

# **San Francisco Bay Area Rapid Transit District**

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



## **COMMITTEE MEETING AGENDA**

**Thursday, April 18, 2024**

**2:00 PM**

**The Audit Committee Meeting will be held in person with an  
option for public participation via teleconference.**

**BART Board Room, 2150 Webster Street, 1st Floor, Oakland, CA  
94612. Zoom Link: <https://us06web.zoom.us/j/87143744867>**

**Audit Committee**

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

NOTICE OF MEETING AND AGENDA  
AUDIT COMMITTEE

April 18, 2024  
2:00 p.m.

COMMITTEE MEMBERS: Directors Saltzman (Chairperson), Foley, and Allen, and Committee Members Parry and Wong.

Chairperson Saltzman has called a Meeting of the Audit Committee on Thursday, April 18, 2024, at 2:00 p.m. in the BART Board Room, 2150 Webster Street, 1st Floor, Oakland, California 94612.

Please note that this meeting will be held in person in the BART Board Room, 2150 Webster Street, 1st Floor, Oakland, California 94612 with an option for public participation via teleconference.

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

You may attend the Committee Meeting in person or join the Committee Meeting via Zoom by calling 833-548-0282 and entering access code 871 4374 4867; logging in to Zoom.com and entering access code 871 4374 4867; or typing the following Zoom link into your web browser: <https://us06web.zoom.us/j/87143744867>

If you wish to make a public comment:

- 1) Submit written comments via email to [board.meeting@bart.gov](mailto:board.meeting@bart.gov), using “public comment” as the subject line. Your comment will be provided to the Committee and will become a permanent part of the file. Please submit your comments as far in advance as possible. Emailed comments must be received before 4:00 p.m. on April 17, 2024, in order to be included in the record.
- 2) Complete a “Request to Address the Audit Committee” form (available at the entrance to the Board Room) and give it to the District Secretary before the Item is considered by the Committee.
- 3) Call 833-548-0282, enter access code 871 4374 4867, dial \*9 to raise your hand when you wish to speak, and dial \*6 to unmute when you are requested to speak; log in to Zoom.com, enter access code 871 4374 4867, and use the raise hand feature; or join the Committee Meeting via the Zoom link (<https://us06web.zoom.us/j/87143744867>) and use the raise hand feature.

Public comment is limited to three (3) minutes per person.

**AGENDA**

1. Call to Order.
  - A. Roll Call.
2. Introduction of Jessica Spikes, Executive Assistant to the Inspector General.  
For Information.
3. Office of the Inspector General (OIG) Span of Control Audit: BART Can Benefit from Applying Span of Control Analysis in its Organizational Decision-Making.  
*For Information and Possible Action.*  
  
**Attachments:** [OIG Span of Control Audit - Report](#)  
[OIG Span of Control Audit - Presentation](#)
4. OIG Investigation Reports. *For Information and Possible Action.*
  - A. OIG Investigation Report: More Time Theft Cases - Cause for Concern.
  - B. OIG Investigation Report: Summary of Nepotism Investigations.
  - C. OIG Investigation Report: Lack of Procedural Understanding Fueled Allegations Against Consultant.
  - D. OIG Investigation Report: BART Improperly Embedded a Best-Value Procurement into a Fixed-Price Construction Contract.  
**Attachments:** [OIG Investigation More Time Theft Cases - Report](#)  
[OIG Investigation More Time Theft Cases - Presentation](#)  
[OIG Investigation Summary of Nepotism Investigations - Report](#)  
[OIG Investigation Summary of Nepotism Investigations - Presentation](#)  
[OIG Investigation Lack of Procedural Understanding - Report](#)  
[OIG Investigation Lack of Procedural Understanding - Presentation](#)  
[OIG Investigation BART Improperly Embedded - Report](#)  
[OIG Investigation BART Improperly Embedded - Presentation](#)
5. BART Fuel Vendor Cost Controls Audit - Internal Audit.  
*For Information.*  
  
**Attachments:** [BART Fuel Vendor Cost Controls Audit - Presentation](#)
6. Next Meeting: Date and Future Agenda Items. For Discussion.
7. Committee Member Announcements/Comments. For Discussion.  
(An opportunity for Committee members to provide brief comments on matters relevant to the Audit Committee.)

## 8. Public Comment.

(An opportunity for members of the public to address the Audit Committee on matters under their jurisdiction and not on the agenda. Public comment is limited to three (3) minutes per person.)

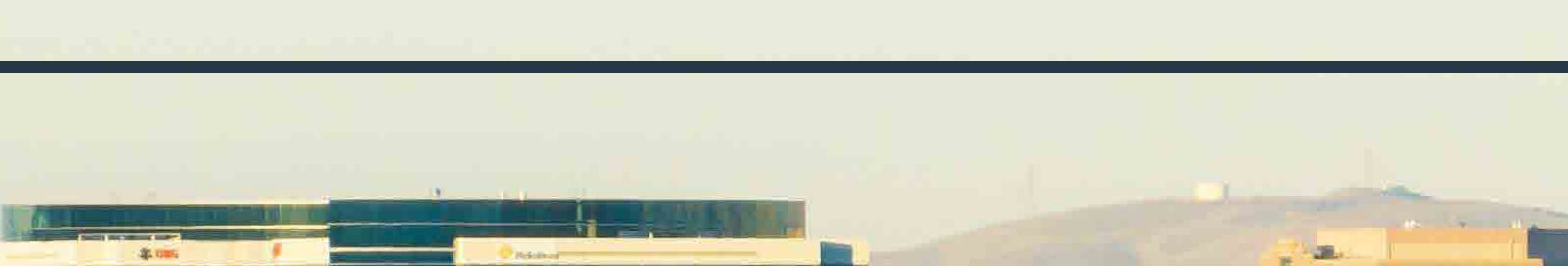
## 9. Adjournment.

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

April B. A. Quintanilla  
District Secretary





*San Francisco Bay Area Rapid Transit*

# Office of the Inspector General Span of Control Audit



## AUDIT HIGHLIGHTS



The Office of the Inspector General is pleased to present its audit report: *BART Can Benefit from Applying Span of Control Analysis in its Organizational Decision-Making*. We conducted this audit to assist BART in improving performance, decision-making, communication, and accountability by identifying optimal spans of control for each of its functional work areas throughout the District. While there is no one-size-fits-all approach for identifying an optimal span of control, establishing guidelines and standards influenced by best practices can help BART identify desired spans of control that allow managers and supervisors to nurture productive relationships with their employees and provide sufficient oversight of contractors.

Although some BART executives have established span-of-control targets for their specific work areas, the District has not established benchmarks defining desired span-of-control levels or targets for its varied functions. This creates a risk that the District's management and supervisory levels are not designed to prepare for and lessen the effects of the challenges and threats that BART faces in providing reliable transit services.

What those threats and challenges are is dependent on the work area in question. For example, BART police executives discussed the need for their sergeants' span of control to allow for fast and adequate responses to emergencies. While that need is unique to the police department, there are four common factors that must be considered no matter the work area in question: its environment, size, and strategies, and its use of or reliance on technology.

Understanding work environments requires access to reliable data. However, the District's organizational data creates challenges in identifying spans of control in each of its work units without also conducting interviews with executives, as was necessary for this audit. Factors such as incomplete Human Resources data, workloads created by contract management responsibilities, and inconsistent role definitions create barriers to easily relying on organizational data to assess spans of control in the District's varied work functions. This creates limitations to BART's ability to conduct a robust analysis of its organizational structure and readily identify the roles and responsibilities of its employees.

## WHY THIS AUDIT MATTERS



Span of control is key to defining how streamlined and agile BART can be in delivering optimal service and responding to challenges, such as its current fiscal crisis. Defined metrics will allow BART to know if it is structured appropriately to avoid mistakes and manager burnout, create equity among its employees, and avoid time waste resulting from unclear roles and poor communication channels.

