



San Francisco Bay Area Rapid Transit District

Billions Are Needed to Repair and Replace
Infrastructure, Yet Availability of Funding Is Uncertain

Report 2013-118

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April 28, 2015

2013-118

The Governor of California
President pro Tempore of the Senate
Speaker of the Assembly
State Capitol
Sacramento, California 95814

Dear Governor and Legislative Leaders:

As requested by the Joint Legislative Audit Committee, the California State Auditor presents this audit report concerning the San Francisco Bay Area Rapid Transit District's (BART) financial projections and workers compensation practices.

This report concludes that over the next 10 years BART will need billions in reinvestment to repair and replace its infrastructure and other assets, but that its capital funding outlook is uncertain. BART has identified over \$9.6 billion in capital reinvestment projects, the majority of which is unfunded. Included in its capital improvement program are three large capital projects to replace and expand its fleet of railcars, expand its vehicle maintenance facility, and replace its train control system. While BART has identified a mix of funding from federal, state, and local sources for the new railcar project it will need to commit roughly \$468.5 million of its own money to fully fund the 775-car project's \$2.5 billion budget. Furthermore, all three of these projects face funding shortfalls in some years during the life of each project. In addition to these three capital projects, which it expects to cost \$4 billion, it has identified over \$5.6 billion in capital projects needed to repair or replace infrastructure that is in poor or very poor condition and to maintain a state of good repair and expand the system.

Although we found BART's focus on its future capital expenditure needs to be reasonable, its current funding commitments and internal financial resources are insufficient to meet those needs. To begin addressing this issue, the BART board of directors (board) held workshops in January 2015 to discuss several funding options, which include, among other funding opportunities, ballot measures to issue general obligation bonds. The board has yet to decide on an appropriate mechanism to finance BART's capital needs.

Separate from BART's capital needs, its past financial projections for its operating budget between fiscal years 2007-08 through 2012-13 proved to be accurate. BART management demonstrated a reasonable track record of developing projections that generally fell within 5 percent of actual performance, indicating that its projection methodology yielded valid results. Moreover, our impression is that BART's projections for fiscal years 2015-16 through 2018-19 appear to be reasonably plausible, although financial forecasts are by nature imprecise estimates. In addition, we noted that audits conducted by the Department of Industrial Relations and BART's internal audit staff did not find any significant issues with BART's workers' compensation practices and their use of a third-party administrator. Finally, we found that violence against BART employees did not continuously increase between fiscal years 2009-10 and 2013-14.

Respectfully submitted,



ELAINE M. HOWLE, CPA
State Auditor

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Summary

Results in Brief

The San Francisco Bay Area Rapid Transit District (BART)—the fifth largest heavy-rail transit system in the United States, with a weekday average of 400,000 users—faces uncertainty regarding how it plans to pay for all \$9.6 billion in capital improvement and reinvestment projects it has identified. Further, BART’s fiscal situation leaves little room for additional revenue allocations from its operating budget to address these underfunded capital projects, requiring it to seek funding through bonds, tax increases, or other means.

BART is currently engaged in three large capital projects (referred to as the *Big Three* within BART) to replace and expand its fleet of railcars, expand its vehicle maintenance facility, and replace its train control system. BART is also in the planning stages of identifying its capital needs to repair or replace other infrastructure beyond its Big Three projects. The need for BART to make significant investments in its infrastructure is not surprising given, for example, that 439 of BART’s 669 railcars have been in service since the district opened in 1972. Our review of the depreciation schedules shows that the current fleet of railcars will reach the end of their useful lives by 2026. According to BART’s assistant general operations manager, it first attempted to replace its fleet of railcars in 2004, but stopped due to a lack of funding. Similarly, BART has been trying to replace its train control system since 1994, but its first attempt went awry because of technological and vendor-acquisition issues that ultimately resulted in litigation and a settlement with the vendor in December 2010.

Although our audit found that BART’s focus on its future capital expenditure needs appears reasonable, BART faces uncertainty regarding how it will pay for anticipated capital spending. For example, although it anticipates receiving sufficient funding from a mix of federal, state, local, and internal revenue sources for 775 new railcars and an expanded maintenance facility, BART still faces potential cash-flow shortfalls in some years in which the projects’ expenses are forecasted to exceed the revenues designated for these projects. BART also has yet to secure all of the necessary funding for the train control system project.

In addition to its Big Three capital projects currently planned, which it expects to cost \$4 billion, BART has identified over \$5.6 billion in capital projects needed to repair or replace infrastructure that is in poor or very poor condition and to maintain a state of good repair and expand the system. This need touches on all aspects of BART’s infrastructure, including tracks,

Audit Highlights . . .

Our review of the San Francisco Bay Area Rapid Transit District’s (BART) revenues, expenditures, and workers’ compensation practices highlighted the following:

- » *BART has identified \$9.6 billion in capital improvement and reinvestment projects, but its capital funding outlook is uncertain.*
- » *BART faces cash-flow shortfalls for some significant capital projects.*
- » *BART is considering options for additional capital funding, which may include bond measures, tax increases, or fare increases.*
- » *Past financial projections for its operating budget proved accurate and its current projections appear to be reasonably plausible.*
- » *BART’s workers’ compensation practices and their use of a third-party administrator are adequate.*
- » *Violence against BART employees did not continuously increase between fiscal years 2009–10 and 2013–14.*

stations, and power systems. In response to federal requirements, BART began implementing a capital asset management program in fiscal year 2012–13. Although this process is still evolving, BART is working toward fully implementing this program, which identifies and prioritizes capital projects based on risk.

BART's ability to meet its operating and capital expenditure needs is constrained by operating budget deficits that are projected beginning in fiscal year 2015–16. These operating budget deficits are projected to grow from \$5.9 million in fiscal year 2015–16 to \$57.3 million in fiscal year 2017–18. As a result, BART will not be able to rely on its operating budget to pay for its capital needs. Instead, it is considering several options to close the capital funding shortfall, including placing revenue measures on the 2016 or 2018 ballot for general obligation bonds or sales tax increases.

To determine the accuracy of its projected revenues and expenditures, we compared BART's operating projections from fiscal years 2007–08 through 2012–13 to its actual financial performance. BART management demonstrated a reasonable track record of developing projections that generally fell within 5 percent of actual performance, indicating that its projection methodology yielded valid results. We also reviewed significant components and the key assumptions underlying BART's financial forecasts for fiscal years 2015–16 through 2018–19. For these forecasts, BART used a similar projection methodology, which employed modest growth assumptions, generally between 3 percent and 5 percent. Although financial forecasts are by nature imprecise, our impression is that BART's projections for fiscal years 2015–16 through 2018–19 appear plausible.

Agency Comments

BART is aware that it needs to develop a plan to fund its significant capital projects and, as our report acknowledges, it is evaluating how best to secure the additional funding. We met with BART's executive management in mid-March 2015 to discuss our report's conclusions. We also provided BART with a copy of our draft report in early April 2015. BART's management provided limited oral comments that were technical in nature. We considered BART's comments when preparing this public report.

Introduction

Background

The San Francisco Bay Area Rapid Transit District (BART) was created by the California Legislature in 1957. Construction of its rail system began in 1964, and BART opened its doors to the public in 1972. According to BART, it is the fifth largest heavy-rail transit system in the United States, with a weekday average of more than 400,000 riders. BART infrastructure includes 104 miles of total track, with 44 transit stations spread over 21 cities. BART operates and maintains a wide variety of capital-intensive assets and physical infrastructure throughout the San Francisco Bay Area, such as railcars, tracks, stations, and maintenance facilities. It estimates that the replacement value of its infrastructure is \$21 billion. According to BART's *Short Range Transit Plan and Capital Improvement Program*, dated October 2014, most of this infrastructure is over 40 years old and is at, or close to, the end of its useful life. In fact, BART staff estimate that \$6.5 billion of BART's infrastructure is now in poor or very poor condition. BART is planning major investments over the next 10 years that will add capacity and expand the system while also improving its existing infrastructure.

Organizational Structure

BART is governed by a nine-member, publicly elected board of directors (board) representing voters in Alameda, Contra Costa, and San Francisco counties. San Mateo County is served by six BART stations but is not represented by a member of the BART board. BART's general manager, general counsel, controller/treasurer, and district secretary are board-appointed officers and report directly to the board.

