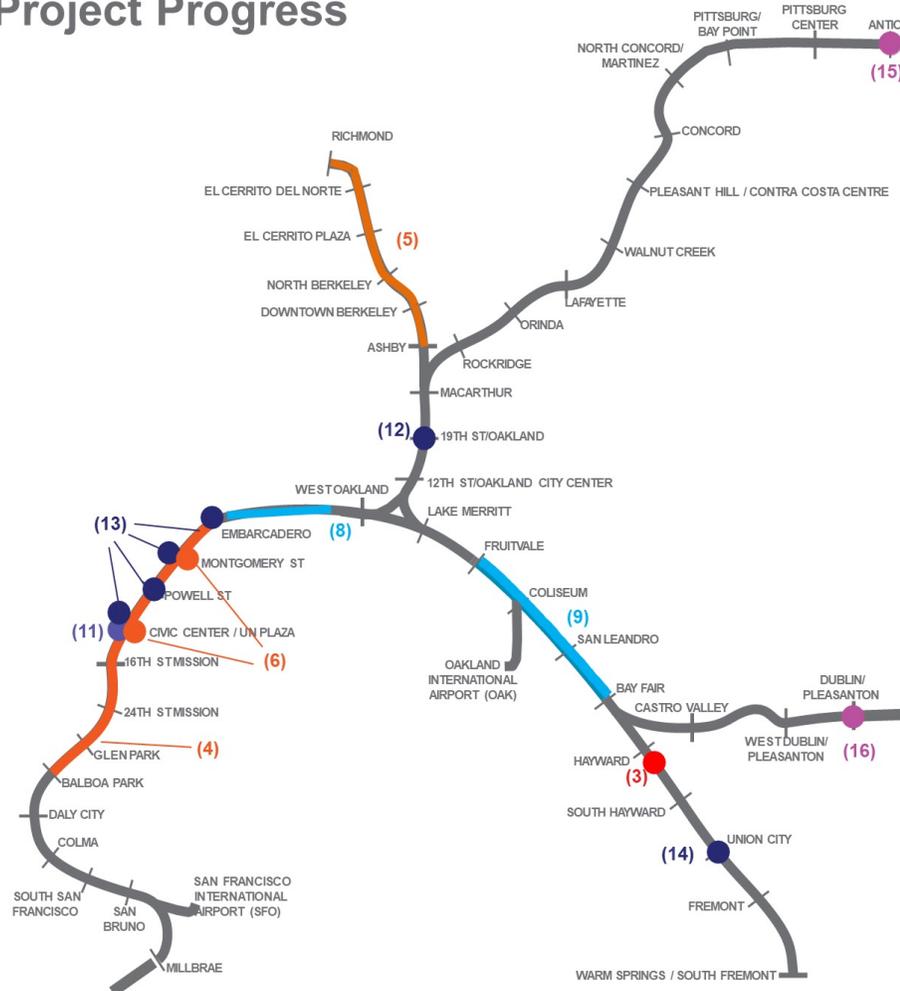
+ (Projects added in the phase)

- (Projects no longer in the phase)

Work Progress Since Last Meeting

Examples of Active RR Projects in July 2021 – September 2021

Measure RR – Project Progress



Renew Track

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

Renew Power Infrastructure

- 4 M-Line 34.5kV Cable Replacement Ph.II– Ongoing Construction
- 5 R-Line 34.5kV Cable Replacement – Ongoing Construction
- 6 Substation for Core Capacity – Ongoing Construction

Renew Tunnel & Structures

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

Renew Mechanical

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

Design/Engineer to Relieve Crowding

- 11 Civic Center Scissor Stairs – Ongoing Construction

Renew Stations

- 12 19th Street Station Modernization – Ongoing Construction
- 13 Market Street Canopies and Escalator – Ongoing Construction
- 14 Union City Station Modernization – Complete*

Expand Safe Access

- 15 eBART Antioch Parking Lot Contract – Ongoing Construction
- 16 Dublin/Pleasanton Parking Lot Reconfiguration – Complete*