## RECOMMENDATIONS IN BRIEF

To ensure the success of its strategies, BART management should:

- Maintain accurate organizational data and charts.
- Establish span-of-control criteria, guidance, and policies.
- Adopt span of control as a required management tool.

See the accompanying report for full details and the District's response to each recommendation.

## SPECIAL THANKS

We thank [TAP International](#) for their excellent work in completing this audit. We contracted with TAP to conduct the audit on our behalf as part of our [FY22-24 Audit Plan](#). Their attention to detail and expertise is evident in their work.

We also thank BART executives for their cooperation and assistance during this audit. Their valuable input helped complete a fair and balanced audit.



SPAN OF CONTROL DEFINED

Span of control refers to the number of people a manager or supervisor directly oversees and is classified as either wide or narrow. Each type has its unique advantages and challenges and the choice between the two depends on factors such as the nature of the work, organizational preferences, employee skills and knowledge, industry norms, and complexity of tasks. Both wide and narrow spans have their place across work units and job levels. The key is finding a balance that maximizes operational efficiency, promotes effective management, and aligns staffing with organizational goals and objectives. Span-of-control management requires examining organization structure vertically, horizontally, and over time and is a complex task that is not easily completed without accurate data.

SPAN OF CONTROL TYPES

Wide Span of Control

Features

- More employees per manager or supervisor
- Lower managerial costs
- Beneficial for managing co-located teams
- Suitable for repetitive tasks

Advantages

- Cost-effective
- Enables faster decision-making
- Promotes clear policies & procedures
- Managerial focus on improving operations

Disadvantages

- Risk of overtaxing supervisors & managers
- More challenging to manage large & diverse teams
- May reduce frequency of manager-employee interactions

Narrow Span of Control

Features

- Fewer employees per manager or supervisor
- Higher managerial costs
- Beneficial for managing remote teams
- Suitable for highly specialized & technical work

Advantages

- Opportunity for close supervisory review
- Minimizes risk of error
- Useful for employee on-the-job training
- May be suitable for new functional work areas

Disadvantages

- Risk of employee micromanagement
- May limit cross-functional problem-solving
- Potential delays in sharing information & decision-making

FULL AUDIT REPORT

Users of this summary report should refer to the accompanying audit report for full details on the audit findings, conclusion, and recommendations, as well as BART management’s response to those recommendations.

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## Providing Independent Oversight of the District's Use of Revenue

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Stop Fraud, Waste, & Abuse  
Report What You See  
to the OIG



24/7 Fraud, Waste, & Abuse  
Whistleblower Hotline



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



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### REPORTS

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# Bay Area Rapid Transit District (BART)

## BART Can Benefit from Applying Span of Control Analysis in its Organizational Decision-Making

Final Report

March 19, 2024

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## REPORT HIGHLIGHTS

### Why This Review Matters

Span of control analysis determines the number of employees for which an individual is directly responsible for overseeing their work. Span of control analysis is an essential aspect of organizational design and management strategy. It is a valuable tool for organizational design because it offers opportunities to optimize organizational effectiveness, ensures efficient resource use, and promotes effective communication within an organization.

### Why and How We Completed the Review

The San Francisco Bay Area Rapid Transit District (BART) Office of Inspector General (OIG) contracted with TAP International to support its effort to implement its annual audit work plan, which included a performance audit of BART's span of control. Annual audit work plans generally include audits with potential improvement opportunities in an organization. The purpose of this audit was to determine BART's span of control, compare BART's span of control activities with best practices and other transit agencies, and identify factors BART executives should use when considering organizational design. TAP International completed this performance audit by analyzing BART's personnel information across 16 BART offices, including the Office of the Inspector General and Capitol Corridor.<sup>1</sup> The audit also involved interviewing BART's executives, assessing reporting relationships, and comparing the results to best management practices of three other comparable transit agencies.

We analyzed span of control ratios using the median (versus the average) to minimize the effect of overstated or understated supervisory ratios in the personnel information due to undefined reporting relationships or position vacancies.

### What We Found

BART has not yet established benchmarks that define desired levels of span of control, consistent with other transit agencies. Without establishing a specific target, the overall number of supervisors to employees is about 1:4, ranging from 1:1 to 1:8.5 across 16 BART offices. Span of control ratios among the lower organizational layers of the offices are generally higher although we identified 60 cases where one employee supervises the work of another. Further review of these reporting relationships could potentially present an opportunity for cost savings if higher spans of control are justified so that these 60 cases of one supervisor per employee could shift to allow more employees per supervisor.

The underlying organizational data used to support span of control analysis both overstates and understates the ratios because of multiple factors that include: (1) incomplete data in BART's Human Resources Information System (HRIS), especially among lower organizational layers of BART offices; (2) BART not recognizing the workloads created from implementing contract management responsibilities when considering span of control; and (3) the use of inconsistent role definitions where positions like engineers or managers are sometimes considered supervisory and sometimes are not. Incomplete data

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<sup>1</sup> The Inspector General is appointed by the Governor of the State of California and the Office of the Inspector General provides information and audits to the BART Board of Directors. BART provides day-to-day management support to the Capitol Corridor Joint Powers Authority (CCJPA); the CCJPA provides policy direction to the staff. Both were included in this audit for completeness purposes.



for determining span of control limits BART executives' ability to recognize opportunities for improvement.

Best practices suggest considering four key organizational areas when designing an organizational framework – operating environment, size, strategy, and technology. While BART does not have policies to guide executives with criteria to make organizational changes, BART executives identified nine specific factors related to these areas when thinking about their organizational design. Seven of these factors coincide with the operating environment, followed to a much lesser extent by factors related to organizational size, and strategy. Factors related to technology were not considered in an office's organizational framework. The nine factors considered by BART executives in their efforts to design their offices include the:

- Nature of the work
- Supervisory skill and responsibilities
- Employee competency
- Risk (financial, operational, reputational)
- Employee development and morale
- Geographic location
- Resource (budget) availability
- Agency or office goals and objectives
- Degree of collaboration

Half of the BART executive offices consider span of control in making decisions about organizational design and the executives report that, as a management tool, the use of span of control can help address key agency-wide challenges.<sup>2</sup> These challenges, as outlined in BART's fiscal year 2024-2025 budget, include financial difficulties arising from the COVID-19 pandemic's impact on farebox revenue and the escalating costs of rail expansion. Additionally, BART grapples with resource challenges in employee hiring and retention, compounded by staff loss through retirement incentives and hiring freezes.

## Conclusion

While use of span of control as a management strategy varies across BART, its formal adoption as a management strategy can strengthen internal controls, ensure accountability, foster collaboration, and aid BART in navigating operational challenges effectively. The key areas that need attention for BART to effectively implement span of control include strengthening the accuracy of reporting relationships across all organizational layers and establishing guidance on the factors to consider when implementing span of control analysis. Addressing these areas can create opportunities for improved clarity, communication, data-driven decision-making, and alignment with organizational goals. BART should formally adopt span of control as a key management strategy and use it to better manage its offices and achieve its goals. We make five recommendations for BART to best use span of control to improve operations and accountability, recognizing that appropriate span of control may vary by department and by level within a department.

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<sup>2</sup> Offices with very few positions may not benefit as much from using span of control as a management tool compared to larger offices.

## Recommendations

1. To ensure the success of strategies that promote cost-effective communication and collaboration, the Human Resources Director should develop processes to ensure that the HRIS includes an up-to-date dataset of reporting relationships among BART employees, including the lower organizational layers.

2. The BART General Manager should set expectations that executive offices maintain up-to-date organization charts that include consideration of workloads created by contract management responsibilities, making transparent where accountability and the workload for contract management activities resides.

