

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

**NOTICE OF SPECIAL MEETING AND AGENDA**  
**BOND OVERSIGHT COMMITTEE**

Tuesday, July 16, 2019  
9:00 a.m. – 11:00 a.m.

COMMITTEE MEMBERS: Marian Breitbart, Michael Day, Leah Edwards, Daren Gee, Michael McGill, Catherine Newman, John Post

A Special Meeting of the Bond Oversight Committee will be held on Tuesday, July 16, 2019, at 9:00 a.m. The Meeting will be held in Conference Room 2200, 300 Lakeside Drive, 22<sup>nd</sup> Floor, Oakland, California.

**AGENDA**

1. Call to Order
  - A. Roll Call
2. Introduction of Committee Members and BART Staff
3. Public Comment on Item 4 Only
4. Annual Report Adoption (For Discussion/Action)
5. Public Comment on Item 6 Only
6. Brown Act Communication Rules Refresher (For Discussion)
7. Adjournment

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

BART provides 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.



MEASURE RR BOND  
OVERSIGHT COMMITTEE  
**ANNUAL REPORT**

JUNE 2019



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Dear Bay Area residents:

Thank you for your interest in the on-going efforts to rebuild BART. Voters in Alameda, Contra Costa, and San Francisco counties put their trust in BART when they approved Measure RR in November 2016. That measure authorizes BART to issue \$3.5 billion in bonds to fund critical infrastructure projects necessary to rebuild the transit system, so it can be reliable for the public for decades to come.

This annual report is meant to update you on how that money is being spent and the progress being made in rebuilding BART. As the chairperson of the Bond Oversight Committee, I encourage you to read this report and keep updated on the progress of the long-term projects being funded by Measure RR. The committee includes members with extensive experience in finance, engineering, and project management. It's our job as a committee to ensure that Measure RR funds are being spent in an appropriate manner.

I hope you'll join us at one of the committee's public meetings and offer us your thoughts. Our meetings are open to the public and are listed on our website at [www.bart.gov/about/bod/advisory/bond](http://www.bart.gov/about/bod/advisory/bond). We will continue to publish annual reports throughout the lifetime of RR.

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](http://www.bart.gov)

**JOHN POST**, Project Management Seat (Vice Chairperson)

**MARIAN BREITBART**, Budgeting & Financial Management Seat

**MICHAEL DAY**, Accounting Seat

**DAREN GEE**, Civil Engineering Seat

**CATHERINE NEWMAN**, League of Women Voters Seat

**LEAH EDWARDS**, League of Women Voters Seat

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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.

## EXECUTIVE SUMMARY

In January 2017, BART initiated the Measure RR program, acting on [the public's vote](#) to invest \$3.5 billion to rebuild its infrastructure. Through March 2019, \$218.3 million or 6% of Measure RR funds have been invested in projects to improve system safety, increase reliability, and relieve traffic congestion. To ensure the public's money is protected and spent wisely, the Bond Oversight Committee regularly evaluates the program and reports to the public. The committee believes the current pace of spending shows that BART is meeting bond expenditure requirements and the scope of work completed is ahead of projections. This report provides a comprehensive update on the status of Measure RR as it begins its third year of implementation. Included in the report are details describing how the \$3.5 billion Measure RR program contributes to BART's overall reinvestment needs. A summary of investments and status reports for each of the program categories is provided.

As BART continues planning and design work on more than 50 projects, an additional 32 projects are either under construction or complete. These projects include the rebuilding and replacing of tracks, upgrades to the traction power and electrical systems, critical safety improvements to tunnels, aerial structures, and facilities, upgrades to the mechanical systems supporting the train yards and maintenance facilities, station upgrades to improve safety, reliability, and passenger access, and system modifications to relieve crowding. These improvements to BART's infrastructure reduce safety risks and improve the passenger experience.

The Bond Oversight Committee's task is to provide consistent oversight of RR spending to ensure projects are cost-effective, meet quality standards, and are completed in a timely manner. For more details about Measure RR projects and how they will improve system safety, increase reliability, and relieve congestion, please visit the Better BART website ([www.bart.gov/betterbart](http://www.bart.gov/betterbart)).

## ABOUT THE BOND OVERSIGHT COMMITTEE

The Bond Oversight Committee (BOC) is comprised of seven members who represent a diversity of expertise, geography, and demographic characteristics. Measure RR required BART to establish this independent committee to verify that bond revenues are being spent as promised. Members serve two-year terms and are eligible to serve up to six years total. They are appointed by the BART Board of Directors as follows:

- 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 (IEEE), 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 construction project management.
- The League of Women Voters, Bay Area, or its successor organization or chapter is represented by two members.

The duties and responsibilities of the BOC are to:

- Provide diligent, independent, and public oversight over the expenditure of funds from the sale of District general obligation bonds.
- Assess how bond proceeds are spent 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 interests of BART riders and District residents.
- Publish an annual report that includes a detailed account of the committee's activities including its expenditures.

The full text of the duties and responsibilities of the BOC are found in Section 11 of the resolution that established the BOC, available in full at [www.bart.gov](http://www.bart.gov).

All members of the BOC were reappointed to the panel by the BART Board in April of 2019. The terms of all committee members expire June 30, 2021.



Back row, left to right: Daren Gee, John Post, Michael Day, Michael R. McGill; front row, left to right: Marian Breitbart, Catherine Newman, Leah Edwards

# MEETING OUR MANDATE

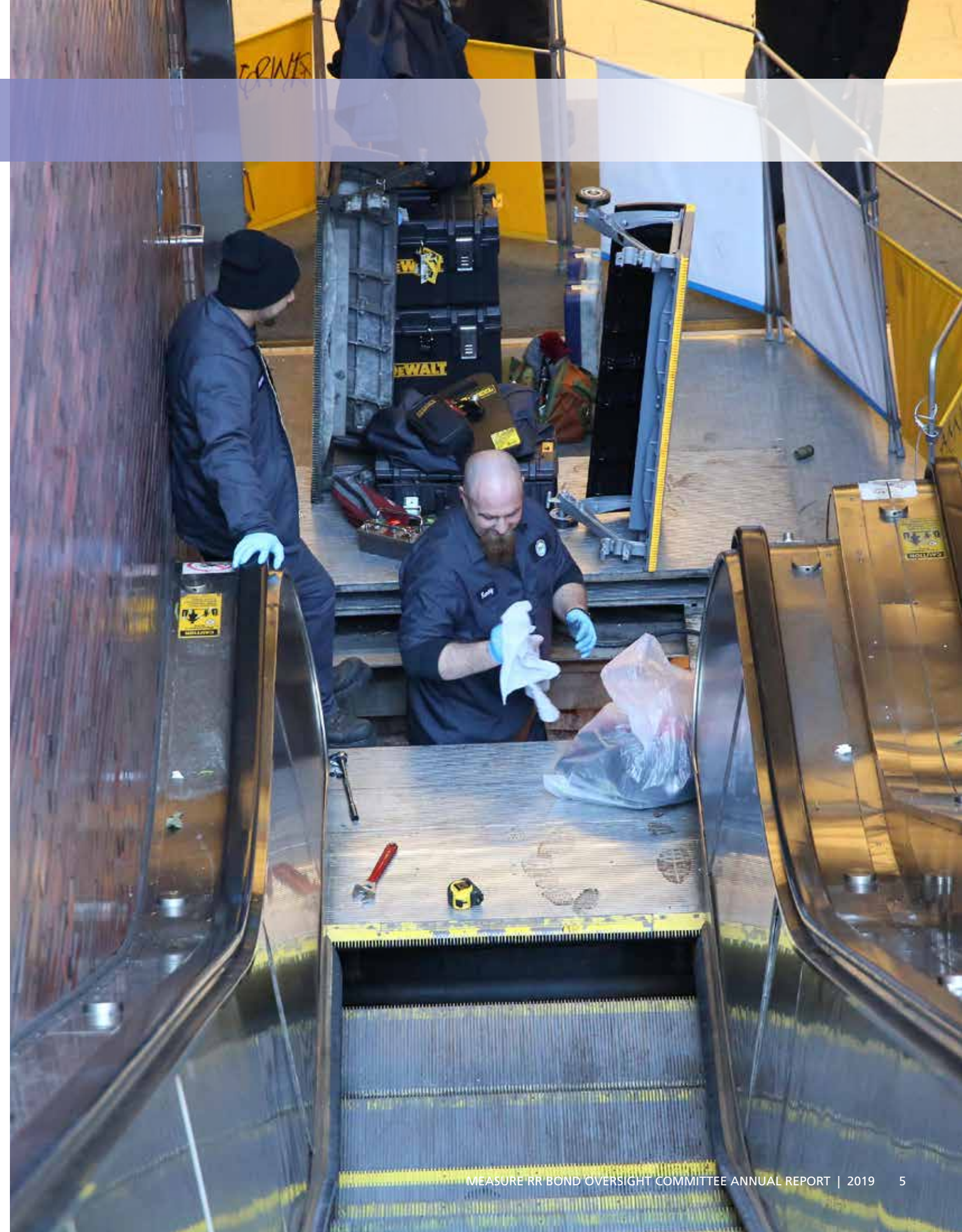
**SPENDING LEGALLY:** This committee must ensure that all Measure RR bond funds are expended towards the improvement of real property. This responsibility is in alignment with the California Constitution. RR funds can be legally spent to support project expenses in the following categories: preventing accidents, breakdowns, and delays; relieving overcrowding; reducing traffic congestion and pollution; improving earthquake safety; improving access for seniors and disabled persons; and replacing worn tracks, damaged tunnels, old train control systems, and other deteriorating infrastructure.