Replace Train Control/Increase Capacity

- 17 Train Control Rooms (Systemwide – Not Mapped) – Completed Initial Survey*

Individual Program Milestones

Renew Track

STATUS & MILESTONES

EXPENDED Thru 09/2021: \$289.4

FORECAST Thru 9/2023: \$382

TOTAL PROGRAM VALUE: \$625

PERIOD CASHFLOW: \$11.6

STATUS – Renew Track

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
0	2	1	9	8	20

MILESTONES			
Completed (Jul 2021 – Sep 2021)	Q2 (Oct 2021 – Dec 2021)	Q3 (Jan 2022 – Mar 2022)	Q4 (Apr 2022 – Jun 2022)
<ul style="list-style-type: none"> Ongoing Construction for Direct Fixation Pad Replacement Ongoing Construction for Rail Replacement 	<ul style="list-style-type: none"> Begin Construction for A77 Interlocking Replacement Receive Rail Shipment #4 for Rail Replacement 	<ul style="list-style-type: none"> <i>Issue for Bid K Line Interlocking Replacement Special Trackwork (near Rockridge Station)</i> Issue for Bid Richmond Yard Track Rehabilitation Special Trackwork 	<ul style="list-style-type: none"> Issue for Bid K Line Interlocking Replacement Special Trackwork (near MacArthur Station)

Watchlist:

- Material procurement of special trackwork

Italic: Modified milestones from previous report.

Renew Power

STATUS & MILESTONES

EXPENDED Thru 09/2021: \$399.5

FORECAST Thru 9/2023: \$573

TOTAL PROGRAM VALUE: \$1,225

PERIOD CASHFLOW: \$26.1

STATUS – Renew Power Infrastructure

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

MILESTONES			
Completed (Jul 2021 – Sep 2021)	Q2 (Oct 2021 – Dec 2021)	Q3 (Jan 2022 – Mar 2022)	Q4 (Apr 2022 – Jun 2022)
<ul style="list-style-type: none"> Completion of Design for Station Fire Alarm Replacement Phase 3 Contract Award for R Line 34.5kV Cable Replacement 	<ul style="list-style-type: none"> Completion of Design for Station Fire Alarm Replacement Phase 4 Completion of Design for the K Line 34.5kV Cable Replacement Completion of Design for High Voltage Blocking Scheme, Phase 2 Completion of Design for the MXP Gap Breaker Replacement 	<ul style="list-style-type: none"> Issue for Bid Station Fire Alarm Replacement Phase 3 Substantial Completion of Steppable Trays and AFM IDS Installation for A Line 34.5kV Cable Replacement Issue for Bid Walnut Creek Traction Power Substation Replacement 	<ul style="list-style-type: none"> Completion of Design for MET G Generator Replacement Project Completion of Power to the Transbay Tube for the Oakland Emergency Generator Project Issue for Bid MXP Gap Breaker Replacement Project

Watchlist:

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

Italic: Modified milestones from previous report.

Tunnels & Structures

STATUS & MILESTONES

EXPENDED Thru 09/2021: \$160.5

FORECAST Thru 9/2023: \$136

TOTAL PROGRAM VALUE: \$570

PERIOD CASHFLOW: \$19.5

STATUS – Repair Tunnels & Structures

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
1	10	1	6	8	26

MILESTONES			
Completed (Jul 2021 – Sep 2021)	Q2 (Oct 2021 – Dec 2021)	Q3 (Jan 2022 – Mar 2022)	Q4 (Apr 2022 – Jun 2022)
<ul style="list-style-type: none"> • Completion of Design for Aerial Fall Protection (C Line) • Begin Construction for Aerial Fall Protection (A Line South Pilot) • Begin Construction for Renew Catwalks (A Line Phase 1) • Begin Construction for Richmond Yard Fence Rehabilitation • Completion of Transbay Tube M1 Bore Earthquake Retrofit 	<ul style="list-style-type: none"> • Completion of Design for Water Intrusion at Train Control Rooms (Package 2) 	<ul style="list-style-type: none"> • Completion of Design for Slope Stabilization Systemwide • Completion of Design for Water Intrusion at Train Control Rooms (Package 3) • Completion of Design for Water Intrusion at Track and Platform Joint at C and R Lines • Completion of Design for Water Intrusion at Track and Platform Joint at A Line 	<ul style="list-style-type: none"> • Completion of Design for Water Intrusion at Train Control Rooms (Package 4) • Substantial Completion for Renew Catwalks - Phase 1