3. The BART General Manager should establish guidance and/or criteria on the factors that executives should follow when assessing their organizational frameworks and making changes to spans of control to improve organizational health or performance. The guidance for making changes to span of control should include:

- Considering risk mitigation for areas of moderate to high operational, financial, service delivery, internal control, or reputational risk;
- Widening span of control ratios where a supervisor has only one or no direct reports (including at the Executive or Director level);
- Promoting equity in spans of control among employees holding the same position classification;
- Acknowledging the level of accountability for contracted work and its effect on spans of control;
- Considering the administrative workload of supervisors that may facilitate the need for narrower spans of control, such as timesheet review and preparation of performance evaluations.

4. The BART General Manager should adopt span of control as a management tool and require its use under the following conditions:

- When considering promotions and defining career development pathways,
- To ensure alignment with executive office goals,
- When identifying opportunities for collaboration and cross-training, and
- When there are opportunities to make operational enhancements in lieu of adding positions.

5. The BART General Manager should establish policies stipulating the conditions supporting span of control ratios of one supervisor to one employee.

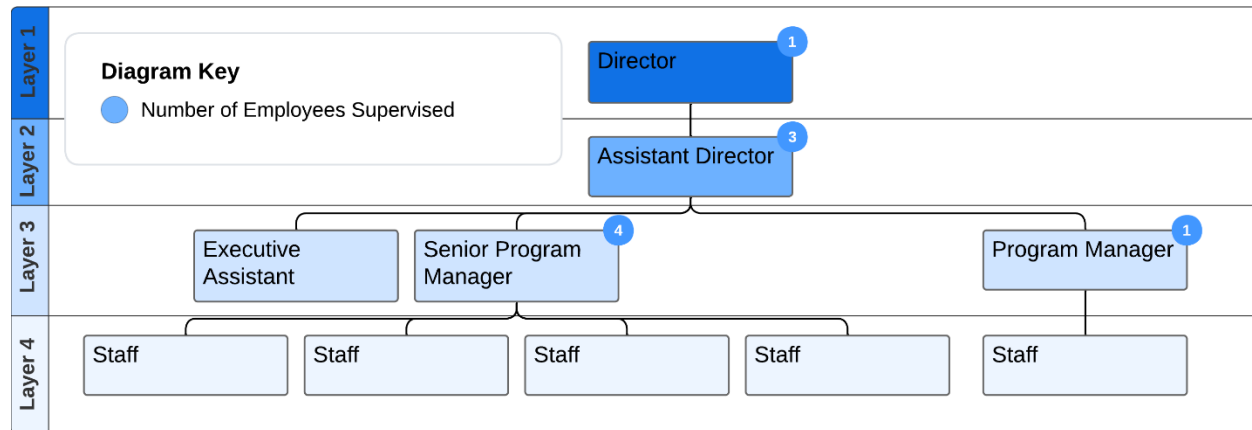
## BACKGROUND

### What is Span of Control?

Span of control is the number of employees reporting directly to an individual (supervisor). This can encompass one or more layers in an organization, from the top levels down to the lowest rank positions.

**Figure 1** illustrates four organizational layers. Organizational layer (OL) indicates the number of organizational levels with supervisory responsibilities and measures the distance from those in charge of the organization to the organizational layer where the employee works.

**Figure 1: Illustration of Organizational Layers in Span of Control**

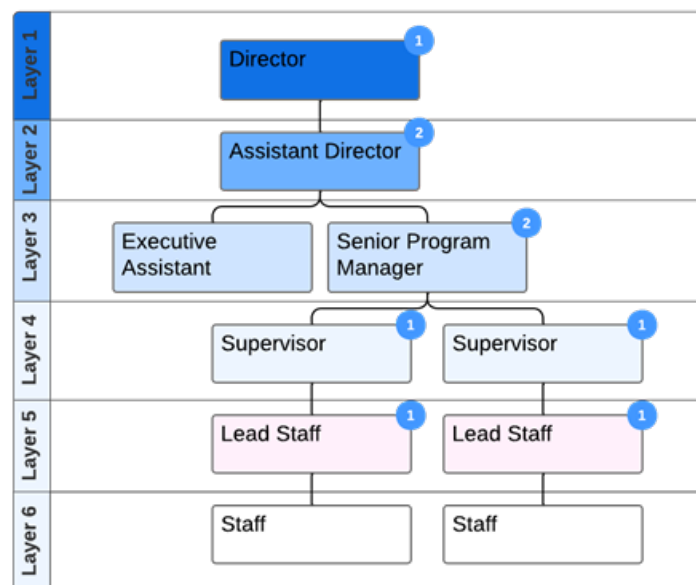


Span of control is often referred to being narrow or wide, after the shape of the organizational chart used to illustrate the measured reporting relationships.

### Narrower span of control

A narrower span of control entails assigning more employees with supervisory responsibility, as illustrated in **Figure 2**. This model can incur higher costs, but it also offers opportunities for employee development, enhanced compliance, and focused technical expertise. Under a narrow span of control, a supervisor may oversee one to two employees, as illustrated in Figure 2.

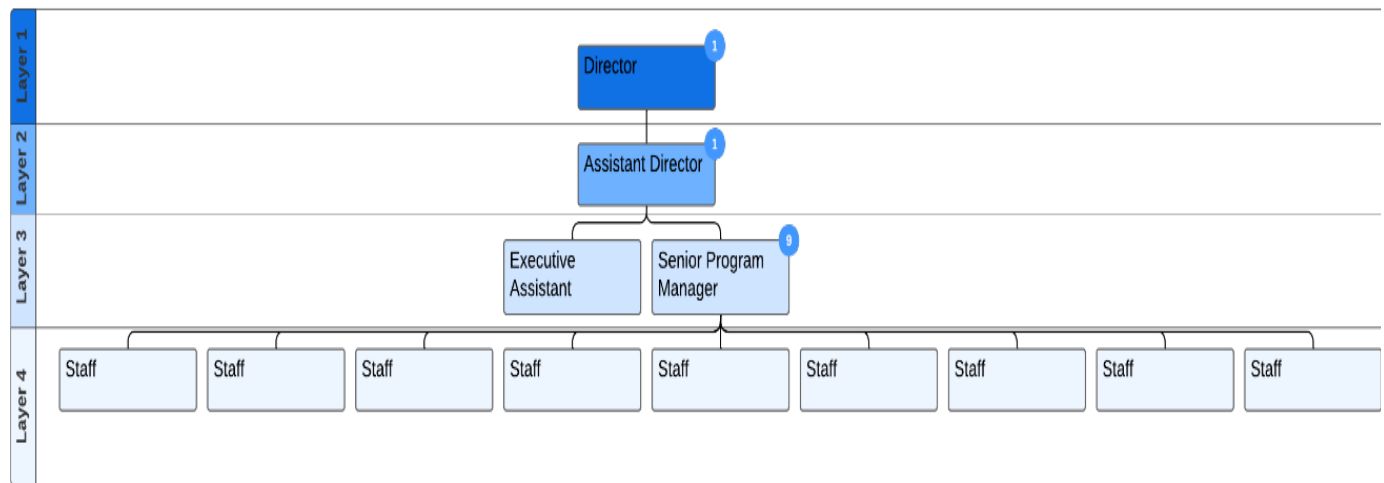
**Figure 2: Illustration of Narrower Span of Control**



## Wider span of control

Wider spans of control involve having fewer supervisors, as illustrated in **Figure 3**. This model can result in lower managerial costs and is considered beneficial for faster decision-making and reduced micromanagement. Under a wider span of control, one supervisor may oversee nine or more employees, as illustrated in Figure 3, and is commonly observed when employees are holding the same positions and perform the same tasks, with minimal risk to the organization's goals.