**MONITORING IMPACTS:** The committee is responsible for keeping the public informed about construction work that impacts travel on BART. The following details past, current, and future impacts:

- In calendar 2018, there were five weekends of scheduled interruptions for track replacement construction between Concord and Pleasant Hill stations and 19th St. and West Oakland stations. To mitigate service impacts, a bus bridge was implemented to move passengers between these stations.
- On February 11, 2019, BART moved the start of its weekday service one hour later (from 4 am to 5 am) to provide construction crews time to seismically retrofit the Transbay Tube. To accommodate the approximately 2,900 daily riders impacted by the schedule change, the Early Bird Express bus service has been implemented to connect passengers to downtown Oakland and San Francisco.
- BART trains are currently running on a single track on select Sundays in the San Francisco subway while construction crews upgrade critical power cables and lighting. The single tracking results in 10-minute delays to service.
- Additional track replacement construction happened between the Concord and Pleasant Hill/Contra Costa Centre stations. This work impacted four weekends between April and June of 2019. A bus bridge was implemented during these track shutdowns to move riders between the two impacted stations.
- Track replacement construction work will occur between Lafayette and Walnut Creek stations. This work will impact six weekends between July and October of 2019. A bus bridge will be implemented during these shutdowns.

**ENSURING QUALITY AND SUSTAINABILITY:** The Committee is charged with ensuring projects are progressing in accordance with the District's quality and sustainability standards. Measure RR programs are committed to advancing sustainability. One example is the Tunnel Lighting program that replaces old fluorescent lighting with more energy efficient LEDs. In addition to energy savings, the LEDs have a life expectancy that is more than six years longer than fluorescent lighting, resulting in a reduced waste stream and elimination of hazardous waste associated with fluorescents. Employee safety is also improved due to increased lighting on the tunnel walkways and reduced maintenance requirements associated with replacing expended lights.

**OVERSEEING PROJECT REPORTING STANDARDS:** BART utilizes program and project reporting that is aligned with industry standard project lifecycle framework. The current framework is decentralized and every project goes through multilevel approval gates including compliance and financial reviews. Projects are also reviewed quarterly by next-level management for deviations in scope, budget, or schedule. The BART team is committed to continuous improvement and is developing a customized RR reporting framework. This approach will enhance the team's ability to provide clear evidence of predetermined measurement of progress as well as the actual progress performance.



# THE STORY OF MEASURE RR:

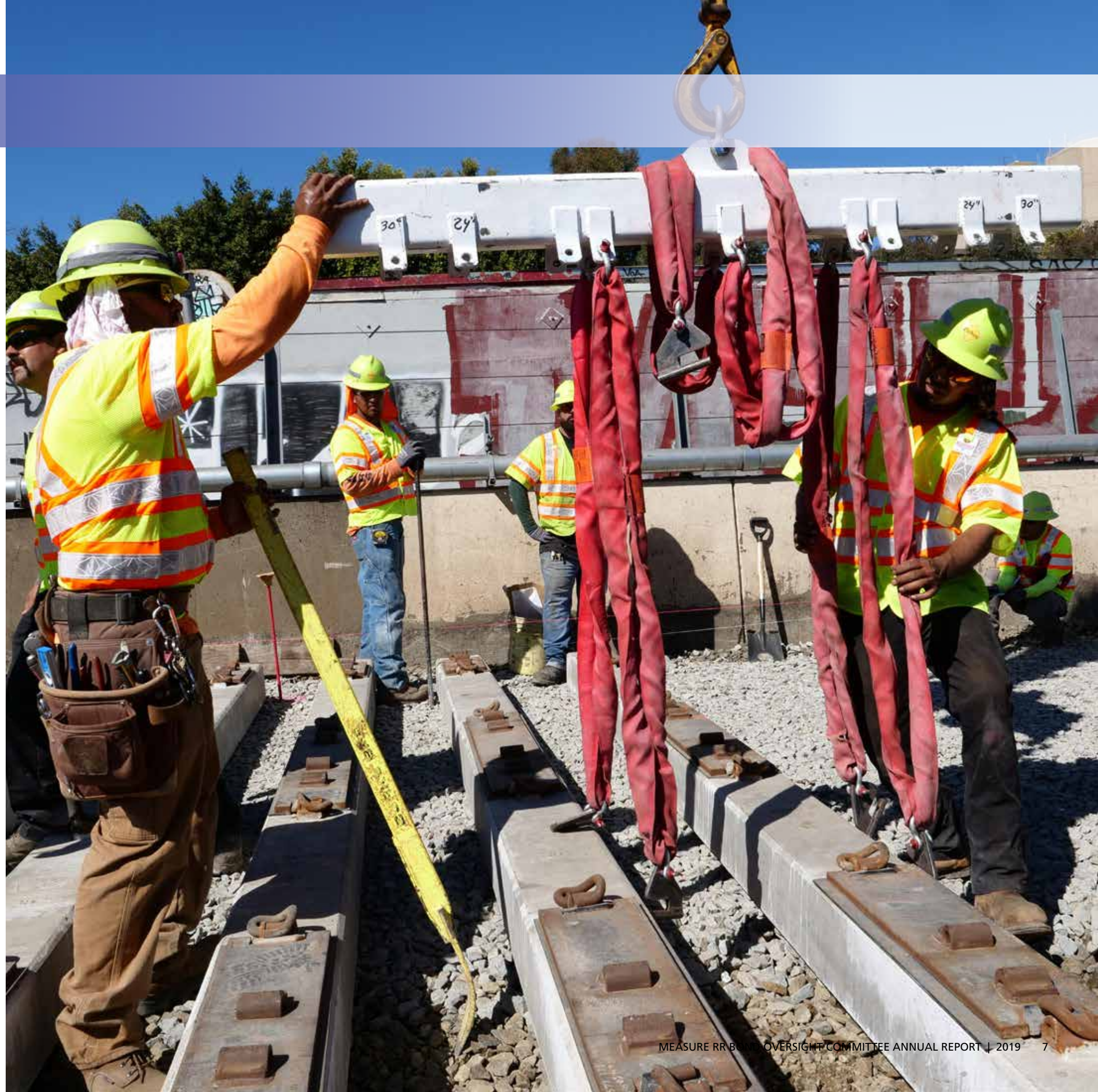
Measure RR traces its origin back to more than 315 community meetings BART held with local stakeholders and civic groups. Those meetings before the 2016 vote focused on explaining BART's critical infrastructure needs. BART faced a challenge: much of the system needed to be rebuilt but there wasn't enough money to get the job done. BART estimated that if action wasn't taken nearly half of the system's assets (including train control systems, tracks, and power cables) would be at the end of their useful life within only ten years.

In response to this information, the elected BART Board of Directors voted unanimously to put a \$3.5 billion general obligation bond on the November 2016 ballot.

The public responded to the call for action, with nearly 70% of voters in the BART District (Alameda, Contra Costa, and San Francisco counties) approving Measure RR.

The bond is devoted solely to rebuilding BART's infrastructure without any earmarks, pet projects, or frills. Many of the infrastructure components now being addressed by Measure RR date back to the start of BART service in 1972. The measure also includes important checks and balances to ensure the public's money is protected and spent wisely. This Bond Oversight Committee examines spending and reports to the public.

Complete details of what is in the bond and how it relates to safety, reliability, and relief of traffic congestion can be found at the Measure RR website, [bart.gov/betterbart](http://bart.gov/betterbart).



 **Leslie Forman**  
@leslieforman

Follow

Nice job @SFBART! way to keep everyone moving during construction. Bus bridge from West Oakland to 19th St. was super quick and the next train to Dublin/PLS was right there. Thank you for making visbly good use of bond \$\$\$.

7:13 PM - 4 AUG 2018

 **Mitchell Handler**  
@mitchellhandler

Follow

So glad Bay Area voters passed measure RR and RM3 to support @SFBART to prevent maintenance issues from becoming this bad

5:09 PM - 25 JUNE 2018

# GREEN BONDS

BART is poised to issue the second tranche of bonds for Measure RR to ensure continued timely financing for infrastructure projects. BART will issue \$360 million in certified climate-friendly green bonds in the summer of 2019.

When BART issued its first bond tranche for RR in the amount of \$300 million in June 2017 it became one of the first municipal bond issuers in the nation to provide priority status to investors who focus on lending to projects with environmental, social, and governance (ESG) characteristics. But BART wasn't satisfied to simply label its bonds "green." Instead, BART obtained a bond certification through the Climate Bonds Initiative's Low Carbon Transport Standard. That made BART the first transit agency on the West Coast to earn such a certification.

"Issuing certified green bonds not only fits with our long-term sustainability goals but it has allowed us to broaden our investor base," said BART's Controller-Treasurer Rose Poblete. "Our green bonds proved to be especially popular with individual investors in the Bay Area," said Poblete. The starting threshold for investing in Measure RR bonds is \$5,000.

During a negotiated bond sale, investors are invited to place orders for their desired amount of bonds being offered. Often, issuers like BART will set different priority levels for different types of investors. Most commonly, an issuer may give priority in certain maturities to retail investors to ensure the bonds are not purchased solely by large institutional investors.

As part of the initial bond sale in 2017, BART offered certain maturities with a preference for retail investors residing in the three counties of the BART District. Those investors provided 64% of the more than 450 orders totaling \$378 million during the retail order period. The following day, BART sold the remaining maturities to institutional and retail investors who prioritize an ESG focus. This innovation in the municipal bond market enhanced the visibility of BART's deal with ESG funds as well as with related non-ESG funds. Ultimately, bonds purchased by one ESG investor received preference over the \$1.3 billion in institutional orders, and the resulting true interest cost was 140 basis points below BART's 2016 projections, saving taxpayers millions of dollars.

Issuing green bonds is consistent with BART's long-term commitment to sustainability. In 2010 the U.S. Transportation Department named BART as the nation's cleanest major transit system in its class, emitting fewer pounds of CO2 per passenger mile than any other similar-sized system.