BART's activities relating to transit construction, funding, and planning also fall under the authority of the Metropolitan Transportation Commission (MTC), the agency responsible for transportation planning, coordinating, and financing for the nine-county San Francisco Bay Area. This entity monitors transit operators' budgets, conducts performance audits, and ensures that the region's numerous bus, rail, and ferry systems are in sync in terms of their routes, fares, transfer policies, schedules, passenger information, and facilities. The MTC also reviews any application for federal or state grant money submitted by local transit agencies, such as BART, to ensure that the application is consistent with the region's transportation plan.

BART has five collective bargaining agreements with labor unions, covering over 85 percent of its workforce. The remainder of BART's staff are not represented by a union. BART also employs its own police force to provide safety for riders and reduce crime. As of fiscal year 2014-15, BART employed more than 3,000 people.

Budget

BART relies on financial assistance from local governments and other external entities to help fund its operations and pay for capital projects. Between fiscal years 2009-10 and 2012-13, as the San Francisco Bay Area's economy recovered from the recession, BART's revenues from fares and other operating sources increased as a proportion of its total revenue sources. However, as shown in the fiscal year 2012-13 income statement in Table 1, BART still relied on sales tax revenue and other forms of financial assistance to help pay for its operating expenses.

Table 1
San Francisco Bay Area Rapid Transit District Income Statement
Fiscal Year 2012-13

FISCAL YEAR 2012-13 INCOME STATEMENT	INCOME (IN MILLIONS)
Operating revenue (i.e., fares and parking revenue)	\$443.3
Net operating expenses	(712.5)
Net Operating Loss	(269.2)
Nonoperating revenue* and other expenses (net)	245.8
Change in Net Position Before Contributions	(23.4)
Financial assistance for capital projects [†]	419.9
Change in net position[‡]	\$396.5

Source: San Francisco Bay Area Rapid Transit District's (BART) financial statements, fiscal year 2012-13.

* Nonoperating revenue includes sales tax and property tax revenue, and other financial assistance revenues provided by state and local entities to support ongoing operations.

[†] Financial assistance consists of funding received from federal, state, and local agencies to fund capital projects outside of the operating budget.

[‡] Change in net position reflects the change in BART's assets over its liabilities from the prior fiscal year. In fiscal year 2012-13, BART's total net position was \$5.78 billion, an increase of \$396.5 million (shown in the table above) from the prior year's total of \$5.39 billion.

BART also relies on external contributions from federal, state, and local governments to fund a significant amount of its planned capital expenditures. For example, BART is relying on roughly \$2.4 billion in funding from MTC to help pay for its new railcars and a train control system. The funding provided by the MTC will come from a variety of sources including federal, state, and potentially local funds.

Scope and Methodology

The Joint Legislative Audit Committee (audit committee) directed the California State Auditor to perform an audit of BART's revenues, expenditures, and workers' compensation practices. Table 2 outlines the audit committee's objectives and our methods for addressing them.

Table 2
Audit Objectives and the Methods Used to Address Them

	AUDIT OBJECTIVE	METHOD
1	Review and evaluate the laws, rules, and regulations significant to the audit objectives.	Reviewed relevant laws, regulations, and other background materials. We also reviewed the collective bargaining agreements (agreements) between the San Francisco Bay Area Rapid Transit District (BART) and its unions.
2	Review and assess annual financial statements for the most recent four fiscal years. In addition, identify salaries by employee classification.	We obtained BART audited financial statements for fiscal years 2008–09 through 2012–13 and identified the significant sources of revenues and expenses. Further, we examined the classifications of a selection of 40 BART employees between fiscal years 2009–10 through 2012–13. Our results showed that all 40 selected employees were paid appropriately according to their job classifications.
3	Review revenues and expenditures over the most recent four fiscal years to determine whether they were reasonable and allowable.	We selected 40 operating transactions from fiscal years 2009–10 through 2012–13. We determined that each of the expense transactions we reviewed were reasonably justified and often resulted from competitive procurements. Further, we noted that BART management and accounting staff approved payment.
4	Review and assess projected revenues and expenditures for the next four fiscal years, including an assessment of the projected costs and funding sources for capital equipment replacement.	<ul style="list-style-type: none"> • Obtained BART's projections of revenue and expenditures for fiscal years 2007–08 through 2012–13 and compared projected amounts to actual performance. • Obtained BART's projections of revenue and expenditures for fiscal years 2015–16 through 2018–19 and determined how BART models future revenues and expenditures, we then applied auditor judgment to assess the reasonableness of BART's projections as discussed further in the body of our audit report. • Reviewed and assessed BART's plans and estimated costs for its three biggest capital projects. For each of the three projects, we evaluated the key inputs used to estimate costs. We also determined what key assumptions BART made in its expenditure projections and whether it had identified funding sources for each of these three projects.
5	For the time period beginning in 2009 through June 30, 2013, perform the following:	
	a. Determine for a selection of cases whether BART followed all applicable laws, rules, policies, and procedures related to workers' compensation practices.	<ul style="list-style-type: none"> • Reviewed the 2005 and 2010 audits by the Department of Industrial Relations' Division of Workers' Compensation (DWC) of BART's third-party workers' compensation administrator, Athens Administrators. We also reviewed the nature of any violations identified by DWC during its review of records pertaining to BART employees from its 2010 audit. • Determined what steps BART took to assess whether Athens Administrators was performing its job adequately. • Obtained the contract between BART and Athens Administrators to determine if there were any financial incentives for limiting workers' compensation payments. We found no such incentives in the contract.

AUDIT OBJECTIVE	METHOD
b. Review BART's workers' compensation practices to determine whether BART used contract employees in lieu of "ready to return to work" union employees. If so, determine whether this practice resulted in a cost savings to BART.	Selected 20 workers' compensation claims for each of the four fiscal years using the data obtained from Athens Administrators and determined whether the employees were given back their old position after being cleared to return to work by their treating physician using personnel records. We also determined whether the employee accepted a temporary modified assignment if cleared by their treating physician.
c. Review the number of reported batteries against BART employees to determine whether this number has increased and, if so, determine the impact this increase has had on workers' compensation claims.	<ul style="list-style-type: none"> • Reviewed data obtained from the administrator's claims database and BART's violence in the workplace database, and reports from the BART police department, to determine if assaults and batteries against BART employees were increasing. We also reviewed the data from the administrator to determine whether costs associated with assaults and batteries had increased during our audit period. • Interviewed BART staff responsible for the violence in the workplace database to determine how instances were entered into the system, whether the data are reviewed for accuracy, and whether they are used to track and monitor possible increases in the instances of violence against employees.
d. Determine what actions BART has taken or plans to take to reduce batteries against its employees.	Interviewed BART management to determine what steps it has taken to reduce instances of violence against its employees and whether it monitors and evaluates the success of its specific strategies. We also obtained documentation to support BART's programs and activities aimed at reducing instances of violence against employees.
e. Compare the ratio of management to labor employees at BART to those of rail systems with comparable daily ridership.	We compared the percentage of management relative to the total workforce at BART to other transit agencies with comparable average weekday ridership. We selected the Los Angeles County Metropolitan Transportation Authority (12 percent), the Washington Metro Area Transportation Authority (8 percent), and the Southeastern Pennsylvania Transportation Authority (19 percent) to compare to BART (13 percent). We found the number of managers at BART is generally consistent with these other transportation authorities.
6 Review and assess any other issues that are significant to the BART District.	We did not identify any other significant issues.

Sources: California State Auditor's analysis of Joint Legislative Audit Committee audit request number 2013-118, and information and documentation identified in the table column titled *Method*.

Assessment of Data Reliability

In performing this audit, we obtained electronic data files extracted from the information systems listed in Table 3. The U.S. Government Accountability Office, whose standards we are statutorily required to follow, requires us to assess the sufficiency and appropriateness of computer-processed information that we use to support findings, conclusions, or recommendations. Table 3 describes the analyses we conducted using data from these information systems, our methodology for testing them, and the limitations we identified in the data.