**Figure 3: Illustration of Wider Span of Control**



## What is the Value of Span of Control Analysis?

Using span of control as a management tool can benefit an organization in the following areas to improve organizational health and performance:

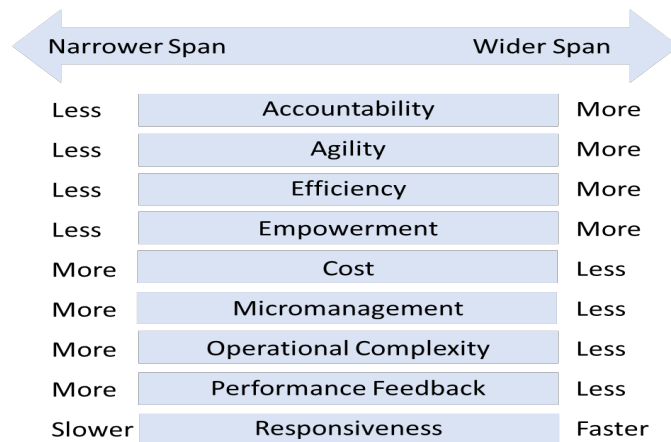
1. **Efficiency:** If a manager has too few subordinates, they may underutilize resources and their decision-making processes might be slow. Conversely, a too-large span of control can decrease effectiveness and result in a lack of control.
2. **Communication:** A wider span of control may facilitate more direct and frequent communication between a manager and lower-level employees, with fewer organizational layers. These benefits include conveying information and addressing concerns. With a narrower span of control, communication channels may become more complex, necessitating more formalized communication structures.
3. **Supervision and leadership:** A manager with a narrower span of control may have more time to dedicate to each subordinate, providing closer supervision and more personalized leadership. Conversely, a larger span of control may require managers to rely more on delegation and trust in subordinates' abilities.
4. **Flexibility and Adaptability:** The optimal span of control can vary based on the organization, industry, and specific tasks involved. Some organizations benefit from a broader span of control, fostering adaptability and quick decision-making, while others require a narrower span for more detailed oversight.

5. **Organizational Structure:** A flat organizational structure typically has a broader span of control, while a tall structure may have a narrower span. The analysis helps align the span of control with the chosen organizational structure.
6. **Employee Morale and Satisfaction:** Span of control can impact employee morale and satisfaction. Too much oversight or too little attention from a manager can affect job satisfaction. Finding the right balance through span of control analysis contributes to a positive work environment.
7. **Organizational design:** Depending on an organization's goals and objective, span of control can be a useful tool to ensure optimal levels of supervisor and staff to facilitate goal completion.
8. **Collaboration:** Collaboration is beneficial for the span of control in various ways, particularly in the context of organizational management and leadership. It allows for the pooling of resources, skills, and expertise among team members and aids in managing larger spans of control. In collaborative decision-making, leaders can delegate tasks and empower team members to make decisions within their expertise, lightening the managerial load. Moreover, a team working collaboratively is often more adaptable to change and can innovate more effectively, reducing the need for micromanagement and allowing leaders to focus on strategic aspects of their role. Finally, collaboration promotes a sense of shared responsibility among team members. When team members share the responsibility for achieving goals, managers can trust the team to self-organize and manage their work, reducing the need for direct supervision. As team members grow in their roles, they become more self-sufficient and capable, allowing leaders to expand their span of control without sacrificing effectiveness.

Using the illustration in **Figure 4** below, if an organization would like to provide more frequent as well as effective employee performance feedback, then a narrower span of control can help accomplish the goal. Establishing a wider span of control will likely have an adverse effect on the organization's ability to accomplish the goal.

In another example, if an organization establishes a goal to micromanage less, then under a wider span of control, a supervisor has less time for direct reports and theoretically less time to direct the work of each individual report.

**Figure 4: Impact that Span of Control Has on Organizational Goals**



### When Should an Organization Use Span of Control?

Routine assessment of organizational health and using indicators, such as span of control, are recommended as best practices. Literature identifies four opportunities for making changes to organizational design, including span of control. These opportunities arise when organizations (1) combine related programs, (2) want to improve the flow of information throughout an organization, (3) change goals, and (4) want to properly allocate resources to support activities and maintain proper accountability.

## Project Approach

### Audit Objectives

The BART Office of Inspector General (OIG) entered into a contract with TAP International, Inc. to perform a performance audit on BART's span of control. The audit aimed to: (1) Determine the span of control (number of staff reporting to each employee with supervisory responsibility, such as managers, supervisors, or lead staff) within BART and compare it with best practices and other transit agencies; and (2) Identify the factors influencing BART's span of control and assess how they are applied throughout BART.

### Methodology

To address our audit objectives, TAP International obtained a dataset of the most recent individual reporting relationships extracted from BART's HRIS. We used the data to calculate an initial span of control ratio for each department. We then illustrated the results in organizational charts created for each of 16 offices included in the audit, as follows:

#### Participant Offices

1. BART Police
2. Capitol Corridor\*
3. Controller-Treasurer (BAO)
4. District Secretary (BAO)
5. General Counsel (BAO)
6. Independent Police Auditor (BAO)
7. Office of Administration
8. Office of the General Manager, Office of Civil Rights
9. Office of External Affairs
10. Office of Inspector General (BAO)\*
11. Office of Infrastructure Delivery
12. Office of the General Manager, System Safety
13. Office of Performance & Budget
14. Office of Planning & Development
15. Office of Technology
16. Operations

\*The Capital Corridor and OIG participated in the audit for completeness purposes. Capitol Corridor is operated by a joint powers authority, governed by a board that includes two elected representatives from each of eight counties the Capital Corridor train travels through. The OIG is appointed by the Governor and provides services independent of the General Manager's Office. The audit included the Offices of Civil Rights and Systems Safety as part of the General Manager's Office.

In meetings with executive management in each office, including BART's bargaining unit representative, we discussed span of control. Where applicable, we updated organization charts to reflect the current organizational design for each office. Each meeting encompassed a discussion on reporting relationship data, factors influencing span of control, and opportunities and risks presented by the current organizational framework. For each office with an updated organizational chart, we recalculated the span of control ratio.

This audit examined span of control as a management strategy from three other comparable agencies – LA Metropolitan Transportation Agency (LA METRO), Southeastern Pennsylvania Transportation Authority (SEPTA), and Metropolitan Atlanta Rapid Transit Authority (MARTA). These agencies, selected based on input from BART management and TAP International’s independent analysis of size, provide rail passenger service. These agencies did not have organizational data sets to make useful comparisons of span of control ratios.

Finally, TAP International compared the span of control information collected throughout the audit against span of control management literature, where applicable.

## Limitations of the Review

Inherent limitations in our approach include:

- The span of control data reported in this audit relies on formal reporting relationships captured in BART’s HRIS, which does not encompass indirect reporting relationships. This report describes indirect reporting relationships based on information provided by BART executives.
- Comparable data to facilitate quantitative span of control ratio comparisons between BART and other transit agencies were not readily available. This report discusses comparable challenges among the peer agencies.
- Each office is responsible for documenting its organizational structures, contributing to the variation in the completeness of organizational data. BART’s executives, for many offices, provided substantial corrections to BART organizational data and charts for use in this audit, acknowledging that the data and organizational charts, in some cases, had become outdated. The audit relied upon the updated data and charts as a point in time snapshot because many executives reported anticipating future changes to their organizational structures. Maintaining current organizational charts is crucial for monitoring spans of control on an ongoing basis and achieving the benefits related to having an optimal span of control for the organization.
- This audit did not include a staffing analysis that would integrate workload data in assessing the adequacy of span of control ratios in each office.
- This audit also did not involve an independent assessment of whether the current span of control ratio effectively meets BART and/or office goals. This report, instead, describes reported information from BART executives.
- Organizational design is one of many ways to improve performance. This audit does not assert that span of control is the most valuable approach to addressing BART’s challenges. Other approaches include changes to administrative systems and program components, providing additional resources, or coordination across government agencies.