**“A LOT OF HARD WORK HAS ALLOWED US TO MAKE PROGRESS ON THE BACKLOG OF STATE-OF-GOOD REPAIR NEEDS AT BART. THERE ARE MANY CHALLENGES AHEAD, BUT MEASURE RR-FUNDED PROJECTS WILL ALLOW US TO REBUILD THE BACKBONE OF BART AND PROVIDE A MORE RELIABLE SYSTEM FOR DECADES TO COME.”**

Grace Crunican, BART General Manager

## REINVESTMENT REVITALIZATION

Measure RR is allowing BART to take on critical infrastructure projects that have a direct impact on the travel experience of riders. The second year of RR-funded work has included progress on a variety of projects that range from improving the reliability of the power supplied to trains to lowering the volume of the infamous BART screech.

### Here are just some of the latest Measure RR activity highlights:

- Replaced 27 miles of track to improve overall reliability.
- Replaced six miles of planned 100 miles of 34.5 kV electrical cable system.
- \$96.5 million contract awarded to replace more than 40 aging escalators in downtown San Francisco.
- Began study of a second Transbay Rail Crossing that would aim to double BART's transbay capacity.

- Commenced work on Systemwide Coverboard Replacement and Systemwide Contact Rail Replacement programs.
- Completed platform edge rehabilitation work on both platforms at MacArthur Station and the platform at Rockridge Station.
- Construction underway on El Cerrito del Norte - Ohlone Greenway and Intermodal improvements as well as West Side Pedestrian Bridge at Warm Springs/South Fremont Station.
- Received bidder proposals to upgrade the current train control system.
- Committed \$111.8 million in funding to small businesses since Measure RR inception.

These accomplishments are just the beginning. This report will give you a look into each of the major Measure RR-funded projects planned through FY20. The work is happening across the BART system and demonstrates the agency's commitment to rebuilding and reinvestment.



## SMALL BUSINESS OUTREACH

BART has made it a priority to reach out to small businesses in the Bay Area to encourage them to compete for work on Measure RR projects. BART has set up an equity program through its Office of Civil Rights to ensure that primary contractors don't discriminate when subcontracting out work. BART has a program that provides bid preferences for qualified small businesses. This includes certified minority-owned, woman-owned, locally-owned, and LGBT-owned companies.

To promote opportunities to bid on RR projects, BART has held 67 meetings across the BART system including 16 through March of this year. Those outreach efforts are paying off as 366 RR-related contracts have been granted to small businesses. That translates to \$111.8 million in RR commitments to small businesses that are helping to rebuild BART. Small businesses account for 34% of all RR commitments. Those companies are involved in all facets of rebuilding work including renewing track and power infrastructure as well as renewing stations and repairing tunnels.

One of the small businesses that's earned a contract to do RR work is McKee and Company Electric of San Francisco. "We're really excited to be able to work with BART, to grow our business, and to keep jobs in the local community," said company CEO Steve McKee. His 14-man shop was recently awarded part of a contract to replace emergency lighting in BART tunnels underneath San Francisco.

McKee and Company will replace old fluorescent lights that are 50 feet apart with new, much brighter LED lights that are only 25 feet apart. "My kids take public transportation," he said. "We want to keep the system safe. There's also an element of pride to be able to tell them Dad is going to be working on a job for BART."



**“We’re really excited to be able to work with BART, to grow our business, and to keep jobs in the local community.”**

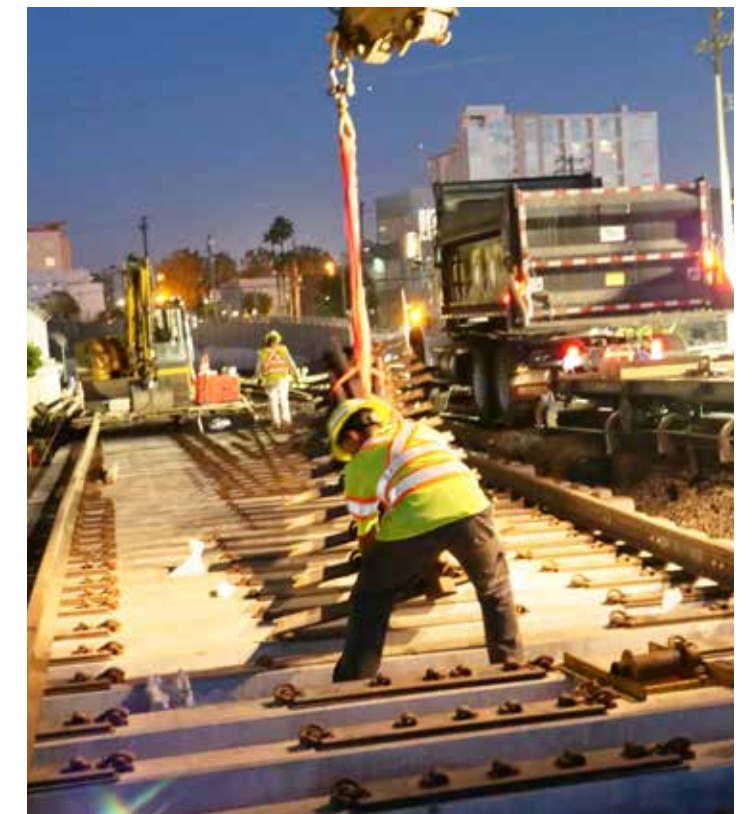
Steve McKee, CEO  
McKee and Company Electric of San Francisco

## PUTTING PEOPLE TO WORK

The nearly three dozen RR-funded projects that have either been completed or are under construction would not be possible without the efforts of hardworking employees and contractors. RR has allowed BART to create hundreds of positions, providing a boost to local hiring and the region's economy. Over the last 12 months RR has been used to create more than 400 full-time jobs. Additionally, more than 200 consulting positions and 200 contractor openings have been created through RR funding. These employees and contractors are now working on RR projects across the Bay Area.

The workers take a great deal of pride in their efforts, knowing the impact of these rebuilding projects will last for decades. "It is very surprising that this train system is over 40 years old. It's still here and it's still working but it's not working the way it should be," said track foreworker Jaime Ramirez. He was part of the team that rebuilt the trackway between the Pleasant Hill/Contra Costa Centre and Concord stations. "Once it's all rebuilt, once it's all redone it will last another 40-50 years," said Ramirez.

"We are rebuilding and remodifying and repairing our core system so that it lasts," said Herb Holland, a Section Manager of Track Maintenance who was part of the team that rebuilt the trackway between the 19th Street and West Oakland stations. Holland says the work he was a part of will result in rides that are safer, smoother, and more reliable.





# INVESTMENT SUMMARY

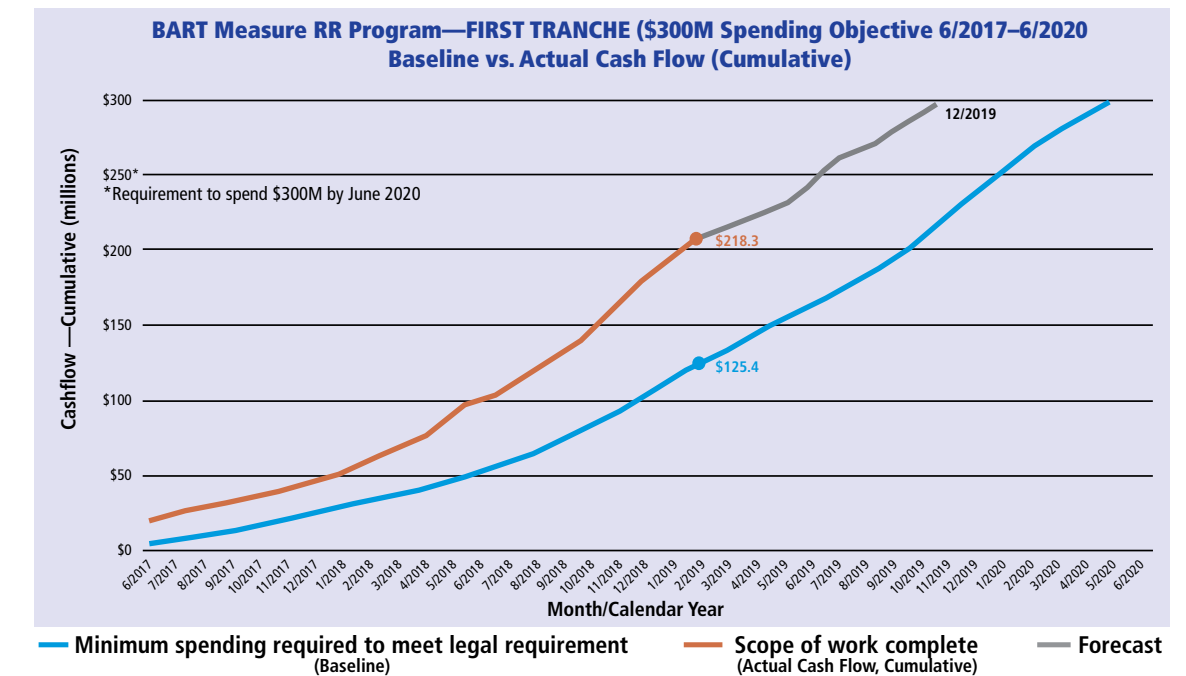
This is only the second fiscal year for Measure RR but even at this early stage projects are getting underway across the BART system. Much of the early investments from RR have been devoted to engineering. As that planning and design work moves forward, more projects will enter the construction phase. The chart below provides an overview of the overall investment plan for RR.