Table 3
Methods Used to Assess Data Reliability

INFORMATION SYSTEM	PURPOSE	METHOD AND RESULT	CONCLUSION
<p>San Francisco Bay Area Rapid Transit District (BART)</p> <p>Violence in the Workplace Program database</p> <p>BART's data related to specific instances of violence against BART employees from fiscal years 2008–09 through 2012–13</p>	<p>To determine the number of instances of assaults and batteries against BART employees.</p>	<p>For a random selection of 29 records of reported violence, we attempted to verify that key data elements match source documentation. However, we could not verify the accuracy of six of the 29 records we reviewed because source documentation was unavailable. In other instances, we noted that source documentation was available but was limited in a manner that prevented us from verifying certain key data fields. Therefore, we did not conduct completeness testing on these data.</p>	<p>Not sufficiently reliable for the purposes of the audit. As discussed in the Audit Results, we noted that this database shows a similar pattern to separate data maintained by Athens Administrators (BART's workers' compensation claims administrator), we do not present specific data from BART's Violence in the Workplace Program database in our report.</p>
<p>BART</p> <p>Peoplesoft System</p> <p>BART's personnel and payroll data from January 2009 through December 2013</p>	<p>To determine whether BART employees are being paid within their classifications.</p>	<p>We did not perform accuracy and completeness testing of the Peoplesoft System payroll data because the system is primarily paperless and sufficient hardcopy source documentation was not available for review. Alternatively, following U.S. Government Accountability Office guidelines, we could have reviewed the adequacy of selected system controls that include general and application controls. However, we did not conduct these reviews because this audit is a one-time review of a local transit system and we determined that it did not warrant the same level of resource investment as a state agency whose system produces data that may be used during numerous future audit engagements.</p>	<p>Undetermined reliability for the purposes of this audit.</p>
<p>BART</p> <p>Excel Spreadsheet Listing of Contracts</p> <p>BART's procurement data for public works construction contracts valued at over \$10,000 and all other contract types over \$100,000 from fiscal years 2009–10 to 2012–13</p>	<p>To make a selection of contracts for testing to determine whether BART documented its reasons for using contract labor instead of unionized employees.</p>	<p>We randomly selected 29 contracts and traced key data elements to source documentation and did not identify any issues. To assess the completeness of the data, we haphazardly selected 29 contracts and found that the spreadsheet lacked information for six of 29 contracts included in our completeness testing.</p>	<p>We used information from this spreadsheet to select 20 contracts for substantive testing. We found BART's spreadsheet was incomplete for the purpose of selecting contracts to test whether BART documented its reasons for using contract labor instead of unionized employees. Since we did not make statistical projections based on our selected items, we believe our use of this data was appropriate to support our report's conclusions.</p>
<p>Athens Administrators</p> <p>SIMS Claims Database</p> <p>Athens Administrators' workers' compensation claims data for fiscal years 2009–10 through 2012–13</p>	<p>To determine the number of workers' compensation claims related to violence against BART employees and the amount paid for the resulting workers compensation claims.</p>	<p>We performed data-set verification procedures and electronic testing of key data elements and did not identify any issues. We randomly selected 29 workers' compensation claims and traced key data elements to source documentation and did not identify any issues. To assess the completeness of Athens Administrators' SIMS data, we haphazardly selected 29 workers' compensation claims and traced them from Athens Administrators' source documents back to SIMS and found the data to be complete.</p>	<p>Sufficiently reliable for the purposes of the audit.</p>

Source: California State Auditor's analysis of various documents, interviews, and data obtained from BART.

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Audit Results

The San Francisco Bay Area Rapid Transit District Is Taking Steps to Replace Its Aging Infrastructure but Must Secure Additional Funding Sources for the Projects

The San Francisco Bay Area Rapid Transit District (BART) is engaged in three large capital projects expected to cost \$4 billion (referred to as the *Big Three* within BART) to replace and expand its fleet of railcars, expand its vehicle maintenance facility, and replace its train control system. Aside from these three projects, BART is also in the planning stages of identifying capital needs to repair or replace much of its other infrastructure that is in poor or very poor condition, with a goal of maintaining a state of good repair. Although BART allocates some of its internal operating revenues toward capital expenditures, capital projects are funded mainly by external capital contributions from federal, state, and regional funding sources. BART has secured adequate funding for two of its Big Three projects: replacing its fleet of railcars and expanding its vehicle maintenance facility. However, it has yet to secure all of the necessary funding for the train control system or for the other necessary repairs to its infrastructure. BART is currently considering a number of funding opportunities to help pay for these capital improvements, which may include bond sales or sales tax increases.

BART has recently taken steps to improve its process for planning capital improvements. Specifically, in fiscal year 2012–13, BART began implementing an asset management program. According to BART's manager of operations and planning, the program is meant to integrate a consistent, risk-based framework for planning capital expenditures and to better inform long-term financial planning. As such, it has implications for reducing both capital and operating expenditures, such as maintenance expenses.

BART Has Received Commitments for Most of the Funding for Its Big Three Capital Projects, but It Anticipates Cash-Flow Problems

A ridership forecast completed by BART estimated that ridership will grow by 36 percent between 2012 and 2025, and that peak ridership during the morning and evening peak hours will increase by 36 percent and 42 percent, respectively. To increase its service capacity and meet this expected growth in ridership, a study funded by the Metropolitan Transportation Commission (MTC) and the California Department of Transportation (Caltrans) recommended, in June 2013, that BART deploy a modern 1,000-railcar fleet, implement a modernized train control system to allow more trains to operate at the same time, and develop larger and more efficient maintenance facilities.

BART's original fleet of 439 railcars has been in service since BART opened in 1972 and is currently over 42 years old, while its two other more recently added fleets are over 26 and 20 years old, respectively.

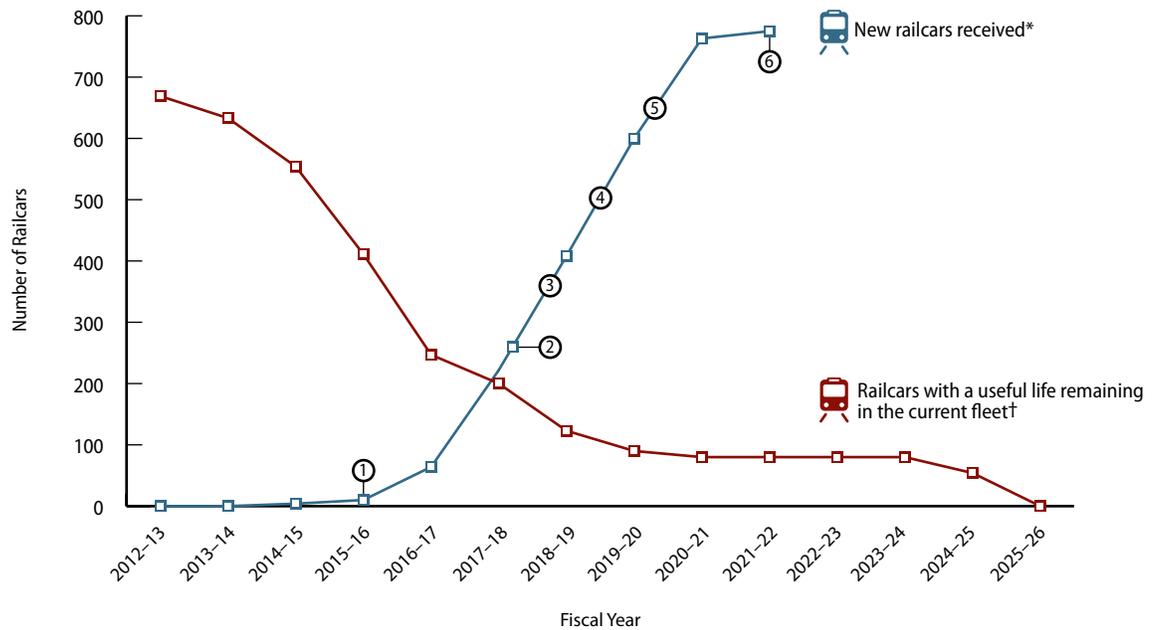
In addition to the need to expand capacity for the expected growth in ridership, BART's current railcar fleet is in need of replacement because of its age. BART's original fleet of 439 railcars has been in service since BART opened in 1972 and is currently over 42 years old, while its two other more recently added fleets are over 26 and 20 years old, respectively. According to BART's assistant general operations manager, BART first attempted to replace its fleet of railcars in 2004, but stopped due to a lack of funding. To continue providing reliable service as its railcars approach the end of their typical useful life, while meeting projected increases in future ridership, BART contracted with a vendor in 2012 to provide 775 new railcars to be constructed and delivered incrementally over several years, with the first pilot cars to be delivered in late fiscal year 2014–15 and the final cars in early fiscal year 2021–22. At some point in the future, BART hopes to purchase an additional 225 railcars through a separate procurement effort, to bring its total fleet up to 1,000.