Watchlist:

Renew Mechanical

STATUS & MILESTONES

EXPENDED Thru 09/2021: \$60.1

FORECAST Thru 9/2023: \$77

TOTAL PROGRAM VALUE: \$135

PERIOD CASHFLOW: \$3.7

STATUS – Renew Mechanical

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
1	6	4	9	5	25

MILESTONES			
Completed (Jul 2021 – Sep 2021)	Q2 (Oct 2021 – Dec 2021)	Q3 (Jan 2022 – Mar 2022)	Q4 (Apr 2022 – Jun 2022)
<ul style="list-style-type: none"> Contract Award of Design for Concord Yard Turntable Replacement Contract Award of Concord Yard Wheel Truing Machine 	<ul style="list-style-type: none"> Ongoing Construction for Replace Sewage Pumps Ongoing Construction for Richmond Yard Fire Services <i>Completion of Construction for HVAC Replacements Systemwide</i> 	<ul style="list-style-type: none"> <i>Notice to Proceed for Fire Services at Hayward Yard</i> <i>Begin Construction for Turntable Replacement at Concord Yard</i> <i>Completion of Design for Fire Suppression Upgrade System Wide Phase 1</i> 	<ul style="list-style-type: none"> Procurement of Concord Yard Wheel Truing Machine <i>Completion of Construction for Rotoclones Replacement</i> Completion of Design for LMA HVAC Renovation Completion of Design for Control Tower HVAC <i>Issue for Bid Concord Yard Wheel Truing Facility Construction</i>

Watchlist:

- Notice to Proceed Fire Services at Hayward Yard

Italic: Modified milestones from previous report.

Replace Train Control

STATUS & MILESTONES

EXPENDED Thru 09/2021: \$42.8
 FORECAST Thru 9/2023: \$89
 TOTAL PROGRAM VALUE: \$400
 PERIOD CASHFLOW: \$2.9

STATUS – Replace Train Control / Increase Capacity

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

MILESTONES			
Completed (Jul 2021 – Sep 2021)	Q2 (Oct 2021 – Dec 2021)	Q3 (Jan 2022 – Mar 2022)	Q4 (Apr 2022 – Jun 2022)
<ul style="list-style-type: none"> • <i>Reject all bids for Power Supply Cabinets & Switch Machine/Train Control Cables</i> • Complete Initial Surveys for Train Control Rooms 	<ul style="list-style-type: none"> • <i>Repackage Contract 49GH-130 RFP for non-revenue equipment and materials to support Power Supply & Switch Machine scope</i> • Begin Electromagnetic Compatibility (EMC)/ Electromagnetic Interface (EMI) Surveys 	<ul style="list-style-type: none"> • <i>Begin installation of LIDAR survey bench markers on W, Y, M, K-Lines</i> • <i>Advertise K-Line Contract (49GH-135)</i> • Complete CBTC Preliminary Design • Resolve Vital Train Length testing on Test Track • Review of the Automatic Train Supervision (ATS) Human Machine Interface (HMI) Specification and ATS sub-system requirement specifications 	<ul style="list-style-type: none"> • Begin installation of Wayside Field Equipment at Hayward Test Track • Supplier to Complete Data Warehouse Material Procurement

Watchlist:

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

Italic: Modified milestones from previous report.