Summary of Total RR Bond Investments	Investment Amount in Millions	% of Total Bond	Benefits		
			Safety	Reliability	Crowding +Traffic Relief
<b>REPAIR AND REPLACE CRITICAL SAFETY INFRASTRUCTURE</b>	<b>\$3,165</b>	<b>90%</b>	✓	✓	✓
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%	✓	✓	✓
Replace train control and other major system infrastructure to increase peak period capacity	\$400	12%	✓	✓	✓
<b>RELIEVE CROWDING, REDUCE TRAFFIC CONGESTION AND EXPAND OPPORTUNITIES TO SAFELY ACCESS STATIONS</b>	<b>\$335</b>	<b>10%</b>	✓	✓	✓
Design and engineer future projects to relieve crowding, increase system redundancy and reduce traffic congestion	\$200	6%		✓	✓
Expand opportunities to safely access stations	\$135	4%	✓	✓	✓
<b>TOTAL</b>	<b>\$3,500</b>	<b>100%</b>			

# EXCEEDING BOND REQUIREMENTS

Money for Measure RR is raised from property taxes assessed in Alameda, Contra Costa, and San Francisco counties. Those counties make up the BART District and are three of the five counties served by BART. The money from those property taxes allows BART to issue bonds that work like a bank loan. Investors loan money to BART so it can invest in rebuilding the system. BART must then pay the investors back with interest on the amount borrowed.

IRS rules require that at the time of issuance the BART District needs to have a reasonable expectation that 85% of the bond proceeds, including interest earnings on the proceeds, will be spent within three years. BART has progressed on RR projects at a pace that exceeds this requirement, which reflects on the District's success in delivering RR-funded work in a timely manner.



RR Program Overview of 1st Tranche Expenditures (\$ Millions)	1st Tranche Spending Objective (Through June 2020)	Expended (Through March 2019)	% Expended Out of 1st Tranche	Purchase Orders To Date Yet To Be Invoiced	Forecast Expenditures Through June 2020
Renew track	\$93.2	\$87.0	93%	\$30.0	\$136
Renew power infrastructure	\$120.6	\$84.4	70%	\$52.0	\$182
Repair tunnels and structures	\$22.5	\$19.1	85%	\$4.8	\$57
Renew mechanical	\$7.5	\$6.3	85%	\$4.8	\$21
Renew stations	\$9.1	\$3.3	36%	\$8.4	\$15
Replace train control/increase capacity	\$19.8	\$6.2	31%	\$7.1	\$21
Design/engineer to relieve crowding	\$12.5	\$5.9	47%	\$10.0	\$22
Expand safe access to stations	\$14.8	\$6.1	41%	\$5.7	\$20
<b>TOTAL</b>	<b>\$300</b>	<b>\$218.3</b>	<b>73%</b>	<b>\$122.8</b>	<b>\$474</b>

# MAJOR PROJECTS FUNDED BY MEASURE RR

**\$625**  
Million

**18%**  
of Bond

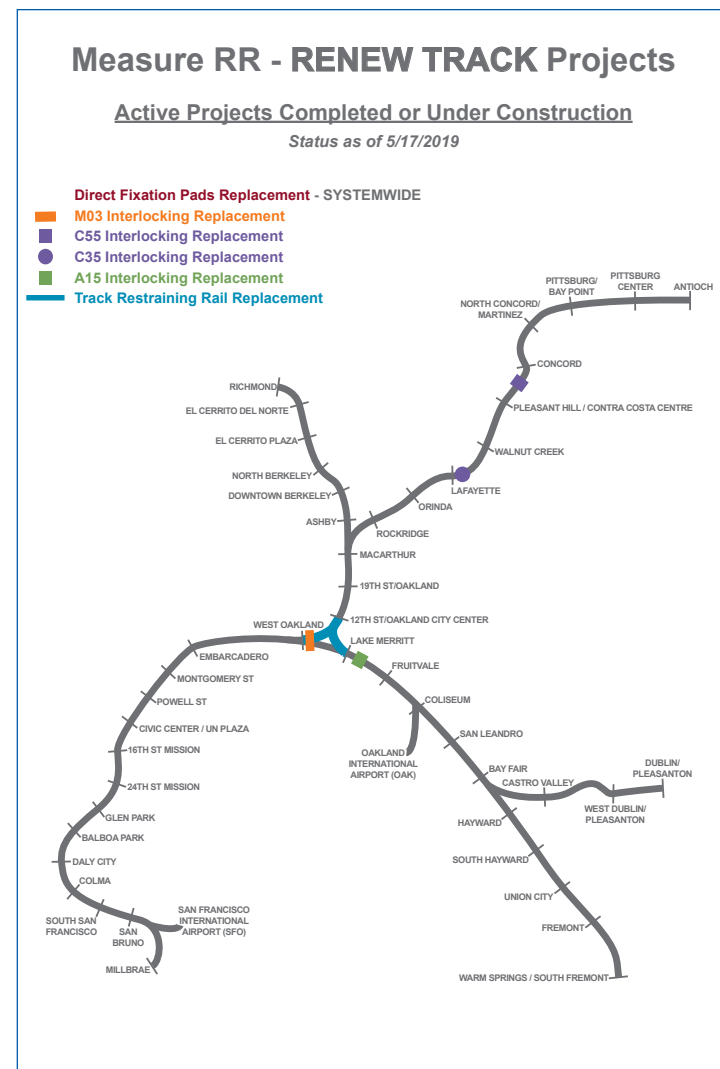


## Renew Track

Through March of this year BART has replaced 27 miles of a planned 90 miles of track systemwide. Recently, aging track equipment and worn rail have been replaced near the 12th Street and West Oakland stations in Alameda County as well as the Pleasant Hill/Contra Costa Centre and Concord stations in Contra Costa County. Work to replace rail interlockings at the Concord Yard and near Lafayette Station will begin later this year. This work is essential to improving the reliability of the BART system.

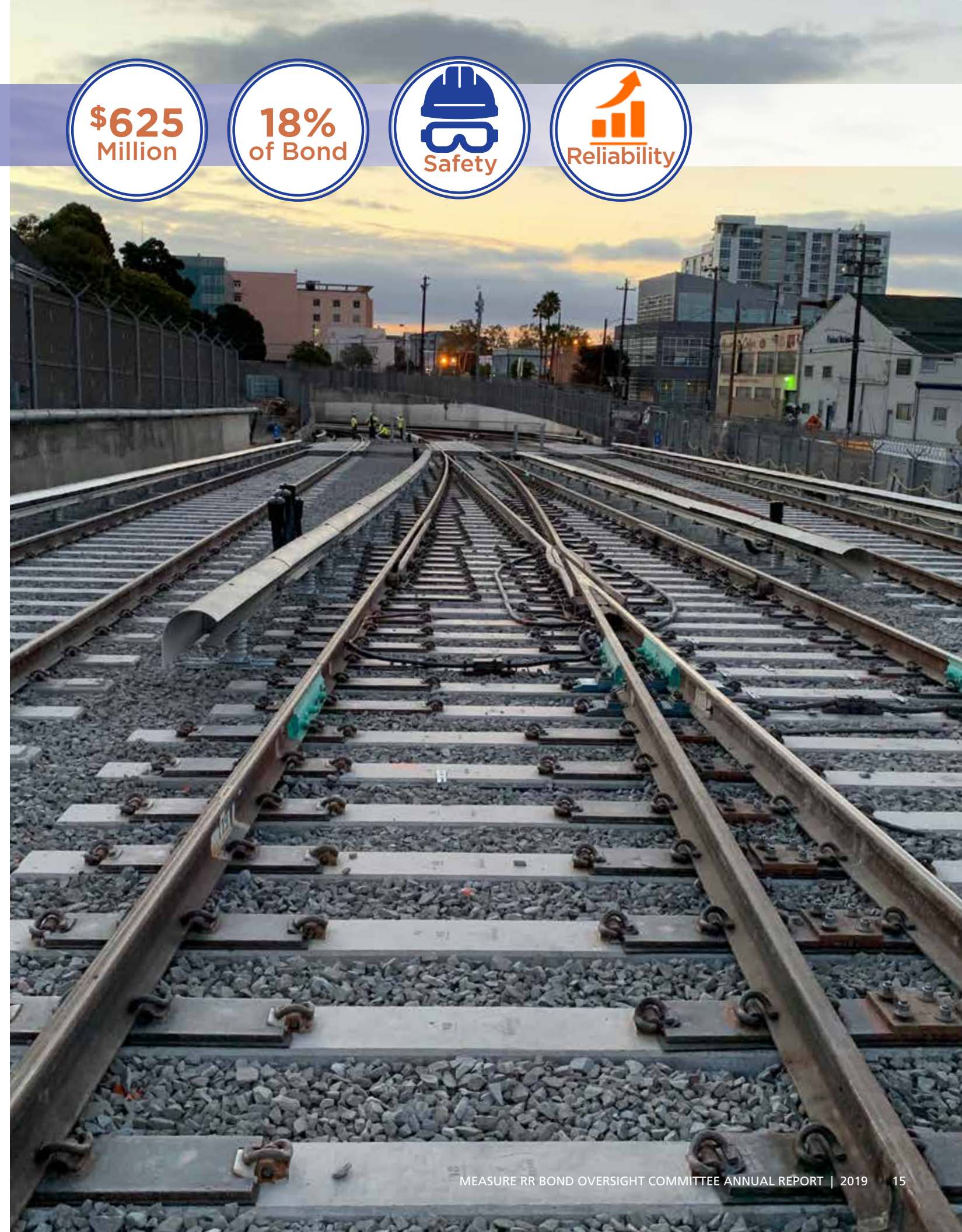
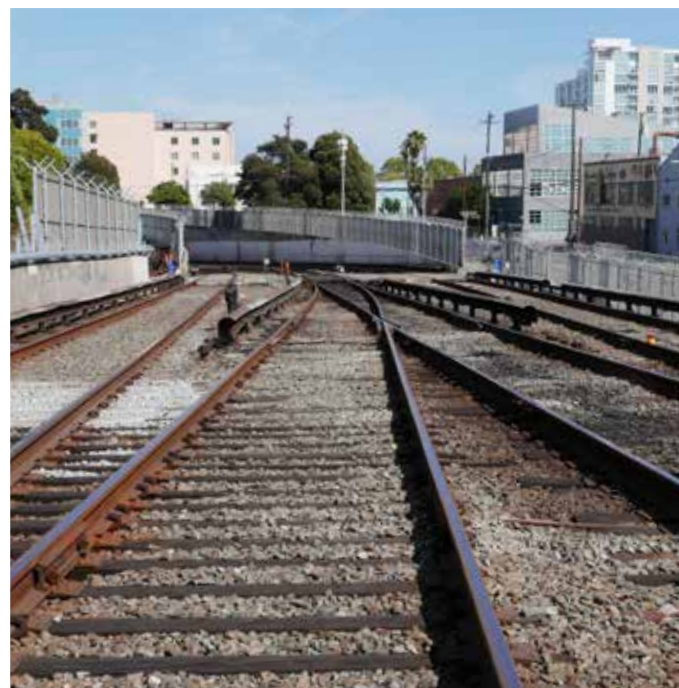
In addition to replacing worn rail, RR money has been used by BART to reprofile 111 miles of track to reduce noise. BART has adopted a quieter wheel design to make the most of the reprofiled rail. Testing has shown a drop of as many as 20 decibels in sound intensity.