BART's decision to procure most of its new railcar fleet all at once seems consistent with the approaches taken by other transit agencies. According to a 2010 U.S. Government Accountability Office (GAO) report, heavy-rail transit agencies have unique infrastructure requirements, such as weight limitations, that necessitate a great deal of customization in their railcar designs. According to railcar manufacturers interviewed for the GAO report, the order size necessary to capitalize on economies of scale and reduce per-car prices varies depending on a variety of factors, including the degree of customization of the car design. In general, producing more cars using the same design and production line reduces the cost per car due to the manufacturer's ability to spread the design and other fixed production costs over a larger number of cars. The GAO report states that transit agencies often replace entire fleets or generations of railcars at one time as the railcars approach their replacement age—typically 25 years, at which point their lives can be extended with an overhaul. This follows Federal Transit Administration guidelines for transit agencies to use railcars for a minimum of 25 years. According to BART, its original fleet of 439 railcars was refurbished between 1997 and 2002 after roughly 25 years of operation and is now over 40 years old.

BART's depreciation schedules show that the current fleet of 669 railcars will all have reached the end of their useful lives by 2026. More than half (422 cars) will have reached the end of their useful lives by fiscal year 2016–17. BART awarded a contract in 2012 for 410 new railcars and, in 2013, exercised contract options allowing it to procure an additional 365 cars, for a total of 775 new railcars. However, BART does not expect to take delivery of its first 360 new railcars until March 2019. Figure 1 shows when BART's current 669 railcars will reach the end of their useful lives, along with the

expected delivery of the new cars. Based on these data, it appears that BART will need to continue to maintain many of its current railcars beyond their useful lives until it can obtain the new cars.

Figure 1
Railcars With a Useful Life Remaining in the Current Fleet Versus Expected Delivery of New Railcars



Sources: California State Auditor’s analysis of the San Francisco Bay Area Rapid Transit District’s (BART) railcar depreciation schedules and new railcar procurement schedule.

* The total number of new railcars is based on the procurement schedule and the estimated number of railcars to be delivered to BART by the end of each fiscal year. The following delivery milestones labeled above are based on the new railcar procurement schedule:

- 1. Delivery of the 10th pilot vehicle
- 2. Delivery of the 260th railcar
- 3. Delivery of the 360th railcar
- 4. Delivery of the 510th railcar
- 5. Delivery of the 660th railcar
- 6. Delivery of the 775th railcar

† The number of railcars with a useful life remaining in the current fleet is based on our analysis of depreciation schedules and does not imply that the railcars will be retired from service during the same year they approach the end of their typical useful lives.

BART followed a competitive bid process to award the contract for the new railcars, and will pay more than \$1.5 billion to obtain the 775 cars, which will be delivered incrementally through fiscal year 2021–22. Overall, BART has budgeted roughly \$2.5 billion for the project. Aside from the \$1.5 billion for its prime vendor, BART’s budgeting approach makes considerations for a healthy reserve amount for unexpected contingencies (nearly \$360 million, or roughly 14 percent of the total budget), allowances for growth in project costs over the several years of the project (another \$360 million), amounts for expected sales tax (\$188 million),

and consideration for the costs of its own staff and other supporting contractors associated with the railcar project (roughly \$143 million), for a total budget of over \$2.5 billion.

As shown in Figure 2, BART is relying on a mix of federal, state, and regional funding—on top of its own contributions from operating revenues—to cover the railcar project’s budget. Funding provided through commitments made by the MTC—a transportation planning and financing agency for the nine-county San Francisco Bay Area—accounts for most of the project’s funding. In particular, the MTC has issued two resolutions committing nearly \$2 billion in funding for a total of 873 railcars.¹ Although specific funding sources and amounts are subject to change based on the availability of funds and on whether BART awards another procurement contract beyond the current 775-car order, the MTC’s resolutions call for roughly \$1.6 billion to come from federal funds and \$385 million to come from other state and local sources (such as bridge tolls and funds from the State’s Cap-and-Trade Program, which seeks to reduce greenhouse gas emissions). Further, BART was able to secure a grant from Caltrans to use \$140 million in high-speed rail bond funds because the BART system is expected to be an intercity rail connector with California’s future high-speed train system. BART is also planning to expand into the Santa Clara region and received a commitment from the Santa Clara Valley Transportation Authority amounting to roughly \$215 million for 60 of the 775 new railcars to serve that expansion. Ultimately, if all of these funding commitments come to fruition, which is uncertain, BART would need to commit roughly \$468.5 million of its own money to fully fund the 775-car project’s \$2.5 billion budget. BART’s financial model, which it uses to project its future revenues and expenses over the long term, allocates a total of more than \$600 million from fiscal years 2013–14 through 2027–28 toward its ultimate goal of obtaining 1,000 new railcars.

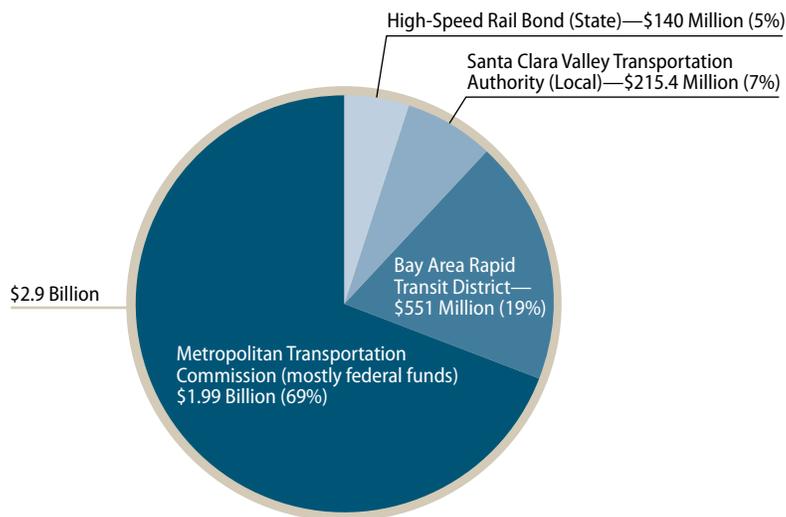
The railcar project faces funding shortfalls in some years during the project’s life because the funding BART expects to receive will be insufficient to pay for estimated project costs at particular times.

Despite having funding commitments for most of the railcar project, the project faces funding shortfalls in some years during the project’s life because the funding it expects to receive will be insufficient to pay for estimated project costs at particular times. For example, BART expects to spend roughly \$2.1 billion of its \$2.5 billion budget (or 84 percent of the project) between fiscal years 2016–17 and 2020–21, the time frame during which it expects to take delivery of its new railcars. However, without additional financing, BART expects to receive only \$983.7 million in funding during this same time period. Beginning in fiscal year 2021–22, BART expects that its expenditures for the project will significantly decrease, while it will continue to receive funding, primarily from federal funds previously

¹ The MTC’s commitment of nearly \$2 billion includes \$1.76 billion for the first 775 railcars currently scheduled for delivery, with an additional \$238.5 million for an additional 98 railcars that have yet to be procured.

committed by the MTC and from payments made by the Santa Clara Valley Transportation Authority. Given the timing of the expected cash flows, BART will need to identify financing so that it will have adequate cash on hand to cover payments to its vendor.

Figure 2
Projected Revenue Sources for the New Railcar Project



Source: California State Auditor's analysis of new railcar project cash-flow summary and funding agreements.

Note: The figure reflects total funding agreements amounting to \$2.9 billion for 873 cars, or 98 more cars than the 775 under contract for delivery.