Renew Stations

STATUS & MILESTONES

EXPENDED Thru 09/2021: \$42.8

FORECAST Thru 9/2023: \$125

TOTAL PROGRAM VALUE: \$210

PERIOD CASHFLOW: (\$1.5)

STATUS – Renew Stations

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
0	2	0	4	3	9

MILESTONES			
Completed (Jul 2021 – Sep 2021)	Q2 (Oct 2021 – Dec 2021)	Q3 (Jan 2022 – Mar 2022)	Q4 (Apr 2022 – Jun 2022)
<ul style="list-style-type: none"> • Completion of Construction for 1st Group of Market St. Escalators • Complete Market St. Entry Canopies Systems Infrastructure within Powell St. Station • Completion of Construction for Union City Station Modernization • <i>Completion of TMV relocation at Hallidie Plaza for Powell St. Station Modernization</i> • <i>Installation of new pendulum LED lighting at platform level for Powell St. Station Modernization</i> 	<ul style="list-style-type: none"> • Complete Market St. Entry Canopies Systems Infrastructure within Civic Center Station 	<ul style="list-style-type: none"> • <i>Completion of Construction for 2nd Group Market St. Escalators and begin 3rd group</i> • Begin Construction of Canopy 12 at Montgomery St. Station and Canopy 16 at Westfield of Powell St. Station. • <i>Completion of Construction for Public Restrooms as part of Powell St. Station Modernization</i> • <i>Completion of New Glass Barriers Installation at Hallidie Plaza entrance for Powell St. Station Modernization</i> • <i>Completion of Construction for Public Restrooms as part of 19th St. Modernization</i> • Begin Market St. Entry Canopies Systems Infrastructure within Embarcadero Station 	<ul style="list-style-type: none"> • Opening of the new offices/breakrooms at Sector 6 for Powell St. Station Modernization • <i>Formal restroom opening with restroom attendants for Powell St. Station Modernization</i>

Watchlist:

- 19th St. Station Modernization

Italic: Modified milestones from previous report.



Station Access

STATUS & MILESTONES

EXPENDED Thru 09/2021: \$30.9

FORECAST Thru 9/2023: \$37

TOTAL PROGRAM VALUE: \$135

PERIOD CASHFLOW: \$0.7

STATUS – Expand Safe Access to Stations

# Projects in Planning	# Projects in Design	# Projects in Bid/Award	# Projects in Construction	# Projects Completed	TOTAL # Projects
1	13	2	3	9	28

MILESTONES			
Completed (Jul 2021 – Sep 2021)	Q2 (Oct 2021 – Dec 2021)	Q3 (Jan 2022 – Mar 2022)	Q4 (Apr 2022 – Jun 2022)
<ul style="list-style-type: none"> Issued for Bid Accessibility Improvement (Phase 1) Completion of Construction for the Parking Lot Reconfiguration at Dublin/Pleasanton Completion of Design for 12th St. Bike Racks 	<ul style="list-style-type: none"> Completion of Construction for eBART Antioch Parking Lot SFMTA to Issue for Bid Civic Center Access Improvements (as part of Better Market Street Project) <i>Begin Construction for North Berkeley Access Improvements</i> <i>Rejected Bids for Accessibility Improvement (Phase 1)</i> 	<ul style="list-style-type: none"> Completion of Construction for 12th St. Bike Racks <i>Completion of Construction for Warm Springs West Pedestrian Bridge and Plaza Project</i> <i>Completion of Design of Balboa Park – Upper Plaza project</i> <i>Advertise Bicycle Stair Channels Phase 1 Construction Contract</i> 	<ul style="list-style-type: none"> Award Bicycle Stair Channels Phase 1 Construction Contract

Watchlist:

- Accessibility Improvement (Phase 1)

Italic: Modified milestones from previous report.