\$87 million has been invested in RR track renewal projects through March 2019 with a total investment objective of \$93.2 million by June 2020.



## Before and after.

Below shows how West Oakland trackway looked before it was renovated through RR-funded work. To the right is how that same section of trackway looks after being completely rebuilt over four weekends. That weekend track work allowed BART to replace rail, install new third rail and coverboards, replace wood ties, and more.



# MAJOR PROJECTS FUNDED BY MEASURE RR

**\$1,225 Million**

**35% of Bond**



## Renew Power Infrastructure

BART's traction power system relies on conduits, cables, and substations. The conduits house 34.5 kV cables that deliver power to the substations. BART has more than 60 power substations. All these systems work together so power can be properly stepped down and fed into the 1,000-volt electrified third rail. The third rail is what provides power to the train cars via conductive metal collector shoes that contact the third rail.

BART is renovating its power infrastructure to improve the reliability of electricity delivery to the trains and passenger stations. In addition to improving reliability, the power infrastructure upgrades will improve electrical efficiency, enabling BART to deliver on the vision of its sustainability goals.

As of the end of March 2019, there are two 34.5 kV electrical cable replacement projects in the construction phase and three that are in the design phase. Six miles of a planned 100 miles of 34.5 kV cable have also been replaced. These replacements have been completed between the

Washington Street and 19th Avenue substations in Oakland and between the 24th Street and Glen Park substations in San Francisco.

Construction this year will be focused on replacing the remaining 34.5 kV cable between the Balboa Park and Transbay Tube West substations in San Francisco and between the Transbay Tube East, Washington Street, and 23rd Street substations in Oakland. Construction to renew electrical systems will continue this year with the replacement of lighting in the San Francisco tunnel.

BART is also moving forward with plans to replace power substations. The substation replacement project is now underway at the San Leandro Station. Two new substations are being designed for installation in downtown San Francisco to support capacity expansion that will come with new train cars and implementation of a new train control system. These improvements will help BART reach its goal to increase peak capacity by 30% through the Transbay Tube.

\$84.4 million dollars has been invested in RR power-infrastructure projects through March 2019 with a total investment objective of \$120.6 million by June 2020.



Much of our cable replacement work is done during the overnight hours when BART isn't in service. The work shown here happened between the Lake Merritt and Fruitvale stations in Oakland.

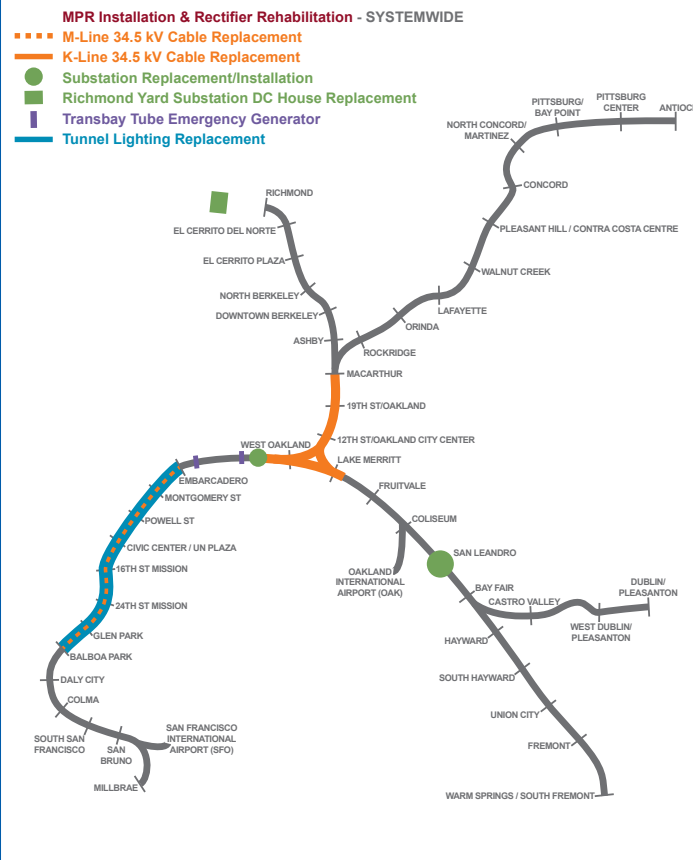


Heavy lifting at the San Leandro Station where workers removed two more than 40-year-old traction power transformers. The unit seen here weighs more than 20,000 pounds. San Leandro is the first station to get a new power substation funded by Measure RR. Those substations provide the power needed to keep BART trains moving.

### Measure RR - RENEW POWER Projects

#### Active Projects Completed or Under Construction

Status as of 5/17/2019



# MAJOR PROJECTS FUNDED BY MEASURE RR

**\$570**  
Million

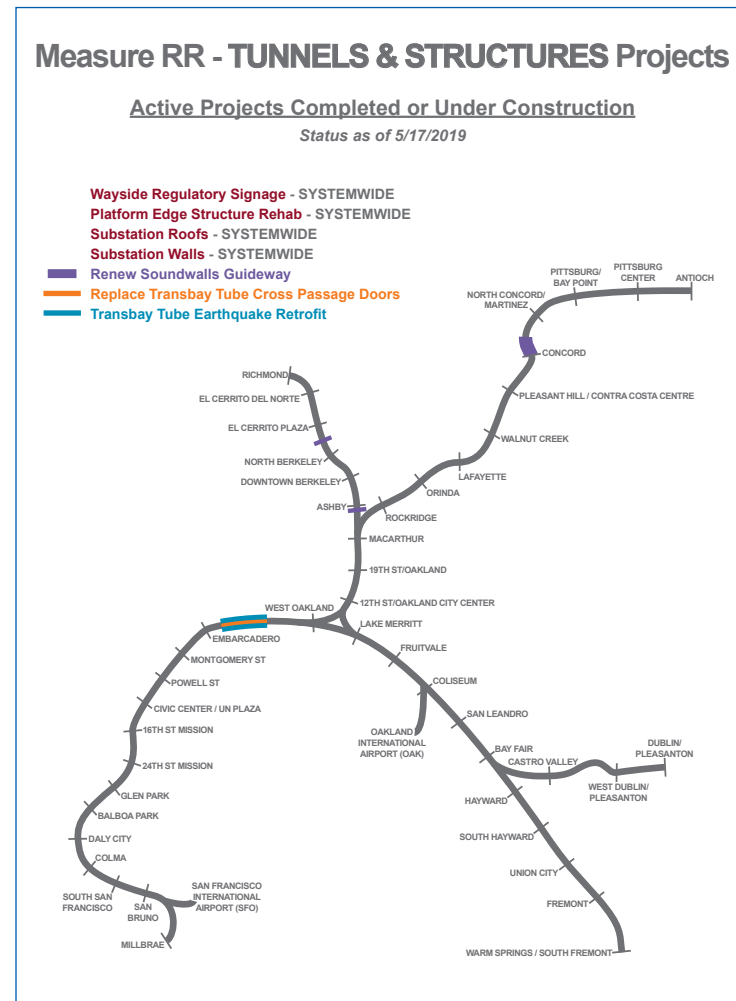
**16%**  
of Bond



## Repair Tunnels and Structures

Measure RR-funded work to repair tunnels and structures helps drive BART's mission to provide safe and reliable public transportation for the Bay Area. The highest priority for upgrades has been the Transbay Tube. The tube is structurally sound, but we are preparing for a rare earthquake defined as a 1,000-year event.

Significant work is already complete including installing flexible seismic joints and structural upgrades to portions of the tube. The next phase began in February of this year with a retrofit that will install an inner steel lining on key sections of the 3.6-mile-long tube. An upgraded pumping system will also be installed. To accommodate this work, BART moved the start of revenue service back an hour to 5 am and is requiring single tracking through the tube after 9 pm. Opening an hour later extends the available work window by at least 20% and gives crews across the system more wrench time to rebuild the system.



BART is also strengthening other key portions of the system:

- The Platform Edge Rehabilitation Project began in October 2018. Work has been completed on both platforms at MacArthur Station and the platform at Rockridge Station.
- The Substation Exterior Walls Rehabilitation Project started in November 2018. Work has been completed at the Portola Drive substation in El Cerrito as well as at the Richmond, South Hayward, and El Cerrito del Norte passenger stations.
- Renewal of sound walls construction north of Concord Station is complete and work on aerial structure approaches to both north and south transition structures of the Berkeley subway is wrapping up and will be completed in 2019.
- Work to replace safety barriers and to install aerial fall protection systemwide begins this year.

\$19.1 million has been invested in RR tunnel and structure repair projects through March 2019 with a total investment objective of \$22.5 million by June 2020.

A locomotive work train has been designed for the Transbay Tube retrofit. It includes three new RELCO clean diesel locomotives with 14 flat cars that are each configured for a specific task. It will travel through Lake Merritt and stop at West Oakland to pick up work crews before heading into the tube.