BART also faces cash-flow challenges for the two other projects that make up the Big Three. It has taken the initial steps to expand its Hayward maintenance facility to service the new fleet of railcars, and it projects that these expanded facilities will cost over \$432 million. According to an analysis it prepared in May 2014, BART expects that by fiscal year 2015–16 the funding it will have received for the maintenance complex will be inadequate to cover expected spending, likely necessitating the need for interim financing that can be paid back at a later date. In addition, BART has been trying to replace its train control system since 1994, although its first attempt went awry because of technological and vendor-acquisition issues that ultimately resulted in litigation and a settlement with the vendor in December 2010. It is currently preparing a request for proposals to find a vendor to supply the new train control system, which it expects will cost over \$915 million. This project—for which BART has yet to identify all necessary funding—will have cash-flow challenges as early as fiscal year 2016–17. To address the temporary cash needs of the Big Three projects, MTC has set aside additional money to cover the cost of

According to its fiscal year 2014–15 capital improvement program, BART’s total capital needs are projected to cost over \$9.6 billion between fiscal years 2014–15 and 2023–24.

financing loans against future federal funds that, as noted earlier, will continue to be available after the peak expenditure years of the projects. Although the terms and financing of the loans have yet to be finalized, the senior planner we spoke with at MTC anticipates that the loan structure will be finalized and ready for use by the end of fiscal year 2015–16.

In addition to the Big Three capital projects just discussed, BART has identified other capital projects needed to maintain or enhance its passenger rail service. These include numerous projects focused on system reinvestment, such as improving the quality of BART’s various train stations (for example, upgrading escalators, elevators, and station lighting), replacing electrical substations that supply the power to help move BART’s trains, and pursuing earthquake safety projects. According to its fiscal year 2014–15 capital improvement program, BART’s total capital needs are projected to cost over \$9.6 billion between fiscal years 2014–15 and 2023–24. In addition to its Big Three capital projects currently planned, which it expects to cost \$4 billion, BART has identified over \$5.6 billion in capital projects needed to repair or replace infrastructure that is in poor or very poor condition, to maintain a state of good repair, and to expand the system.

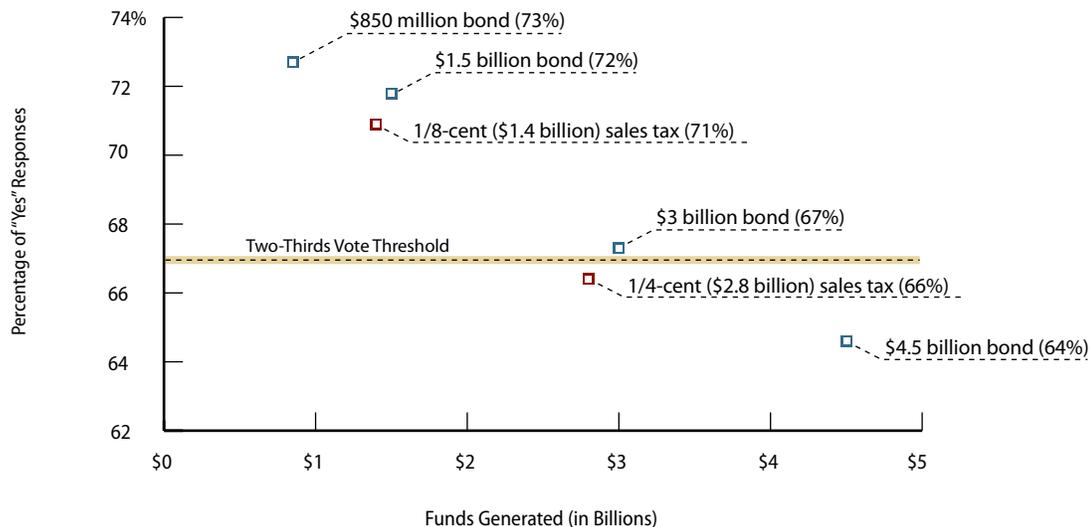
BART Is Planning to Seek Voter Approval for Additional Capital Funding

Because current funding commitments and its net operating cash flow are insufficient to pay for BART’s capital needs, BART is currently in the process of determining how it will pay for its capital projects. The BART board of directors (board) held workshops in January 2015 to discuss several capital funding options, which include ballot measures to issue general obligation bonds, raising sales or property taxes, increasing fares, and other opportunities. The board also discussed the results of a rider survey to gauge support for potential funding measures on the November 2016 ballot, which showed 66 percent and 64 percent support, respectively, for a ¼-cent sales tax increase and a \$4.5 billion bond measure. As shown in Figure 3, BART’s survey also found greater support for lower levels of bond funding.

According to BART’s assistant general manager, based on the survey results and the amount of funding needed, the board showed a preference for the bond measure option over the sales and property tax increases and the fare increases. However, the board was still undecided as to the amount of the bond and whether to place a funding measure on the 2016 ballot or wait until the 2018 election, because of uncertainty regarding voter support and competition with other transit agency funding measures in 2016. The board directed BART staff to conduct another survey later in

the year to better gauge voter support for different amounts of bond funding. The assistant general manager also stated that until BART is able to secure additional funding for capital projects, the backlog of unfunded capital needs would continue to grow, likely requiring more maintenance spending from future operating budgets, and that while BART had no specific contingency plans if no additional revenue measures are passed, it will likely have to enact a number of cost-cutting measures that could result in less reliable rail service.

Figure 3
Results From the San Francisco Bay Area Rapid Transit District's September 2014 Survey of Voter Support for Capital Funding Measures



Source: San Francisco Bay Area Rapid Transit District (BART) Marketing and Research Department's January 29, 2015, presentation to BART's board of directors.

BART Is Working Toward Fully Implementing a New Capital Asset Management Program That Identifies Assets for Replacement Based on Risk

According to the manager of operations and support (manager), before it implemented its current capital asset management program, BART did not have a systemwide approach for selecting capital projects for funding. Instead, capital projects were selected and funded through an annual operating and capital budgeting process in which each department within BART would make an assessment of its needs and present capital projects to BART's executive team for consideration. A final list would then be submitted to BART's board for approval. According to the manager, capital needs were informed by each department's knowledge

and judgment, but BART did not have a holistic assessment of its capital assets, nor did it have a way to consistently prioritize potential capital projects based on risk. However, BART was not alone in its lack of a comprehensive asset management program. In a 2009 study, the Federal Transit Administration described four components that are most relevant for a comprehensive asset management program: asset inventories, asset condition assessments, decision support tools and processes, and an investment prioritization process. The study surveyed seven large rail transit agencies, including BART, to reflect on the current use of asset management processes within the transit industry, and noted that while all seven agencies maintained comprehensive asset inventories for capital planning purposes, other asset management practices—such as the use of a rigorous process to rank and prioritize investment needs—were lacking. For example, the study found that the majority of the seven agencies tended to rely on investment prioritization processes that were both informal (i.e., the process is not well defined) and implicit (the agencies' investment goals and objectives are not explicitly stated or defined). The study also concluded that rail transit agencies generally lagged behind the rest of the transportation sector, most notably highways, in the development and implementation of asset management practices.

In October 2012 the federal government adopted legislation requiring transit agencies that receive federal financial assistance, such as BART, to develop a transit asset management plan that includes, at a minimum, capital asset inventories and condition assessments, decision support tools, and investment prioritization for capital projects. Although, the federal Department of Transportation—the agency responsible for implementing this legislation—has yet to adopt final regulations that define how these provisions will be enforced, BART responded to the requirement for a transit asset management plan, in part, by implementing its own asset management program.

In fiscal year 2012–13 BART began developing its asset management program, a process of surveying its assets and identifying risks, developing capital projects to address those risks, and prioritizing projects for financing when funding becomes available.

In fiscal year 2012–13 BART began developing its asset management program, a process of systematically surveying its assets and identifying risks, developing capital projects to address those risks, and prioritizing projects for financing when funding becomes available. Because the asset management program is still evolving, BART has yet to formalize the process in a procedural manual. According to the manager, the asset management process begins with compiling an inventory of all of BART's assets and gathering information on each asset's condition, function, and capacity. BART then uses the asset inventory to identify and analyze risks and develop treatments, such as mitigation options or capital projects, to address identified concerns. For example, BART's analysis of its station/tunnel lighting identified risks for worker and patron safety from poor lighting in its tunnels, and BART developed a lighting

retrofit project to address this risk. BART staff develop proposals for capital projects such as the lighting retrofit. They then submit these proposals for rating and approval to be included in BART's capital needs inventory. Managers in charge of assets rate project proposals using a consistent set of criteria, including risk, safety, and compliance with federal, state, or local laws, and then develop an overall project ranking for the capital needs inventory. Other than the Big Three projects, these projects in the capital needs inventory make up most of BART's \$9.6 billion in capital needs between fiscal years 2014–15 and 2023–24. Management then selects projects for funding from the top-ranked projects in the capital needs inventory. Although BART has yet to identify a funding mechanism to address all of its capital needs, its asset management program's risk-based approach for prioritizing capital projects represents an improvement in BART's process for selecting capital projects for funding.