Relieve Crowding

STATUS & MILESTONES

EXPENDED Thru 09/2021: \$54.3

FORECAST Thru 9/2023: \$76

TOTAL PROGRAM VALUE: \$200

PERIOD CASHFLOW: \$3.3

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	1	1	1	7

MILESTONES			
Completed (Jul 2021 – Sep 2021)	Q2 (Oct 2021 – Dec 2021)	Q3 (Jan 2022 – Mar 2022)	Q4 (Apr 2022 – Jun 2022)
<ul style="list-style-type: none"> • First Round of Public Outreach for Link21 (NTRC) Program 	<ul style="list-style-type: none"> • Complete 60% submittal for re-design of Hayward Maintenance Complex Phase 2: East Storage Yard • Second Round of Public Outreach for Link21 (NTRC) Program • <i>Re-Advertise for Hayward Maintenance Complex Phase 2: Civil/Grading</i> 	<ul style="list-style-type: none"> • Completion of Construction for Civic Center Station Scissor Stairs • <i>Stage Gate 1 for Link21 (NTRC) Program</i> 	<ul style="list-style-type: none"> • NTP for Hayward Maintenance Complex Phase 2: Civil/Grading • Round 3 of Public Outreach for Link21 (NTRC) Program

Watchlist:

- Hayward Maintenance Complex Phase 2: Civil/Grading

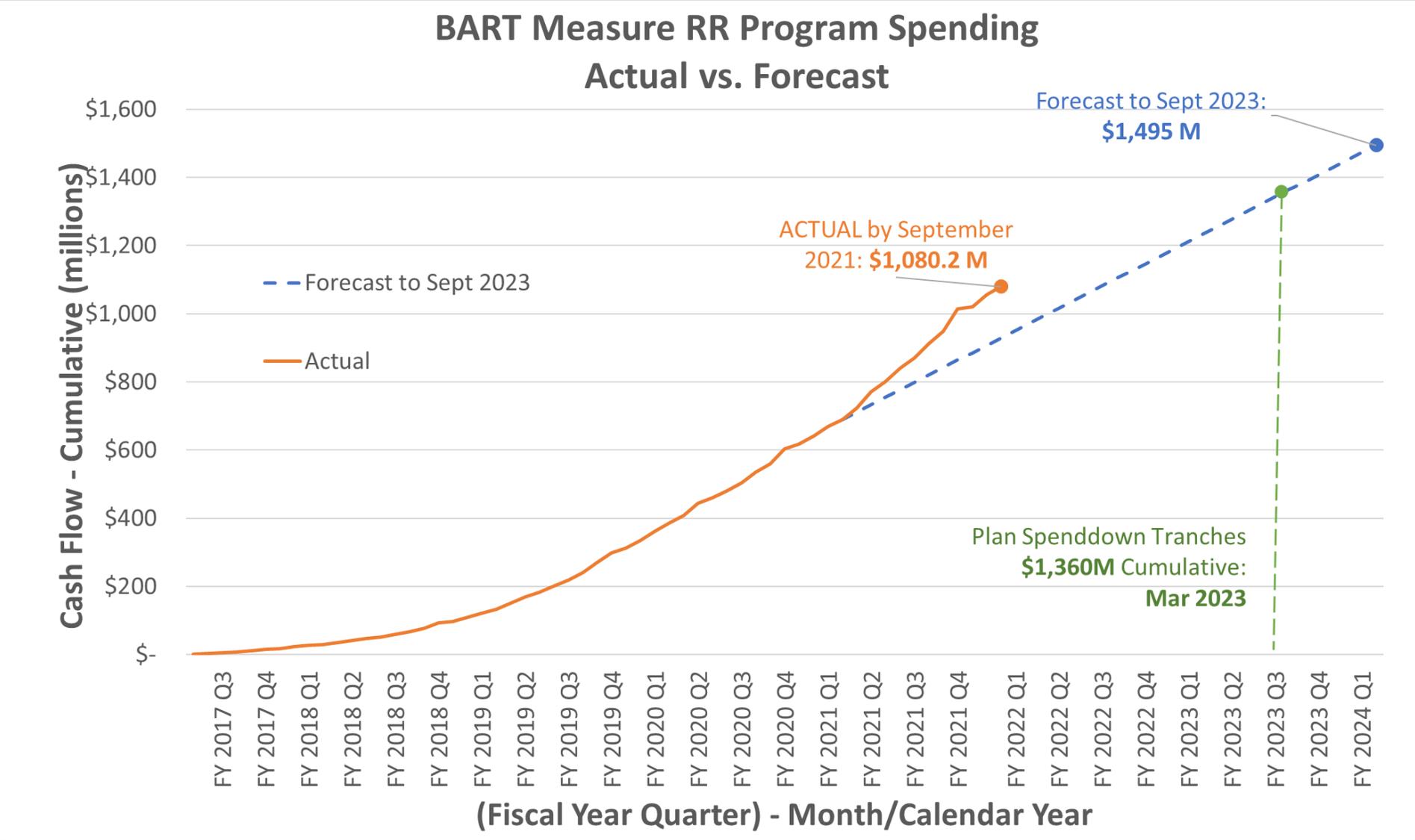
Italic: Modified milestones from previous report.