# MAJOR PROJECTS FUNDED BY MEASURE RR

**\$135**  
Million

**4%**  
of Bond

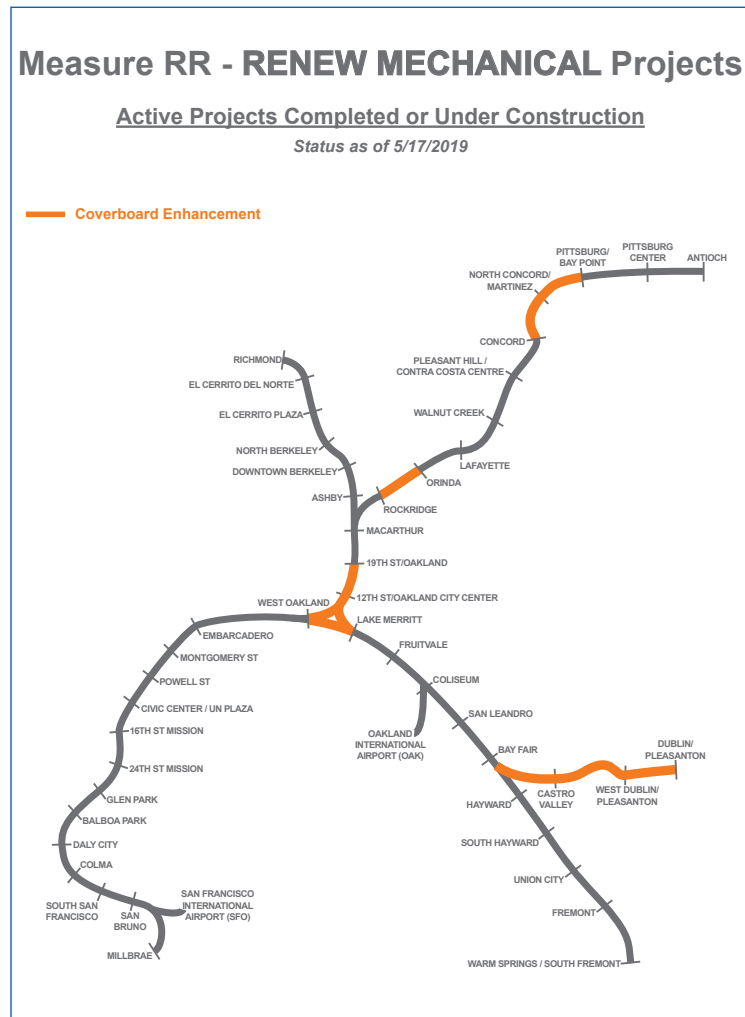


## Renew Mechanical Infrastructure

Some of the most critical pieces of equipment that keep people safe on BART are never seen by the public. Some examples include waste water collection facilities, fire services in the train maintenance yards, and HVAC systems. Many of these systems need to be improved to increase reliability and meet future performance standards.

The Coverboard Enhancement project on the Dublin/Pleasanton and Concord lines, and the Contact Rail Replacement project on the Fremont line both entered the construction phase this year. Also commencing this year is work to upgrade the fire services and dust collectors in BART's train yards.

\$6.3 million has been invested in RR mechanical infrastructure projects through March 2019 with a total investment objective of \$7.5 million by June 2020.



The Coverboard Enhancement project aims to upgrade and replace coverboards like the one shown above. Coverboards protect the electrified third rail, which provides power to all our trains.

# MAJOR PROJECTS FUNDED BY MEASURE RR

**\$210 Million**

**6% of Bond**

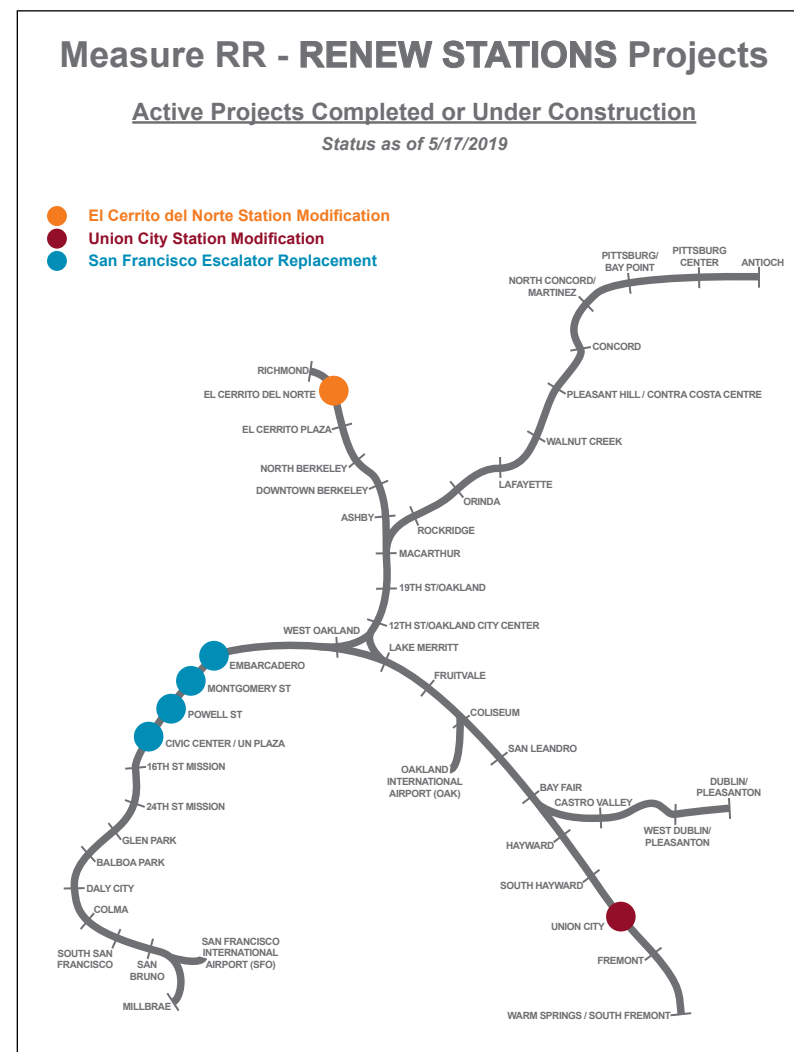


## Renew Stations

Three stations are undergoing major modernizations funded by \$210 million from Measure RR. El Cerrito, del Norte, Union City, and 19th Street are all being or will be renovated. \$3.3 million has been invested in RR station renewal projects through March 2019 with a total investment objective of \$9.1 million by June 2020.

RR paves the way for dozens of BART's most heavily-used escalators to be replaced. A \$96.5 million contract approved by the BART Board in March will target escalators that regularly malfunction in downtown San Francisco.

The Market Street Escalators Renovation Project will install and replace 41 escalators at Embarcadero, Montgomery, Powell, and Civic Center stations. Twenty-three of the escalators that will be replaced extend from the street to the concourse levels of the stations while 18 connect concourses with station platforms.



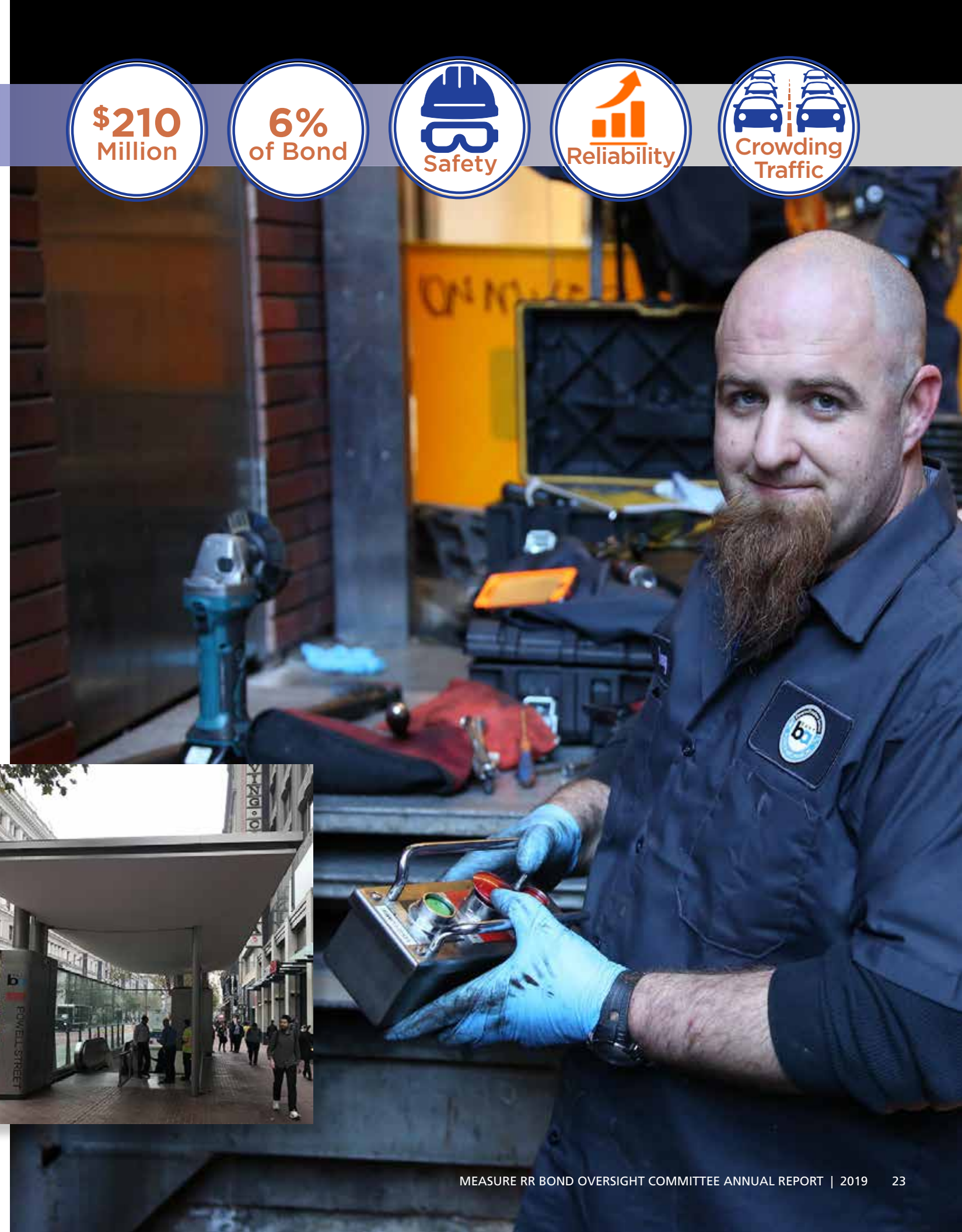
Many of the units being replaced are among the oldest in the entire BART system. Not only have those units outlived their useful lives but they've struggled with handling passenger loads at BART's busiest stations.