BART's Past Financial Projections Have Proved Accurate, and Current Projections Appear Reasonable

We found that BART's projections for its operating budgets for fiscal years 2007–08 through 2012–13 were reasonably consistent with BART's actual financial performance, indicating that its projection methodology yields valid results. Further, our assessment of BART's financial projections for fiscal years 2015–16 through 2018–19 found that BART's financial model considers numerous inputs with various assumptions when projecting future financial results. Our review focused on the output from BART's financial model for certain significant line items, such as passenger fare revenue, sales tax revenue, and labor costs, and then examined the amount of expected growth in these revenue and expense items. Recognizing that financial forecasts are by nature imprecise and are essentially estimates, we found that BART's financial model uses modest growth assumptions (generally between 3 percent and 5 percent) that produce results that appear plausible. However, BART's ability to make significant financial contributions to its various capital improvement projects is uncertain, given its projected deficits. As a result, BART acknowledges the possibility that it may need to either curtail the amount of its planned capital contributions or seek additional financial resources, such as through short-term borrowing, to address its needs.

In September 2007 BART released a planning document titled *Short-Range Transit Plan (FY 08 through FY 17) & Capital Improvement Program (FY 08 through FY 32)* (2007 transit plan) that projected operating revenues and expenditures for the next 10 fiscal years. These revenues and expenditures pertain to the

We found that BART's financial model uses modest growth assumptions—generally between 3 percent and 5 percent—that produce forecast results that appear plausible.

BART's financial performance is significantly influenced by certain key revenues—such as passenger fare revenue and the proceeds from local sales taxes—and by its operating expenses.

operating budget and are organized separately from the external funding contributions and capital expenditures discussed previously, although a portion of operating revenues are allocated for capital projects.² BART's financial performance is significantly influenced by certain key revenues—such as passenger fare revenue and the proceeds from local sales taxes—and by its operating expenses, which include the amounts it pays to its employees and its suppliers. To test the accuracy of BART's projections, we compared its estimates for certain key revenue and expenditure items from the 2007 transit plan to its subsequent actual financial performance as noted in its *Short Range Transit Plan and Capital Improvement Program (FY 15 through FY 24)* (2014 transit plan). To ensure that the 2014 transit plan contained reasonable revenue and expenditure data from prior years, we further compared this information against similar data from BART's audited financial statements.

Ultimately, our analysis found that BART's previous projections compared favorably to its actual financial performance, with estimates generally being within 5 percent of actual revenue or spending. For example, the 2007 transit plan estimated that the average weekday ridership would steadily increase from just under 350,000 people in fiscal year 2007–08 to nearly 380,000 in fiscal year 2012–13. Actual ridership closely mirrored this estimate, increasing to just over 390,000 in fiscal year 2012–13 (a difference of less than 4 percent). Further, BART's estimated and actual passenger revenue varied by less than 5 percent overall during fiscal years 2007–08 through 2012–13. BART also did well in predicting its labor and the amounts that would be paid to its suppliers. In the 2007 transit plan, BART predicted that its labor and supplier costs would gradually increase to a combined total of \$580.5 million during fiscal year 2012–13. Actual performance closely mirrored this projection, with BART actually paying \$567 million during that same year. This actual spending differs from the projection by only \$36.2 million (or roughly 6 percent of the original estimate).

One area where BART demonstrated difficulty was in its estimation of sales tax revenue. BART receives sales tax revenue from amounts collected within its jurisdiction by the State Board of Equalization. It uses the sales tax revenue it receives to pay for a portion of its operating expenses and to make principal and interest payments on its various sales tax revenue bonds.³ In its 2007 transit plan, BART

² According to BART's assistant general manager, it has separate projections for the operating and capital budgets because most funding for capital expenditures is from federal or state sources, and some of it is dedicated to specific capital projects. The assistant manager went on to state that if BART combined the projected revenues for operating and capital budgets, it could give the impression that some of this prescribed capital funding was available for operating purposes.

³ BART has used sales tax revenue bonds to finance various capital improvement projects, such as various railway extension projects, the construction of new transit stations and parking structures, and the rehabilitation of railcars.

estimated that sales tax revenues would increase from \$203.4 million during fiscal year 2007–08 to nearly \$250 million by fiscal year 2012–13. However, actual sales tax revenue declined during the recent recession and was only \$208.6 million in fiscal year 2012–13. We do not believe BART could have foreseen the recent recession and noted that another large transit agency in the State—the Los Angeles Metropolitan Transportation Authority—similarly experienced declines in sales tax revenue. Following the decline in its sales tax revenue in fiscal years 2008–09 and 2009–10, we noted that BART reduced its labor costs by almost \$29 million (from \$382 million in fiscal year 2008–09 to \$353 million during fiscal year 2010–11). This reduction, along with reduced spending on nonlabor items, helped BART make up for lost revenues during the recession.

In addition to comparing previous projections to actual results, we reviewed BART’s financial forecasts for fiscal years 2015–16 through 2018–19 to identify the key components and assumptions used in its analysis. BART continued to use a forecasting approach similar to the one it used for the previous forecasts. Its projections for fiscal years 2015–16 through 2018–19 show that significant revenue sources will continue to consist of rail passenger revenue and sales tax collections, while significant expense items include projected labor and nonlabor costs and planned allocations from its operating budget for various capital projects and renovation programs. We deemed each of these revenue and expense items to be significant because each exceeded \$100 million annually in BART’s projections. Cumulatively, the specific revenue and expense items we examined in BART’s financial forecasting model represent more than 80 percent of all funding sources and uses.

Projected passenger revenue is the largest revenue source in BART’s financial model, accounting for roughly \$440 million to \$550.5 million annually over the four-year period we reviewed (or more than 50 percent of funding from all operating budget sources). BART’s passenger revenue projections assume annual ridership increases of roughly 1.5 percent to 2 percent annually. Beyond fiscal year 2018–19, BART’s financial model projects that annual ridership growth will generally be less than 2 percent. This projected increase in ridership appears modest, especially with BART’s recent and planned expansions, such as its recent connection to the Oakland International Airport and planned expansion to other localities such as Warm Springs and Antioch. Aside from considering ridership growth, BART’s financial model also factors in scheduled fare increases with the intent that this incremental additional revenue will be used to fund priority capital replacement projects, such as its project to replace its railcars, among other initiatives. BART’s financial model assumes continuation of an inflation-based fare increase program that results in biennial fare increases of

Over the four-year period we reviewed, projected passenger revenue is the largest revenue source in BART’s financial model, accounting for roughly \$440 million to \$550.5 million annually.

roughly 2 percent each year. The additional revenue generated from the fare increases, according to BART's financial model, will result in \$163.4 million in additional revenue between fiscal years 2015–16 and 2018–19. However, we note that this additional revenue for capital projects does not fully cover the \$298.4 million BART expects to contribute toward priority capital projects over this time period. As noted in presentations before BART's board, BART management is sensitive to public reaction to fare increases and has considered rider feedback through surveys when evaluating whether to continue the inflation-based fare increase program. Nevertheless, with projected ridership growth and fare increases—each at roughly 2 percent each year—BART forecasts that its overall passenger revenue will increase by roughly 4 percent to 5 percent each year through fiscal year 2018–19.

Sales tax revenue is the second largest contributor to BART's income, accounting for more than \$200 million annually (or roughly 30 percent of funding from all operating budget sources). BART's financial model assumes that its share of sales tax proceeds will increase by 3 percent each year. While forecasts of sales tax revenue are difficult and depend on the local economy, we found BART's estimate of sales tax growth to be reasonable. We noted that BART's long-term average growth rate for its sales tax revenue ranged between 2.3 percent and 3.4 percent between fiscal years 2009–10 through 2012–13.

BART's labor costs are its largest operating expense—paying nearly \$400 million to its employees during fiscal year 2012–13, and it projects labor and benefit costs will reach \$552.5 million by fiscal year 2018–19.