## Audit Statement

Our work was conducted between May 25 and October 31, 2023. We conducted this performance audit in accordance with 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. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. A draft report



was provided to BART's General Manager for review and comment. See Appendix D and E for additional information.

## Factors Related to Auditor Independence

The U.S. Government Accountability Office, whose Generally Accepted Government Auditing Standards TAP International is obligated to follow, requires assessing factors impairing Auditor independence. The Auditor did not encounter any impairments of independence by BART management or staff.

## Assessment of the Reliability of Data

Generally Accepted Government Auditing Standards require assessment of the sufficiency and appropriateness of computer-processed information to support our findings, conclusions, and recommendations. In conducting this audit, the HRIS is sufficiently reliable for the purpose of drawing conclusions about this audit upon collecting supplemental supervisory information from each BART department.

## Assessment of Internal Control

Generally Accepted Government Auditing Standards require an assessment of internal controls if internal controls are applicable to the audit objectives. Internal controls are processes, procedures, and other tools management uses to assist an entity achieve its objectives and comply with applicable laws and regulations. However, internal controls are not applicable to the objective of this audit.

## KEY FINDINGS

### Finding 1: Span of Control Ratios Vary Throughout BART

#### Span of Control Benchmarks Are Not Generally Established

Over time, best practices for determining the number of employees per supervisor have evolved. What was once discussed as a target in the ongoing evolution of the literature on organizational management has moved away from establishing a fixed standard. The absence of a universally established standard for spans of control in a public agency can be attributed to several factors as follows:

- (1) Diversity of organizational purpose:** Public agencies can have unique requirements and considerations when it comes to designing organizational structures. What works well in one type of public agency may not be suitable for another.
- (2) Varied applications:** Span of control structures are used in diverse applications, from manufacturing processes to environmental control to financial systems. Each application may require different control ratios based on specific parameters and goals, as well as management styles.
- (3) Technological advances:** Rapid advancements in technology can lead to changes in span of control systems. New technologies may necessitate the development of different control ratios to optimize performance and efficiency.
- (4) Regulatory environment:** Public agencies often operate under different regulations and standards, which can vary widely, contributing to the lack of a universal standard.

A 2017 publication reports typical spans of control range from 1:3 to over 1:15 depending on the individual roles and responsibilities of the supervisor. The publication emphasizes that establishing one single span of control may reduce effectiveness.<sup>3</sup>

#### BART Span of Control Ratios Range from 1:1 to 1:8.5 (Overall Median of Offices)

While there might not be a universal standard for span of control ratios, organizations can develop their own guidelines, best practices, and standards. These are typically based on the specific requirements and characteristics of the organization. Like the three other rail/transit agencies that we reviewed, BART has not established an internal benchmark or target for span of control. In the absence of span of control guidelines, BART executives for at least five offices reference their own span of control targets, ranging from 1:3 to 1:8, depending on the function. These executives explained that the use of their target span of control has helped with their organizational design to ensure their staffing levels are sufficient to accomplish organizational efficiency. Executives that did reference a span of control target rely on their peer transit agencies to compare their organizational design, finding, for the most part, similar frameworks.

Overall, the median span of control ratio at BART is four employees for every one supervisor, or 1:4. The median span of control ranges from 1:1 to 1:8.5 across the 16 offices we reviewed. See **Figures 5 through 6**. See **Appendix A** for additional information on span of control for each office. We analyzed

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<sup>3</sup> *How to Identify the Right 'Spans of Control' for Your Organization*, December 21, 2017, Ashwin Acharya, Roni Lieber, Lissa Seem, and Tom Welchman.

span of control ratios using the median (versus the average) to minimize the effect of overstated or understated supervisory ratios in personnel information due to undefined reporting relationships or position vacancies.

**Figure 5: Median Span of Control Across Offices Reporting to the BART General Manager**

| Span of Control by Office (MEDIAN) | Span of Control | Organizational Layer-1 | Organizational Layer-2 | Organizational Layer -3 | Organizational Layer -4 | Organizational Layer -5 | Organizational Layer -6 | # of Employees with Supervisory Role | # of Positions |
|------------------------------------|-----------------|------------------------|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------------------|----------------|
| Office of Civil Rights             | 2.0             | 1.0                    | 5.0                    | 2.0                     | 2.5                     | -                       | -                       | 10                                   | 26             |
| Infrastructure Delivery            | 3.0             | 7.0                    | 4.0                    | 3.5                     | 4.0                     | 2.0                     | 1.5                     | 75                                   | 299            |
| System Safety                      | 3.0             | 1.0                    | 6.0                    | 3.0                     | -                       | -                       | -                       | 5                                    | 19             |
| Police Department                  | 4.0             | 9.0                    | 2.5                    | 5.5                     | 3.0                     | 8.5                     | -                       | 53                                   | 355            |
| Technology                         | 4.0             | 6.0                    | 3.5                    | 4.0                     | -                       | -                       | -                       | 15                                   | 63             |
| Performance & Budget               | 4.0             | 5.0                    | 3.5                    | 4.0                     | 5.0                     | -                       | -                       | 11                                   | 42             |
| Planning & Development             | 4.0             | 6.0                    | 3.5                    | 3.5                     | -                       | -                       | -                       | 11                                   | 45             |
| Administration                     | 4.0             | 3.0                    | 8.0                    | 4.0                     | 3.5                     | 4.0                     | -                       | 38                                   | 166            |
| External Affairs                   | 4.0             | 6.0                    | 4.5                    | 2.0                     | 9.0                     | -                       | -                       | 13                                   | 57             |
| Operations                         | 8.0             | 7.0                    | 4.0                    | 4.0                     | 3.5                     | 17.0                    | 13.5                    | 196                                  | 3,253.3        |

**Figure 6: Median Span of Control for Offices with Executives that Report to the BART Board of Directors and Capitol Corridor**

| Span of Control by Office (MEDIAN)                   | Span of Control | Organizational Layer-1 | Organizational Layer--2 | Organizational Layer -3 | Organizational Layer -4 | Organizational Layer -5 | Organizational Layer -6 | # of Employees with Supervisory Role | # of Positions |
|------------------------------------------------------|-----------------|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------------------|----------------|
| Independent Police Auditor (Board Appointed Officer) | 4.0             | 4.0                    | -                       | -                       | -                       | -                       | -                       | 1                                    | 5              |
| Controller-Treasurer (Board Appointed Officer)       | 5.0             | 12.0                   | 4.0                     | 29.0                    | 1.0                     | -                       | -                       | 11                                   | 86             |
| District Secretary (Board Appointed Officer)         | 6.0             | 6.0                    | -                       | -                       | -                       | -                       | -                       | 2                                    | 7              |
| General Counsel (Board Appointed Officer)            | 8.5             | 1.0                    | 16.0                    | -                       | -                       | -                       | -                       | 2                                    | 18             |
| Office of Inspector General (OIG)                    | 1.0             | 1.0                    | 1.0                     | -                       | -                       | -                       | -                       | 2                                    | 3              |
| Capitol Corridor                                     | 2.0             | 7.0                    | 2.0                     | 1.5                     | -                       | -                       | -                       | 8                                    | 22             |

Wider (larger) span of control ratios become evident among the lower organizational layers within BART. Offices with larger numbers of employees (such as Police, Infrastructure Delivery, and Operations) had wider median span of control ratios among their lowest layer of the organization. For instance, the Police Department had a median span of control ratio of about 1:8.5 at its fourth organizational layer, and the Controller-Treasurer had a ratio of 1:29 at its third organizational layer.