This work will enhance rider safety and escalator reliability. A key provision of the program requires the contractor to maintain a reliability rate of at least 96% for the new escalators during the life of the contract.

### Canopies are Coming

A key step in protecting the new escalators that are coming to downtown San Francisco will be the installation of 22 canopies. The canopies will be installed above the street level entrances at Embarcadero, Montgomery, Powell, and Civic Center stations. The program is partially funded through voter-approved Measure RR bond money.

Each canopy includes a real-time digital display that shows train arrival times, a retractable gate, LED lighting, and security cameras. Two prototype canopies were built as a pilot project. The plan is to replace six escalators and six canopies each year, staggering the work among the downtown San Francisco stations so not all the units at any one station are out at the same time. Construction on the remaining 22 canopies is scheduled to be complete in 2026.



# MAJOR PROJECTS FUNDED BY MEASURE RR

## Train Control Modernization

Measure RR supports larger projects that will help BART to expand its overall capacity. One such project is the replacement of BART's outdated train control system. BART wants to implement a new Communications-Based Train Control system.

Such a system will improve reliability and allow BART to decrease the runtime of trains between stations by allowing trains to run closer together. This is a critical component of BART's plan to run all ten-car trains through the Transbay Tube during peak commute hours. A modernized train control system will enable BART to meet projected transbay demand of over 30,000 passengers per hour during the morning peak, compared to today's approximately 21,000 riders.

In March 2019, BART received bidder proposals to upgrade the current train control system, and they are currently in review. \$6.2 million in RR funding has been invested in train control modernization through March 2019 with a total investment objective of \$19.8 million by June 2020. BART is also pursuing funding for this project from the Federal Transit Administration's Capital Investment Grant Program and Transit and Intercity Rail Capital Program.



\$400 Million

12% of Bond



Safety



Reliability



Crowding Traffic

# MAJOR PROJECTS FUNDED BY MEASURE RR

**\$200**  
Million

**6%**  
of Bond

**Reliability**

**Crowding Traffic**

## Design and Engineer Projects to Relieve Crowding, Increase Redundancy and Reduce Traffic Congestion

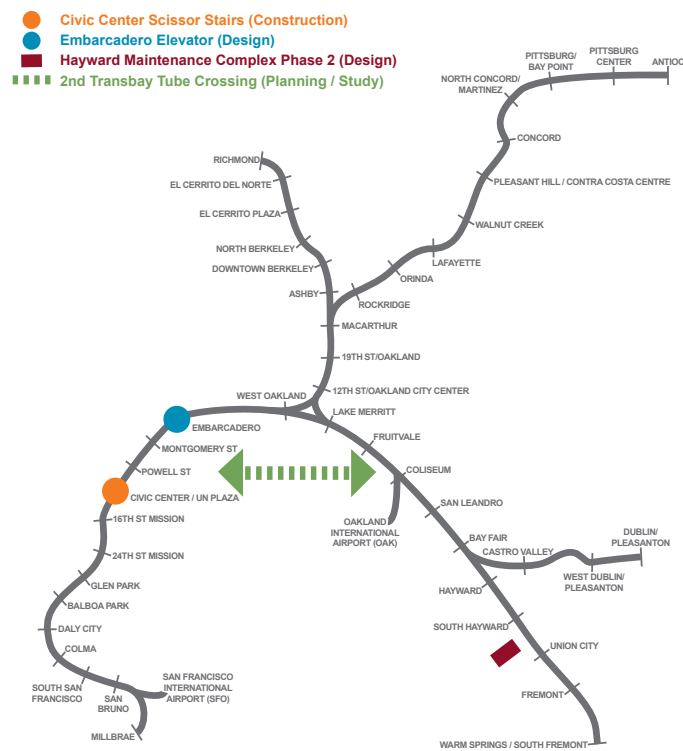
Confronting the Bay Area's commute challenges requires long-term planning. Measure RR provides \$200 million to advance ways BART can relieve crowding and create greater system redundancy to mitigate the impact of delays. One idea that has caught the attention of many riders is the possibility of a new transbay rail crossing. A large component of funding in this category is for the work necessary to establish the foundation for a second crossing. However, completion of the work on a new transbay crossing will require resources and assets outside of RR.

A new crossing could be shared by BART and its standard-gauge rail partners. Such a project could double BART's transbay capacity, reduce crowding during peak periods, make the system more flexible, and boost BART's resiliency in the face of natural disasters and other major disruptions. The project could have an impact on not just the Bay Area but the entire Northern California megaregion. A new rail crossing could create the possibility of a one-seat ride connecting Silicon Valley, the Peninsula, and San Francisco with Sacramento and the Central Valley.

### Measure RR - RELIEVE CROWDING Projects

#### Active Projects Under Construction, Design or Planning

Status as of 5/17/2019

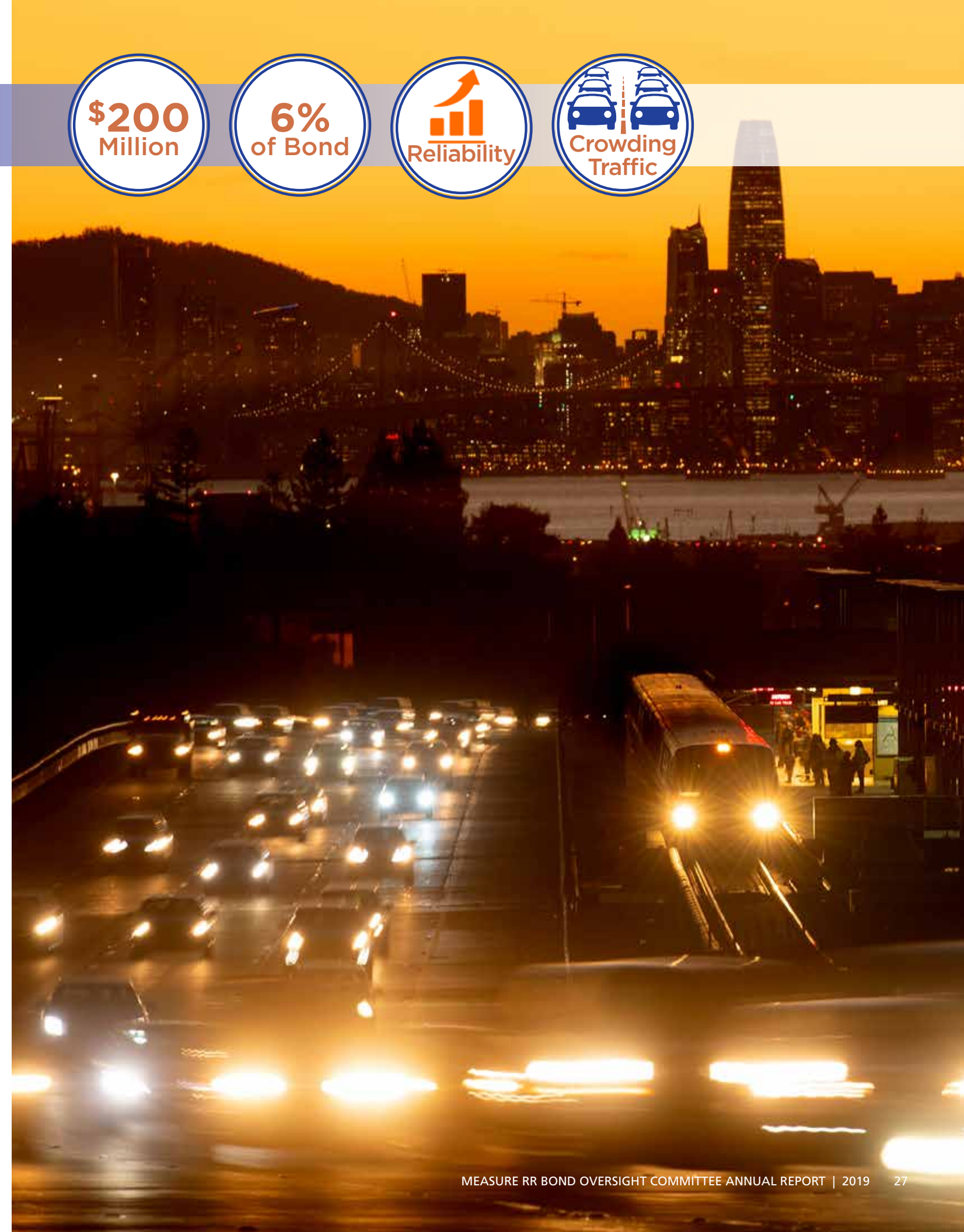


BART is working with Capitol Corridor on an early feasibility study of a new rail crossing. There are still many factors to consider including where a new crossing could be built and if it can include both standard-gauge rail and BART's wider-gauge tracks. Over the coming months, BART and its partners will work to further define and scope this project. The BART Board approved a consulting contract for strategic advising and program management in June of 2019.