BART's labor costs, which include salaries and benefits, are its largest operating expense. During fiscal year 2012–13, BART paid nearly \$400 million to its employees, and its financial model projects that its labor and benefit costs will reach \$552.5 million by fiscal year 2018–19 (or more than 50 percent of all funding uses). Between fiscal years 2015–16 and 2018–19, BART expects that its labor costs will increase by between roughly 6 percent and 9 percent annually. A variety of different factors within BART's financial model contribute to this increase. For example, BART has negotiated scheduled wage increases with its employee unions amounting to roughly 4 percent annually over the next few years. In addition, BART's financial projections assume that it will be paying higher costs for employee pension plans as a result of various actions taken by the California Public Employees' Retirement System (CalPERS). According to BART, CalPERS decisions to change key actuarial assumptions—such as an increased life expectancy for retirees and a decreased expected return on its investments—will increase the expected amounts BART will contribute toward its employee retirement plans. Specifically, BART expects that its contributions toward employee retirement will increase from a projected \$74.1 million in fiscal year 2015–16 to \$101 million in fiscal year 2018–19. Finally, BART's labor projections

assume increased labor costs associated with planned expansions of its existing rail lines, amounting to \$125.1 million between fiscal years 2015–16 and 2018–19.⁴

BART's financial model projects roughly 6 percent growth per year in nonlabor costs between fiscal years 2015–16 and 2018–19, growing by \$23.7 million, from \$116.4 million to \$140.1 million, over this period. Nonlabor costs include expense items such as rent, insurance, inventory, equipment maintenance, and fees that BART pays to the MTC and financial institutions to administer the Clipper card, which serves as patrons' regional transit smart card to pay transit fares. BART's model projects most of these expenses to increase by about 2 percent annually. However, on top of this modest growth, BART's financial model assumes that future expansion of its rail lines beginning in fiscal year 2015–16 and additional activity at its Hayward maintenance facility in fiscal year 2017–18 will add significantly to its nonlabor costs. This additional activity accounts for \$15.8 million of the \$23.7 million increase in nonlabor costs. BART arrived at this amount by estimating the effects of the expansions—generally by adding between 2 percent and 8 percent to existing labor and nonlabor costs.

BART's planned contributions to its capital projects from its operating budget make up the last category of expense we reviewed from BART's forecasting model. Between fiscal years 2015–16 and 2018–19, BART plans to contribute \$298.4 million toward its priority capital replacement projects. BART's financial model assumes that this funding will be used to pay a portion of the expected costs to purchase new railcars (\$180 million) and to pay for the train control modernization project (\$50.3 million) and the expansion of the Hayward maintenance facility (\$49.6 million), and it will use the increased portion of fare revenue (\$18 million) as capital reserves. BART's financial model continues to allocate funding to these projects well beyond fiscal year 2018–19. However, whether BART can maintain its planned contributions toward capital replacement is uncertain. BART's financial model shows growing annual deficits, beginning at \$5.9 million in fiscal year 2015–16 and increasing to an annual deficit of \$57.3 million by fiscal year 2017–18 and nearly \$80 million by fiscal year 2023–24. To address these deficits, BART's 2014 transit plan states that its forecasts do not consider economic cycles and that revenues could be higher than expected, which could ease the strain on its operating budget. However, if higher revenues do not

BART's financial model shows growing annual deficits, beginning at \$5.9 million in fiscal year 2015–16 and increasing to \$57.3 million by fiscal year 2017–18, and nearly \$80 million by fiscal year 2023–24.

⁴ BART's financial forecasting model assumes additional labor and nonlabor costs for certain service expansions such as the Warm Springs expansion and the East Contra Costa BART extension beginning in fiscal year 2015–16, with additional labor associated with its Hayward maintenance facility in fiscal year 2017–18.

materialize, BART stated that it will consider redirecting a portion of its fare revenues back to its operating budget and/or consider short-term financing.

The State and BART Have Both Reviewed BART's Workers' Compensation Administrator, Finding No Significant Issues

Audits conducted by the Department of Industrial Relations' Division of Workers' Compensation (DWC) and BART's internal audit staff have not found any significant issues with how BART's workers' compensation administrator processes or requests reimbursement for claims filed by its employees. BART contracts with a third-party administrator (administrator) to process its workers' compensation claims. All third-party administrators in California are audited by the DWC every five years. Upon completion of the audit, the DWC rates each workers' compensation administrator according to a set of criteria and ultimately publishes a report that compares the performance of all workers' compensation administrators audited that year. If a workers' compensation administrator does not pass the audit, it is subject to administrative financial penalties imposed by the DWC.

BART's administrator successfully passed two audits by the DWC in 2005 and 2010, and according to the DWC it will be audited again in 2015. In the 2005 audit the administrator ranked fifth out of 45 entities audited that year and was cited for 35 violations. In the 2010 audit, it ranked 33rd out of 52 entities, with 113 violations found in the 59 files audited. Nineteen of the 113 violations concerned BART employee claims. Twelve of the 19 violations found in BART claims were related to late or inaccurate notices sent to employees regarding their rights or changes to their benefits, four were related to late payments, and three concerned failure to pay the correct amount to claimants. Despite these violations and being required to pay the corrected compensation amounts identified during the audit, the administrator still received a passing score from the DWC.

Claims paid to injured workers are processed by the administrator from a trust account that is established and periodically replenished by BART. As the administrator makes claims payments from the trust account, the balance in the trust declines until the administrator provides BART with an accounting of the previous payments made and requests that the trust be replenished with additional funds. In 2012 BART's internal audit department published an audit of payments to its administrator and found that the reimbursements were for BART employees only and were made in accordance with the agreement between BART and the administrator. For example, the audit found that claim settlements over \$25,000 were approved by BART staff before the

settlement was finalized, in accordance with the agreement. In addition, our review of four invoices for workers' compensation claim payments made between fiscal years 2009–10 and 2012–13 showed that the administrator invoiced BART only for workers' compensation claims brought by BART employees.

Instances of Violence Against BART Employees Did Not Continuously Increase Between Fiscal Years 2009–10 and 2013–14

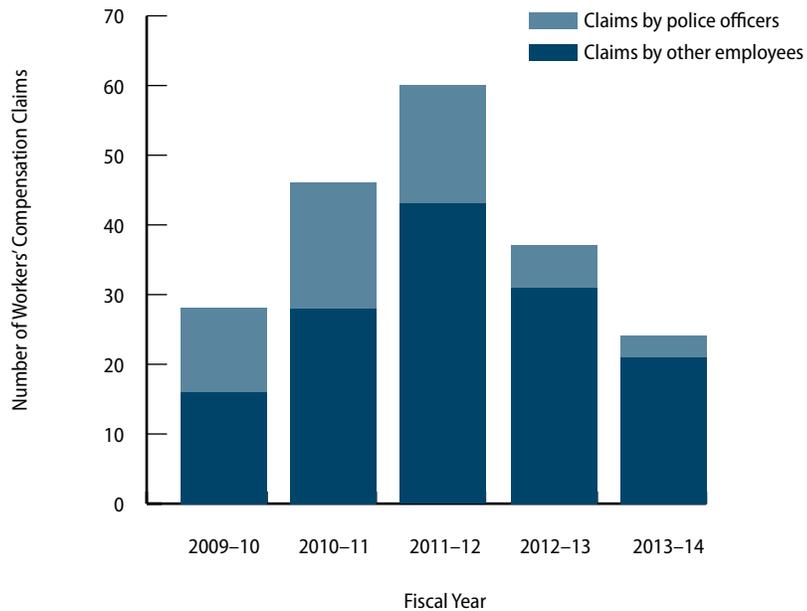
We found that violence against BART employees, as measured in either workers' compensation claims or data kept by BART, did not continuously increase between fiscal years 2009–10 and 2013–14. During the course of their employment, front-line transportation employees may witness or be directly involved in traumatic events and incidents. We reviewed data pertaining to assaults and batteries against BART employees. An assault is an unlawful attempt, coupled with a present ability, to commit a violent injury on the person of another, such as a patron waving a knife in a station agent's direction. A battery is any willful and unlawful use of force or violence upon the person of another, such as a patron punching a station agent who refuses entry to a secure area.