Several offices – Infrastructure Delivery, Technology, Performance & Budget, and Planning & Development – maintain a consistent median span of control from the second layer of the department compared to the lower organizational layers. However, the executive for the Office of Infrastructure Delivery reported an ongoing effort at the time of our review to redefine its organizational framework, including the spans of control.

## **BART Data Shows Multiple 1:1 Span of Control Ratios**

When examining the individual span of control ratios computed for each supervisor, narrower and wider spans of control fluctuated from 1:1 to over 1:330 across the 16 offices at the time of our review. Certain supervisors had a very narrow span of control or no supervisory responsibilities because they were promoted into a higher organizational layer to provide career progression and/or higher compensation levels. For example, across organizational layers and the 16 BART offices, organizational data show at least 60 reporting relationships have 1:1 span of control ratios. Other transit agencies reported facing similar challenges as BART, in that each balances the need for employee promotion and increased compensation by elevating employees into higher organizational layers without also clarifying supervisory responsibilities or equivalent accountability. Given the frequency of this occurrence, it serves as an opportunity to realign spans of control to match the required supervisory roles. Promoting employees in this way narrows the span of control and can unnecessarily increase costs.

## **Span of Control Ratios Are Likely Understated and Overstated**

Span of control ratios are wider or narrower than they appear for the following reasons:

- The data used to compute span of control ratios does not fully recognize supervisors' oversight responsibilities when working with contracted consultants and temporary employees. As a result, the extent that individual employees have responsibility for contractor oversight across offices is not visible in the BART organizational framework. For example, the Office of Technology shares responsibility for consultant oversight with other departments overseeing consultants working on new technology projects. Other executives reported that some supervisors, aside from their supervisory responsibility for BART staff, have responsibility for managing contracts that can total nine or more contracts. The volume of these contracts are not usually considered when determining span of control for each supervisor. Accurate determination and analysis of span of control require recognition of contract management responsibilities.
- Below the mid-manager organizational layers, BART's HRIS does not consistently or formally document employees with supervisory responsibilities. While it may appear that a supervisor has a very wide (large) span of control, such as more than thirty staff directly reporting to them, in day-to-day operations one or more of these employees may share supervisory responsibilities and the span of control is less than 1:15.
- Certain mid-management positions and other professional classifications non-represented by a collective bargaining agreement with a union – such as 'project manager' or 'resident engineer' – may formally supervise other staff, be assigned management-level responsibilities, or neither. This variation among individuals holding the same position obscures the analysis of reporting relationships in lower organizational layers. For these positions, we could not determine how these employees are categorized or perceived – as a supervisor or staff – when determining span of control ratios and reviewing organizational layers. Additionally, executives reported that the position title of 'manager' does not always reflect a supervisory role and instead sometimes reflects a manager over projects or programs.
- The organizational data at the lower organizational layers is incomplete. In addition to reporting relationships at lower organizational layers being undefined or missing from HRIS, the HRIS data provided did not include position vacancies or recent changes. As a result, the data shows wider spans of control than executives reported in practice. For instance, based on HRIS data, the Police Department has an average/actual 1:339 ratio, but Police Department executives reported

that in practice, the span of control ratio is narrower. Police Department management reported efforts are underway to update the human resources database to define reporting relationships more accurately.

The incomplete data for determining span of control limits opportunities for improvement for BART executives. BART executives reported examples where non-transparent roles and responsibilities in the current organizational framework limit structural improvements, as well as improvements in other areas of BART operations. For example, the Office of Technology can become hampered in its ability to effectively use artificial intelligence (AI) tools to help improve access to information, both internally and externally, by reducing time spent searching for information and current waiting times to receive requested information. Executives reported that the success of AI will depend on the quality of underlying information, explaining missing or incomplete data can undermine the tool's effectiveness. Additionally, having unclear reporting relationships impacts their ability to hire and retain employees if employees face challenges in understanding roles and responsibilities within and across departments.

## Finding 2: Multiple Factors Drive BART’s Organizational Structure

Management literature acknowledges that while many factors can affect the choice of an appropriate structure for an organization, four factors are the most common: organizational size, strategy, technology, and environment.

Most of the BART executives generally considered their organizational environment when thinking about their structure. Executives described seven key factors related to this area as shown in **Figure 7**. Twelve of 16 Executives interviewed cited the nature of the work performed by staff (and supervisory skills and responsibilities. For example, executives explained that the more complex or less standardized the work being performed, the narrower the span of control for the supervisor. They also noted that the more work the supervisor is expected to perform or the less developed a supervisor’s management skills, the fewer direct reports would be assigned, resulting in a narrower span of control. Executives described how the range of a supervisor’s competency can influence their span of control, for example, the broader the expertise, the wider the span of control and vice versa.

**Figure 7: Key Areas that BART Executives Consider When Deciding Span of Control**

|                                        | Environment                                                                                                                                                                                                                                                                                                               | Strategy                                                                                      | Organizational Size                                                             | Technology |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------|
| Key Factors Cited (# Executives Cited) | <ul style="list-style-type: none"> <li>• Nature of the work (12)</li> <li>• Supervisory Skill and Responsibilities (12)</li> <li>• Employee Competency (9)</li> <li>• Risk (6)</li> <li>• Employee Development and Morale (5)</li> <li>• Geographic Location (3)</li> <li>• Resource (Budget) Availability (3)</li> </ul> | <ul style="list-style-type: none"> <li>• Agency or Office Goals and Objectives (2)</li> </ul> | <ul style="list-style-type: none"> <li>• Degree of Collaboration (2)</li> </ul> | 0          |

BART executives in six of the 16 offices identify 'risk' as a factor to consider in organizational design. Risks stem from a variety of sources, including financial uncertainties, legal liabilities, technology issues, management errors, a tight labor market, accidents, and natural disasters. For example, an executive explained how their office’s organizational framework considers the risk of the delivery of contracted work and equitably distributes accountability for this risk across department managers. Four executives discussed the risk of not meeting service delivery expectations and its impact on their current organizational structure, with some considering the risk of service delivery failure and reported using a narrower span of control to mitigate the risk of disruption to BART service goals.

Executives reported that without the correct span of control in some units, certain risks may not be effectively mitigated, driving the executives to consider changes to their organizational structure. For example, BART Police executives discussed that sergeants having too wide a span of control leads to delayed or inadequate responses to an emergency. Without appropriate span of control ratios, inefficient operations and inadequate prevention of policing errors could harm BART’s reputation and its ridership. As illustrated in **Figure 8**, span of control serves as a useful tool to help mitigate risk and address operational challenges, particularly in areas where risk tolerances have not been defined by management.

**Figure 8: Guide for Using Span of Control as a Tool to Mitigate Risk**

| Type of Risk | Work Environment                                                                             | Influence on Span of Control |
|--------------|----------------------------------------------------------------------------------------------|------------------------------|
| Control      | If the procedures are not well defined or implemented                                        | Provide Narrower Span        |
|              | If the procedures are well defined without gaps in controls                                  | Provide Wider Span           |
| Financial    | If the agency does not have robust controls over financial management                        | Provide Narrower Span        |
|              | If the agency has robust controls over financial management with financial goals established | Provide Wider Span           |
| Operational  | If business processes extend across offices                                                  | Provide Narrower Span        |
|              | If business processes do not extend across offices                                           | Provide Wider Span           |
| Reputational | If the public is directly impacted by service delivery                                       | Provide Narrower Span        |
|              | If the public is not directly impacted by service delivery                                   | Provide Wider Span           |
| Compliance   | If state and federal requirements drive business processes                                   | Provide Narrower Span        |
|              | If state and federal requirements do not drive business processes                            | Provide Wider Span           |

Other operating environment factors cited include employee development and morale, resource (budget) availability, and geographic location. Executives explained that for union-represented employees, the process to address issues with employee performance is detailed and administratively burdensome compared to the hiring of additional staff to assist with the work and widening the span of control. Other executives described examples where limited resources resulted in narrower or wider spans of control than they would design for a unit in their office, such as the addition of a deputy or more staff. Similarly, executives reported that geographic location can result in narrower spans of control to maintain supervision levels (resulting in increased cost from more supervisors) when employees perform work dispersed across the five counties served by BART, such as in police patrols or maintenance units. In contrast, in fully centralized operations spans of control can be wider while meeting the executives' goals for supervision. Consistent consideration of geographic location on span of control, including the potential additional cost for supervision from dispersed operations, could help guide executives' decisions on how to shape BART's organizational structure given its financial and human resource challenges.