Meanwhile, work is moving forward to expand the Hayward Maintenance Complex to house BART's growing fleet. Plans include construction of a 250-car storage yard along with associated infrastructure to operate a train yard. The project is expected to be completed in 2025.

Construction is also set to begin this year on the Civic Center Stairs Project.

\$5.9 million has been invested in RR crowding relief projects through March 2019 with a total investment objective of \$12.5 million by June 2020.





# MAJOR PROJECTS FUNDED BY MEASURE RR

\$135  
Million

4%  
of Bond

Safety

Reliability

Crowding Traffic

## Access Improvements

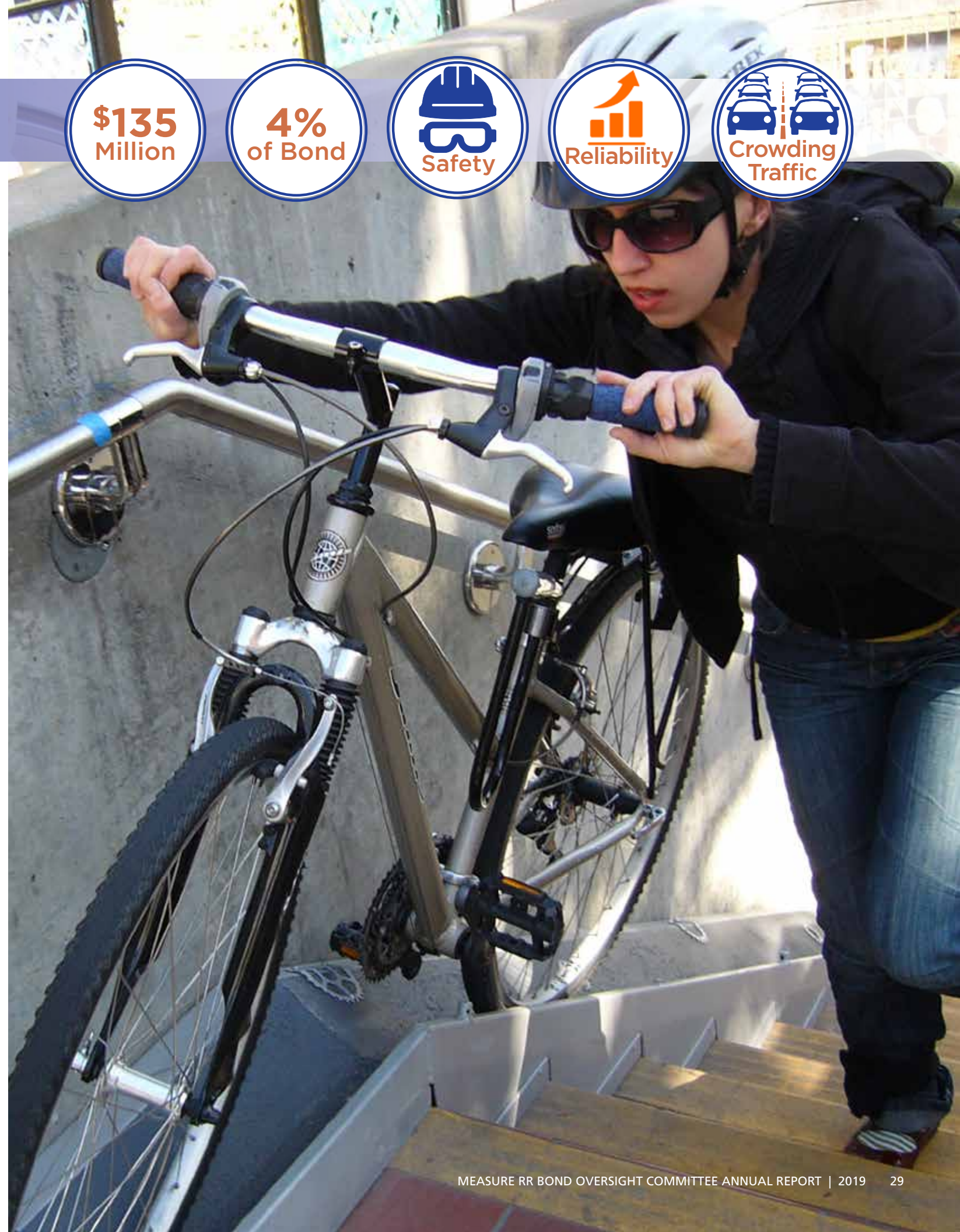
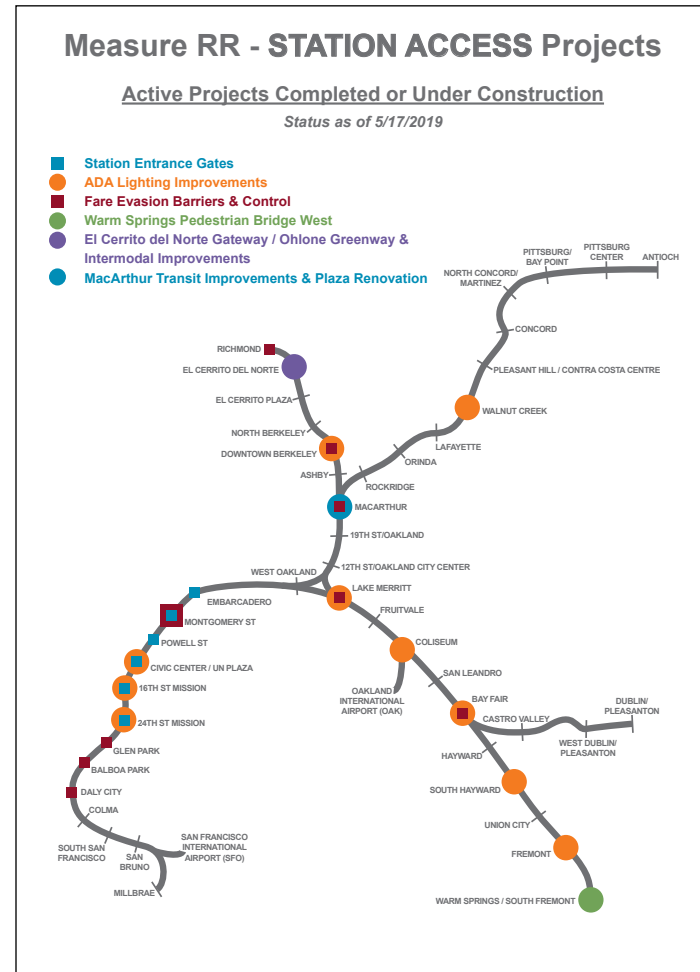
Consistent with the 2016 Station Access Policy adopted by the BART Board, \$135 million of Measure RR funds will support capital projects to expand opportunities to safely access BART stations, making it easier for all riders to use the system. BART will continue to leverage Measure RR with local and regional funding to expand the funding pot and to deliver more projects. These projects benefit people of all ages and mobility levels who walk, bike, take transit, get dropped off, or drive.

\$6.1 million has been invested in RR access improvement projects through March 2019 with a total investment objective of \$14.8 million by June 2020. Several projects are in construction including the El Cerrito del Norte - Ohlone Greenway and Intermodal improvements; West Side Pedestrian Bridge at Warm Springs; MacArthur Plaza/Bike Station; and the installation of LED elevator lights at 10 stations across the system.

BART is currently procuring improved bike stations at Embarcadero and Civic Center stations. Projects in the design phase include closing gaps in regional bike/ped trails at Dublin/Pleasanton and North Berkeley; adding new secure bike parking at five stations including 19th Street and Fremont; the installation of bicycle stair channels at seven stations including Lake Merritt and Walnut Creek; other active access improvements at several stations; shared mobility improvements at Balboa

Park and Pittsburg Bay Point; strategic parking expansion at Antioch; and multiple accessibility improvements systemwide including new curb ramps, beacons, hearing loops and several other elements to facilitate access to and through the system.

All told, around 22 access improvement projects are scheduled to get funding from Measure RR to make using BART safer, healthier, and greener.



# Committee Activities and Expenditures

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

- **September 21, 2018 - Regular Meeting**

BART staff provided committee members with an update on Measure RR spending indicating BART is spending down the first tranche of bond funds faster than anticipated and getting more work done at this stage than anticipated. Committee received a presentation on parliamentary procedures. Committee moved to close meeting and begin ethics training. Reporter from KCBS radio attended a portion of the meeting but no other members of the public attended.

- **December 21, 2018 - Regular Meeting**

Committee member John Post nominated Michael McGill to serve as chair of the committee. Committee unanimously approved McGill's appointment as chair and Post as vice chair. BART staff provided an update on the hiring of 309 positions and described outreach to small businesses. Staff provided presentation on earned value management for RR projects. Post asked for real data and offers to work with staff to describe the information the committee needs to see to determine if projects are on-time and on-budget. No members of the public attended.

- **March 15, 2019 - Regular Meeting**

Committee received an update from BART staff on search to find candidates to fill two vacancies on the committee. Committee received a presentation from BART staff on progress of RR-funded projects, which included a proposal to provide earned value rollups for those projects. BART staff provided the committee an update on work being done to draft this RR annual report. Committee was told goal is to publish the annual report by the end of June. Committee discussed possibility of a field trip to RR-funded project sites and need to make such visits accessible to the public. One member of the public attended and spoke about the annual RR report.

**Expenditures: As of this report, the committee has spent \$6,085 in FY19.**

You are welcome to give public input on this committee's activities. The meetings are open to the public and will be listed on the BART website at [www.bart.gov/about/bod/meetings/2019](http://www.bart.gov/about/bod/meetings/2019). The committee will also be publishing an annual report each year to inform the public of BART's progress and activities. You can sign up for email notices of BART News, which will include major milestones in Measure RR work at [www.bart.gov/alerts](http://www.bart.gov/alerts).

**The public can view meeting minutes at [www.bart.gov/bondoversight](http://www.bart.gov/bondoversight).**