Budget and Schedule Status

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

Program	Expended (thru June 2021)	Expended (thru September 2021)	Period Cashflow (July 2021 – September 2021)	% Expended out of Total Bond Investment	Forecast Expenditures	
					MID-TERM (thru 2025)	LONG-TERM (thru End of Bond)
Renew Track	\$277.8	\$289.4	\$11.6	46%	\$400	\$625
Renew Power Infrastructure	\$373.3	\$399.5	\$26.1	33%	\$608	\$1,225
Repair Tunnels & Structures	\$141.0	\$160.5	\$19.5	28%	\$268	\$570
Renew Mechanical	\$56.4	\$60.1	\$3.7	45%	\$65	\$135
Replace Train Control/Increase Capacity	\$39.9	\$42.8	\$2.9	11%	\$286	\$400
Renew Stations	\$44.3	\$42.8	(\$1.5)	20%	\$148	\$210
Expand Safe Access to Stations	\$30.2	\$30.9	\$0.7	23%	\$86	\$135
Design/Engineer to Relieve Crowding	\$51.0	\$54.3	\$3.3	27%	\$69	\$200
Total	\$1,013.9	\$1,080.2	\$66.3	31%	\$1,930	\$3,500

RR Overall Program Budget Progress



Earned Value Rollup by Program

as of September 30, 2021

RR Program	Total RR Budget	Physical % Complete	Planned Value	Earned Value	RR Accrued to Date	CPI	SPI
Renew Track	\$625	54%	\$330.93	\$334.57	\$327.21	1.02	1.01
Renew Power	\$1,225	35%	\$529.41	\$427.68	\$485.56	0.88	0.81
Repair Tunnels and Structures	\$549	26%	\$206.61	\$140.79	\$169.69	0.83	0.68
Renew Mechanical	\$156	41%	\$67.59	\$63.84	\$63.67	1.00	0.94
Replace Train Control/ Increase Capacity	\$400	8%	\$36.04	\$30.49	\$42.79	0.71	0.85
Renew Stations	\$210	22%	\$47.23	\$46.33	\$42.94	1.08	0.98
Expand Safe Access to Stations	\$135	23%	\$34.85	\$30.60	\$32.48	0.94	0.88
Design/Engineer to Relieve Crowding	\$200	28%	\$61.55	\$55.24	\$60.44	0.91	0.90
Total	\$3,500	32%	\$1,314.20	\$1,129.54	\$1,224.79	0.92	0.86

CPI – Cost Performance Index SPI – Schedule Performance Index

Track Program Drill Down

Project	Count
Number of Projects (>25% Spent)	16
CPI <0.9 or >1.1	7
SPI <0.9 or >1.1	4
Number of Risk Register Updates Performed in Previous Period	11
Number of Project Quality Reviews Performed in Previous Period	8