Among the two other organizational areas to consider when making organizational changes – size and strategy – two executives identified another two factors considered in designing their organizational structures. One of these factors includes the degree of collaboration required with other departments or between units given the size of BART. The larger an organization becomes, the more complicated its structure. Organizational charts and specified job functions become critical, as does the need for policies



and procedures to provide the parameters within which employees can make decisions. If applied consistently, efficiency or effectiveness gains from collaboration across offices could help BART address its challenges by reducing the demand for new resources. The other factor is BART's overall strategy related to established goals and objectives, which influence how an office is going to position itself. The strategy developed for goal completion requires a structure that can facilitate success. BART executives explained that agency-wide goals prioritize their management of resources.

Finally, none of the executives reported considering technology in their organizational designs. Advances in technology are the most frequent cause of change in organizations since they generally result in greater efficiency and lower costs. Technology is the way tasks are accomplished using tools, equipment, techniques, and human know-how.

**Figure 9** describes how the factors identified by executives influence span of control ratios. For example, when more complex work is being performed by the employee, the executive would provide a narrower span of control for the supervisor, anticipating that the supervisor would require more time to oversee the employee's work.

**Figure 9: Guide for How the Factors Identified by BART Executives Can Influence Span of Control**

| Key Factor (Examples)                  |                                            | Assessment of the Key Factor                                                              | Influence on Span of Control |
|----------------------------------------|--------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------|
| Nature of the Work                     | Complexity of the work                     | If the work is <b>more</b> complex                                                        | Provide Narrower Span        |
|                                        |                                            | If the work is <b>less</b> complex                                                        | Provide Wider Span           |
|                                        | Degree of Work Task Standardization        | If the work task is <b>more</b> standardized across employees                             | Provide Wider Span           |
|                                        |                                            | If the work task is <b>less</b> standardized across employees                             | Provide Narrower Span        |
| Supervisory Skill and Responsibilities | Extent of supervisory tasks                | If the workload is <b>heavier</b>                                                         | Provide Narrower Span        |
|                                        |                                            | If the workload is <b>lighter</b>                                                         | Provide Wider Span           |
|                                        | Supervisor technical expertise             | If the work requires the supervisor to have specific technical expertise                  | Provide Narrower Span        |
|                                        |                                            | If the work does not require the supervisor to have specific technical expertise          | Provide Wider Span           |
|                                        | Supervisor's management skills             | If the supervisor's management skills are <b>weaker</b>                                   | Provide Narrower Span        |
|                                        |                                            | If the supervisor's management skills are <b>stronger</b>                                 | Provide Wider Span           |
| Employee Competency                    | Employee's knowledge, skill, and abilities | If the employee's knowledge, skill, and abilities <b>exceed</b> the position requirements | Provide Wider Span           |

| Key Factor (Examples)                 |                   | Assessment of the Key Factor                                                                  | Influence on Span of Control |
|---------------------------------------|-------------------|-----------------------------------------------------------------------------------------------|------------------------------|
|                                       |                   | If the employee's knowledge, skill, and abilities <b>fall below</b> the position requirements | Provide Narrower Span        |
|                                       | Employee turnover | If there is <b>high</b> employee turnover                                                     | Provide Narrower Span        |
|                                       |                   | If there is <b>low</b> employee turnover                                                      | Provide Wider Span           |
| Risk                                  | Reputational risk | If the reputational risk of the work is high                                                  | Provide Narrower Span        |
|                                       |                   | If the reputational risk of the work is low                                                   | Provide Wider Span           |
| Employee Development and Morale       | Mentoring         | If employee mentoring is <b>planned</b>                                                       | Provide Narrower Span        |
|                                       |                   | If employee mentoring is <b>not planned</b>                                                   | Provide Wider Span           |
|                                       | Employee morale   | If employee morale needs <b>more</b> monitoring                                               | Provide Narrower Span        |
|                                       |                   | If employee morale needs <b>routine</b> monitoring                                            | Provide Wider Span           |
| Geography                             | Service delivery  | If service delivery is dispersed                                                              | Provide Narrower Span        |
|                                       |                   | If service delivery is centralized                                                            | Provide Wider Span           |
| Resource Availability                 | Budget            | If adequate budget to complete the work                                                       | Provide Wider Span           |
|                                       |                   | If insufficient budget to complete the work                                                   | Provide Narrower Span        |
| Degree of Collaboration               | Collaboration     | If collaboration is required                                                                  | Provide Narrower Span        |
|                                       |                   | If collaboration is not required                                                              | Provide Wider Span           |
| Agency or Office Goals and Objectives | Agency-wide goals | If an agency has multiple goals and objectives                                                | Provider Narrower Span       |
|                                       |                   | If an agency has few goals and objectives                                                     | Provider Wider Span          |

## Use of Span of Control as an Internal Control Activity Varies Across BART Offices

The Standards for Internal Control in the Federal Government (the 'Green Book')<sup>4</sup>—designed to be adapted in other government organizations—describe the standards for an effective internal control system and provide an overall framework for designing, implementing, and operating a system to help achieve the agency's goals. A key element of an effective internal control system is established control activities. Control activities are the policies and procedures an agency has implemented to achieve objectives and respond to risks in the operating environment. The use of span of control as a management is a control activity to support the internal control system.

Executives in seven offices reported applying span of control as a management tool, with some executives explaining its use helps address operational inefficiencies and identification of other personnel needs. Another executive reported that the absence of detailed organizational data limits the use of span of control as a tool to allow for a quick evaluation of organizational efficiency and effectiveness, as well as decision-making and communication.

Executives in another seven offices do not use span of control as a tool because of other reasons driving their organizational frameworks, such as the availability of budgetary resources. However, BART's bargaining unit representative said that span of control should be used because having narrower spans of control at the managerial organizational layer creates operating inefficiencies among the union-represented class, such as not knowing whom to report to, and that there is a need for more line-level staff to perform the day-to-day work. At BART's second organizational layer among four departments with over 100 employees, span of control ratios narrow, ranging from 1:2.5 to 1:8 before span of control ratios becomes wider at lower levels.

For six other BART offices—OIG, Office of Civil Rights, General Counsel, Independent Police Auditor, District Secretary, and System Safety—their small size would not warrant a formal span of control focus.

The use of span of control as a management tool can likely facilitate decision-making on key challenges currently faced by BART. As described in the fiscal year 2024-2025 budget and by executives, BART faces financial challenges from a sustained decline in farebox revenue from the COVID-19 pandemic and the rising costs of rail expansion. BART also faces another resource challenge—in employee hiring and retention—from the loss of up to 400 staff through the retirement incentive program, a hiring freeze on some vacancies, and the reassignment and retraining of staff. Executives reported that being able to right size their spans of control could help BART address these challenges. See **Appendix C** for general guidelines on how to implement span of control in organizations.