Although data from BART's administrator and BART did not show that violence continuously increased between fiscal years 2009–10 through 2013–14, we did find evidence that station agents, followed by BART police and then train operators, had the most workers' compensation claims involving assault or battery. The administrator records the cause for each claim, and BART maintains its own database of reported instances of violence against employees. As shown in Figure 4 on the following page, workers' compensation claims involving instances of violence against BART employees did fluctuate but did not continuously increase between fiscal years 2009–10 and 2013–14. These data were consistent with information in BART's violence in the workplace database. In addition, as shown in Table 4 on page 25, assaults and batteries made up less than 3 percent of the total amount spent on all workers' compensation claims and constituted only between approximately 4 percent and 8 percent of all claims filed during our review period.

BART's manager of transportation operations support views instances of violence against employees as a problem that will continue to grow along with increases in ridership. To reduce violence against employees, BART has expanded its training to include methods to identify preassault indicators and how to respond if confronted. BART also maintains a list with names and photos of patrons banned from using BART facilities.

Assaults and batteries against BART employees made up less than 3 percent of the total amount spent on all workers' compensation claims filed during our review period.

Figure 4
Assaults and Batteries Against San Francisco Bay Area Rapid Transit District Employees by Year



Source: San Francisco Bay Area Rapid Transit District's third-party workers' compensation administrator's claims tracking database.

In addition to actions BART initiated to reduce instances of violence against its employees, the 2013 through 2017 collective bargaining agreement (agreement) between BART and the Amalgamated Transit Union requires the formation of a Transportation Peer Support Program (program). The program is developing policies, procedures, and training to enable peer group personnel to provide routine follow-up and support after a violent or traumatic incident. The agreement also states that BART will install Dutch doors and bullet-resistant glass in station booths. According to BART's manager of transportation operations support, the Dutch doors put a barrier between station agents and the general public and provide time to call for police support if a patron attempts to enter the booth. A prototype Dutch door and bullet-resistant glass have already been installed at the Coliseum station in Oakland, and BART's chief maintenance and engineering officer said that the Dutch door is still in the evaluation stage as of April 2015. Also, BART's manager of transportation operations support stated that bullet-resistant glass will be installed at a selection of stations to be determined at a later date, pending station staff feedback.

Table 4
Number of and Amount Paid on Workers' Compensation Claims Involving Violence Against Employees

	FISCAL YEAR					TOTAL						
	2009-10	2010-11	2011-12*	2012-13	2013-14							
Assaults†	11	\$15,716	8	\$65,318	19	\$8,361	14	\$35,245	10	\$19,559	62	\$144,199
Batteries‡	17	103,551	38	47,207	41	537,402	23	113,225	14	57,277	133	858,661
Totals	28	\$119,267	46	\$112,525	60	\$545,763	37	\$148,470	24	\$76,836	195	\$1,002,860
All workers' compensation claims	645	\$8,889,979	690	\$6,579,251	736	\$9,699,511	709	\$7,044,259	637	\$2,942,808	3,417	\$35,155,807
Percentage of assault and battery claims relative to all claims	4.34%	1.34%	6.67%	1.71%	8.15%	5.63%	5.22%	2.11%	3.77%	2.61%	5.71%	2.85%

Source: San Francisco Bay Area Rapid Transit District's third-party workers' compensation administrator's claims tracking database.

* Two batteries in fiscal year 2011-12 accounted for \$457,586 of the total amount paid that year.

† An assault is an unlawful attempt, coupled with a present ability, to commit a violent injury on the person of another. For example, waving a knife in a station agent's direction.

‡ A battery is any willful and unlawful use of force or violence upon the person of another. For example, punching a station agent who refuses entry to a secure area.

We Did Not Find Any Evidence That BART Denied Employees Their Original Positions After Recovering From Injuries or Inappropriately Used Contract Employees

We found that union employees were allowed to return to their original positions following an injury when the employee was capable of resuming work, and were not replaced by contract labor. State labor law prohibits employers from discharging employees who file a workers' compensation claim. We selected 80 workers' compensation claims for injuries occurring between fiscal years 2009–10 and 2012–13 to determine when the employees left work, when they were cleared to return to work by their physician, and if and when they returned to their original positions. Of the 80 claims we reviewed, 74 either returned to their positions upon being cleared by their physicians, or had not left their original positions despite the disability. The remaining six were still on medical leave as of the end of fiscal year 2012–13, two of which subsequently settled their disability claims with BART. We did not observe an instance in which an employee capable of returning to his or her original position was denied that opportunity.

We also found that BART offered some employees temporary modified assignments when they were unable to return to their pre-injury position. The agreements between BART and two of its unions allow employees to accept a temporary modified assignment while on industrial disability when cleared by their physician. However, the employee does not have to accept the temporary position offered by BART and can remain on disability until cleared to return to his or her original position. Of the 80 disabled employees we selected, 11 accepted a modified assignment, and as noted above, all but a few of the 80 employees returned to their original positions upon being cleared by their physicians. According to BART's senior personnel analyst, an assignment that meets the employee's work modifications may not be immediately available, so an employee recently cleared for modified work may not be offered a job immediately. In our review, we found no evidence to indicate that employees on temporary modified assignment were prevented from returning to their original positions when cleared to do so by their treating physician.

We found no evidence to indicate that employees on temporary modified assignment were prevented from returning to their original positions when cleared to do so by their treating physician.

Moreover, our review of 20 service contracts found that BART had documented its reasons for using contract labor instead of unionized employees. The agreements allow for BART to contract for outside labor when BART employees cannot fulfill a task. In addition, when BART contracts for outside labor, it must send a notification to the unions, which have the right to respond. While employee unions have the right to advise BART management, ultimately BART managers decide when it is appropriate to hire contract labor. All 20 contracts we reviewed demonstrated that

BART has a process for notifying its employee unions of the contracts, involving faxing a contract notification form to BART union officials.

In some instances, BART and its unions may not agree on whether a particular need can be satisfied with union employees. Officials with Service Employees International Union (SEIU) stated that BART has too few union employees and that past contracting activity suggests there should be more permanent employees. In contrast, according to BART's assistant chief employee relations officer, BART does not want to hire permanent employees whom it will have to lay off later when the need for that type of labor goes away, so it is careful to add positions only when past years' data and/or input from department managers show that a long-term need exists. Determining which perspective is correct is difficult given the nature of some of the contracts we reviewed. For example, one contract from July 2009 was for graffiti removal throughout the BART system for \$873,000. While the layperson might think BART's maintenance or janitorial employees have the skills to remove graffiti—such as by painting or sandblasting affected surfaces, BART's managers indicated that such work could not be performed satisfactorily by these employees. In another contract from August 2009, BART agreed to pay \$2.3 million for the dry cleaning, repair, and supply of replacement transit vehicle passenger seat cushions. In this case, BART informed the union that it was contracting out this work because it had no "dry cleaning or sewing personnel." Although the decision to use contractors in these instances may not be viewed favorably by the employee unions, it is one that BART's management is ultimately permitted to make, as provided by the agreements.

BART's union agreements require that union employees be able to bid on temporary job assignments created when another employee is sick, injured, or otherwise on leave. For example, according to its agreement with the Amalgamated Transit Union—which covers its train operators, station agents, and various other classifications—BART is to establish board postings of available assignments so that employees can submit bids to receive these assignments. During the audit, we noted examples of these postings being used to fill job openings, such as when a regularly scheduled employee is on indefinite medical leave. For example, we tracked a BART union employee who filled in for a disabled train operator for over two months until the injured operator was healthy enough to return to work. BART's agreement with the SEIU contains similar provisions for filling temporary vacancies. Further, many of BART's unionized employees hold certain certifications required for their jobs. The California Public Utilities Commission (CPUC) requires that BART establish training, testing, and certification programs for personnel whose duties may affect the

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safety of passengers, employees, or equipment. Specifically, the CPUC requires station agents and train operators, among others, to hold safety certifications due to the nature of their jobs, and to renew the certifications every two or three years depending on the employee's job classification. Roughly 60 percent of BART's personnel are required to hold certain safety certifications. Because of the union agreements specifying how job openings will be filled, along with the safety certifications required for many of these positions, the likelihood of BART hiring contracted labor to replace union employees appears limited.

We conducted this audit under the authority vested in the California State Auditor by Section 8543 et seq. of the California Government Code and according to generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives specified in the scope section of the report. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Respectfully submitted,



ELAINE M. HOWLE, CPA
State Auditor

Date: April 28, 2015

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