Project	Physical % Complete	CPI	SPI	Comments
C25 Interlocking Replacement	99%	1.13	0.99	Realized savings during construction
R65 Mainline Interlocking	98%	1.18	0.97	Realized savings during construction
A65/A75 Interlocking Replacement	93%	1.13	0.98	Realized savings during construction
Replace Direct Fixation Pads	81%	1.02	1.86	More than 1,800 pads installed since last report
Joint Elimination Systemwide	76%	1.23	1.11	Started construction early, with benefits from switch to in-house construction instead of contracted out
Frog Capital Maintenance	75%	1.22	1.10	Extended blanket hours increased production efficiency
Rail Reprofiling	65%	1.14	1.14	Benefitting from extended blanket hours due to COVID-19
Switch Replacement	45%	0.88	1.13	Benefitting from extended blanket hours due to COVID-19

Power Program Drill Down

Project	Count
Number of Projects (>25% Spent)	15
CPI <0.9 or >1.1	5
SPI <0.9 or >1.1	5
Number of Risk Register Updates Performed in Previous Period	3
Number of Project Quality Reviews Performed in Previous Period	12

Project	Physical % Complete	CPI	SPI	Comments
San Leandro and Transbay Tube East Substation Replacements	80%	0.86	0.80	Addressing unplanned required work.
M-Line 34.5 kV AC Cable Replacement	78%	0.94	1.25	Benefitted from extended blanket hours due to COVID-19.
CWS Bulk Supply Transformer	51%	0.88	0.92	Completed installation of one transformer. Second transformer installation delayed to address PSPS.
MPR Install & Rectifier Rehab	45%	1.07	0.82	Self-performing with shared resources reducing cost and impacting schedule. No impact to program.
34.5kV Blocking Scheme Systemwide	32%	0.62	0.32	Transitioned to self-performed work to reduce cost and recover schedule. No impact to program.
Stations Emergency Lighting	28%	0.89	0.66	Addressing differing site conditions. No impact to program.
Substation for Core Capacity	27%	0.61	1.00	Addressing differing site conditions. No impact to program.

Tunnels & Structures Program Drill Down

Project	Count
Number of Projects (>25% Spent)	23
CPI <0.9 or >1.1	1
SPI <0.9 or >1.1	6
Number of Risk Register Updates Performed in Previous Period	5
Number of Project Quality Reviews Performed in Previous Period	39

Project	Physical % Complete	CPI	SPI	Comments
Safety Barriers Phase 3	87%	1.02	0.87	Closeout delayed to address contractor lawsuit no impact to program
Water Intrusion at A - Line	86%	1.06	0.86	Delayed to complete hazardous materials assessment
Water Intrusion at C&R Lines	86%	1.04	0.86	Delayed to complete hazardous materials assessment
Cross Passage Doors & Hardware	68%	1.09	0.86	Address scope change
Wayside Regulatory Signage	41%	1.13	0.42	Strategic resequencing of work. No impact to program
Renew Catwalks	26%	1.01	0.89	Delayed to address material quality

Mechanical Program Drill Down

Project		Count
Number of Projects (>25% Spent)		22
CPI <0.9 or >1.1		1
SPI <0.9 or >1.1		0
Number of Risk Register Updates Performed in Previous Period		2
Number of Project Quality Reviews Performed in Previous Period		3

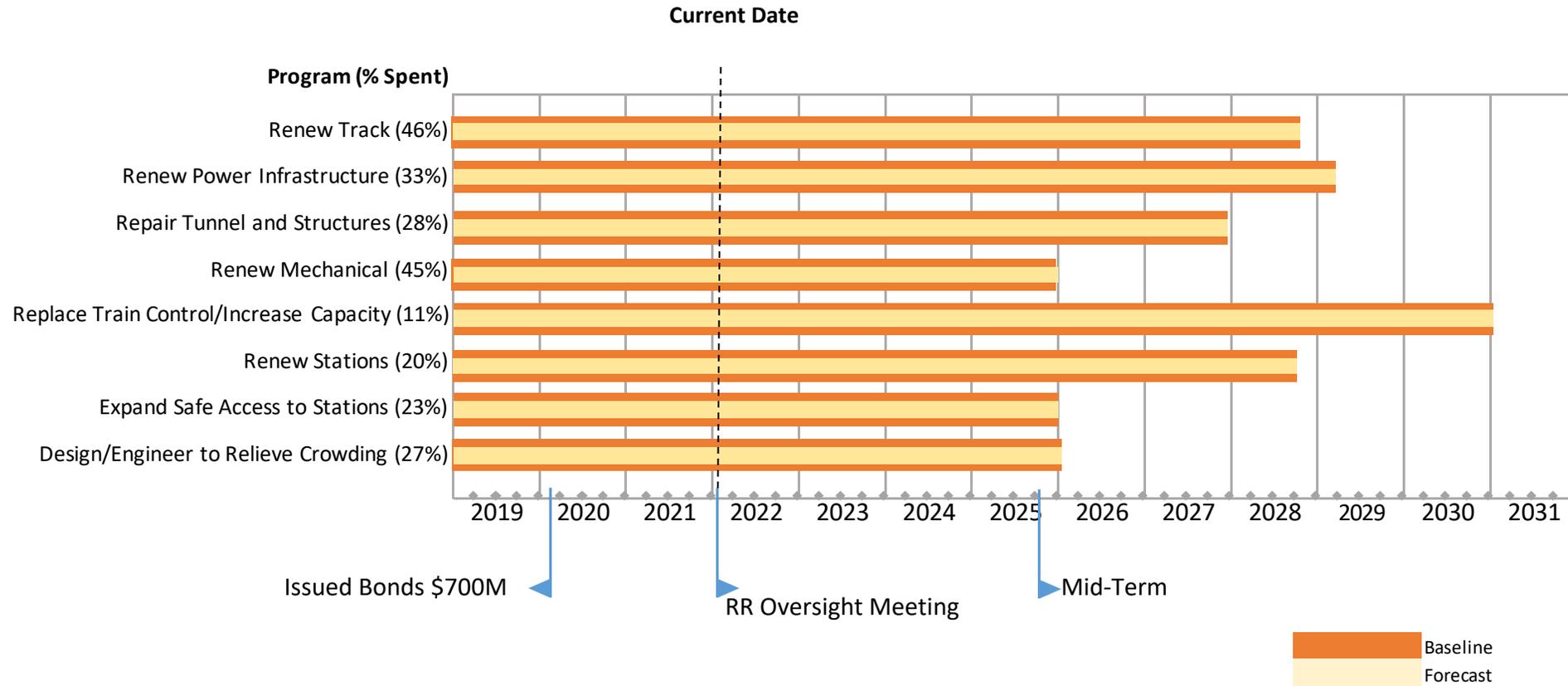
Project	Physical % Complete	CPI	SPI	Comments
Replace Fire Hoses and Piping	98%	1.27	1.01	Self-performed to improve efficiency. Benefitted from reassignment of labor resources due to COVID-19 response.

Relieve Crowding Program Drill Down

Project		Count
Number of Projects (>25% Spent)		5
CPI <0.9 or >1.1		0
SPI <0.9 or >1.1		1
Number of Risk Register Updates Performed in Previous Period		6
Number of Project Quality Reviews Performed in Previous Period		3

Project	Physical % Complete	CPI	SPI	Comments
Civic Center Scissor Stairs	63%	0.93	0.63	Delayed by delivery of damaged material.

Program Level Schedule Update



Next Steps

- Begin Construction of South Hayward A77 Interlocking Replacement
- Demolition and Site Preparation for Installation of New Traction Power Substation at Montgomery Station
- Progressing with Construction of S.F. Market St. Canopies and Escalators Replacement Projects
- March 2022 Bond Oversight Meeting

Thank you!



Measure RR Program Organization

- RR program Quarterly Reporting Team
- RR Program/Project Delivery
- Organizational Support of RR Program

(I) - Interim