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<sup>4</sup> GAO's Standards for Internal Control in the Federal Government is available at <https://www.gao.gov/products/gao-14-704g>. The Committee of Sponsoring Organizations of the Treadway Commission (COSO) provides another standard for an integrated internal control framework, developed for corporations. GAO reports that COSO introduced the concept of principles related to the five components of internal control, and the Green Book adapts these principles for a government environment. (GAO-14-704G)

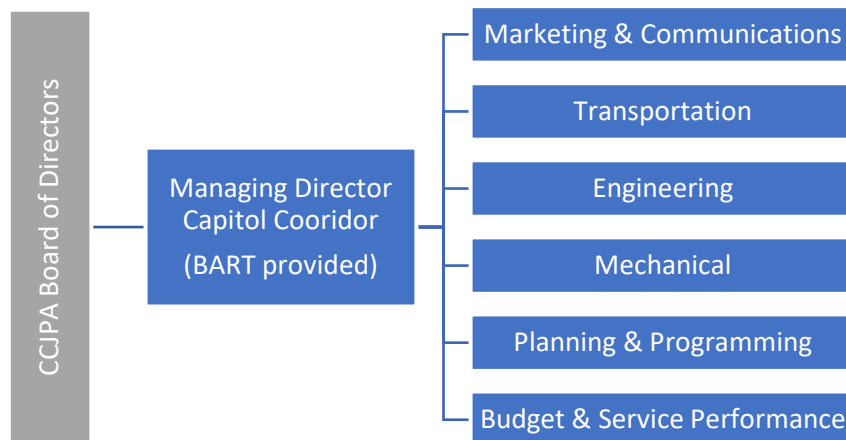
## APPENDIX A: BART OFFICE SUMMARIES

This report describes the high-level organizational design and span of control for each BART executive office. For the four BART offices—Administration, Controller-Treasurer, Office of Infrastructure Delivery, and Operations—with more than 100 positions, span of control is reported by department. The organizational charts presented in this report are for illustration only of the number of organizational layers. The organizational charts used for this audit represent a point in time snapshot of BART’s organizational structure and incorporate the corrections provided by executives during the audit, acknowledging that the data for many offices had become outdated. Many executives reported plans of future changes to their organizational structures and others provided their current organizational chart in use for their department.

### Capitol Corridor Joint Powers Authority

BART provides full-time management staff for the Capitol Corridor Joint Powers Authority (CCJPA). The CCJPA Board of Directors provides policy direction to the BART-provided CCJPA staff in delivering high-quality passenger rail service along its 170-mile corridor between the greater Sacramento area and the San Francisco Bay Area. Amtrak operates the service for the CCJPA, and Union Pacific Railroad owns and maintains the tracks. Funding is provided separately from BART through State of California transportation funds.

#### CCJPA’s Functional Organizational Chart

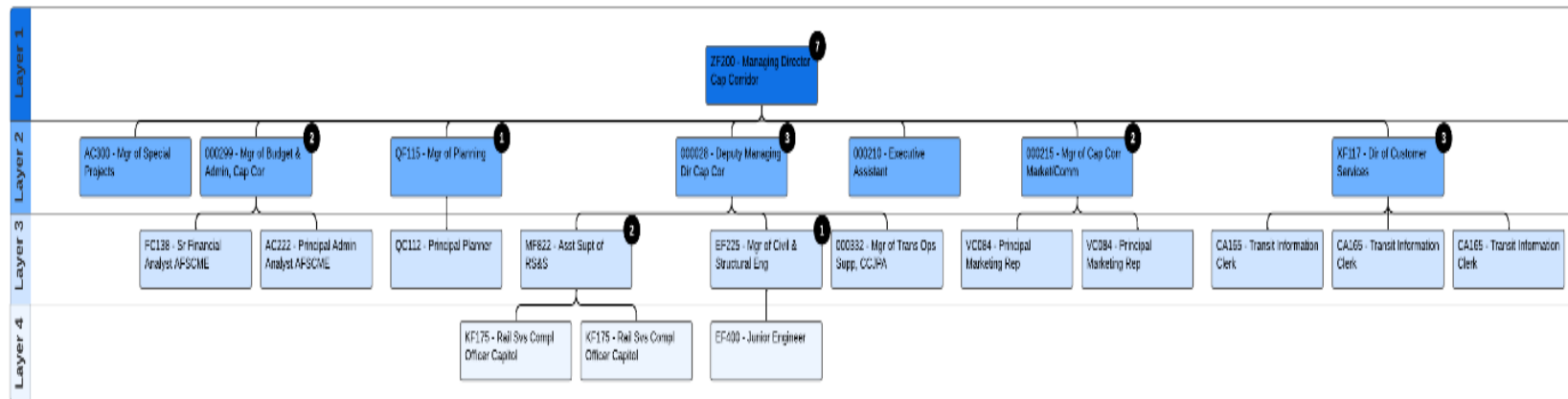


## BART Budget Position Summary

| Department       | FY22 Adopted |         | FY23 Adopted |         | FY24 Adopted |         |
|------------------|--------------|---------|--------------|---------|--------------|---------|
|                  | Operating    | Capital | Operating    | Capital | Operating    | Capital |
| Capitol Corridor | 0.0          | 20.0    | 0.0          | 22.0    | 0.0          | 23.0    |

## High-Level Organizational Framework and Span of Control Ratio

The Managing Director, Capitol Corridor, reports directly to the CCJPA Board of Directors. The Managing Director supervises both managers and directors in the second organizational layer. Nonetheless, CCJPA's framework follows the BART organizational framework model centered on centralized operations that limit opportunities for scalability.



## Median Span of Control for the Office and by Organizational Layer (OL)

CCJPA has a median span of control of 1:2 across its four organizational layers. When other transit agencies shifted in focus from capital expansion to providing the best service and customer experience, CCJPA re-organized and re-assigned responsibilities at the executive and manager levels to optimize customer service.

|                 | Office | OL-1 | OL-2 | OL-3  | OL-4 | OL-5 | OL-6 |
|-----------------|--------|------|------|-------|------|------|------|
| Span of Control | 2:1    | 7:1  | 2:1  | 1.5:1 |      |      |      |

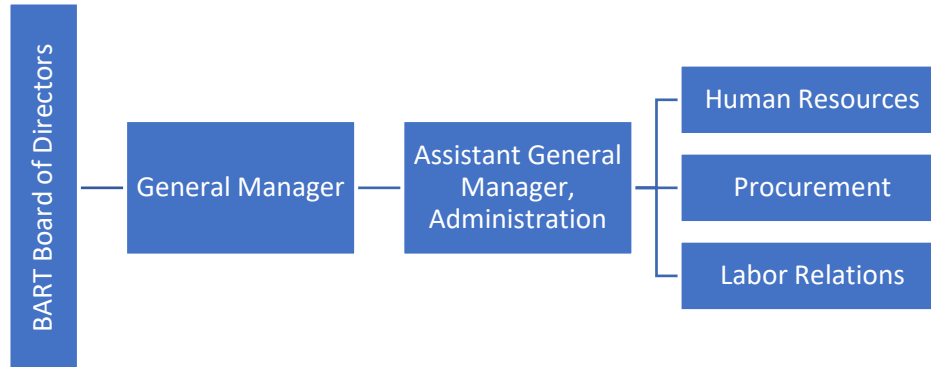
|              |    |   |   |    |   |  |  |
|--------------|----|---|---|----|---|--|--|
| #Supervisors | 8  | 1 | 5 | 2  |   |  |  |
| #Positions   | 22 | 1 | 7 | 11 | 3 |  |  |

Note: The numbers presented are based on data provided to TAP International from BART's human resource information system and updates from Office executives. These numbers may differ from the numbers presented in the BART annual budgets due to timing or other differences.

### Office of Administration

The Assistant General Manager, Administration, reports to the General Manager, overseeing 172.6 budgeted positions across three departments: Human Resources, Procurement, and Labor Relations.

### BART's Functional Organizational Chart



### BART Budget Position Summary

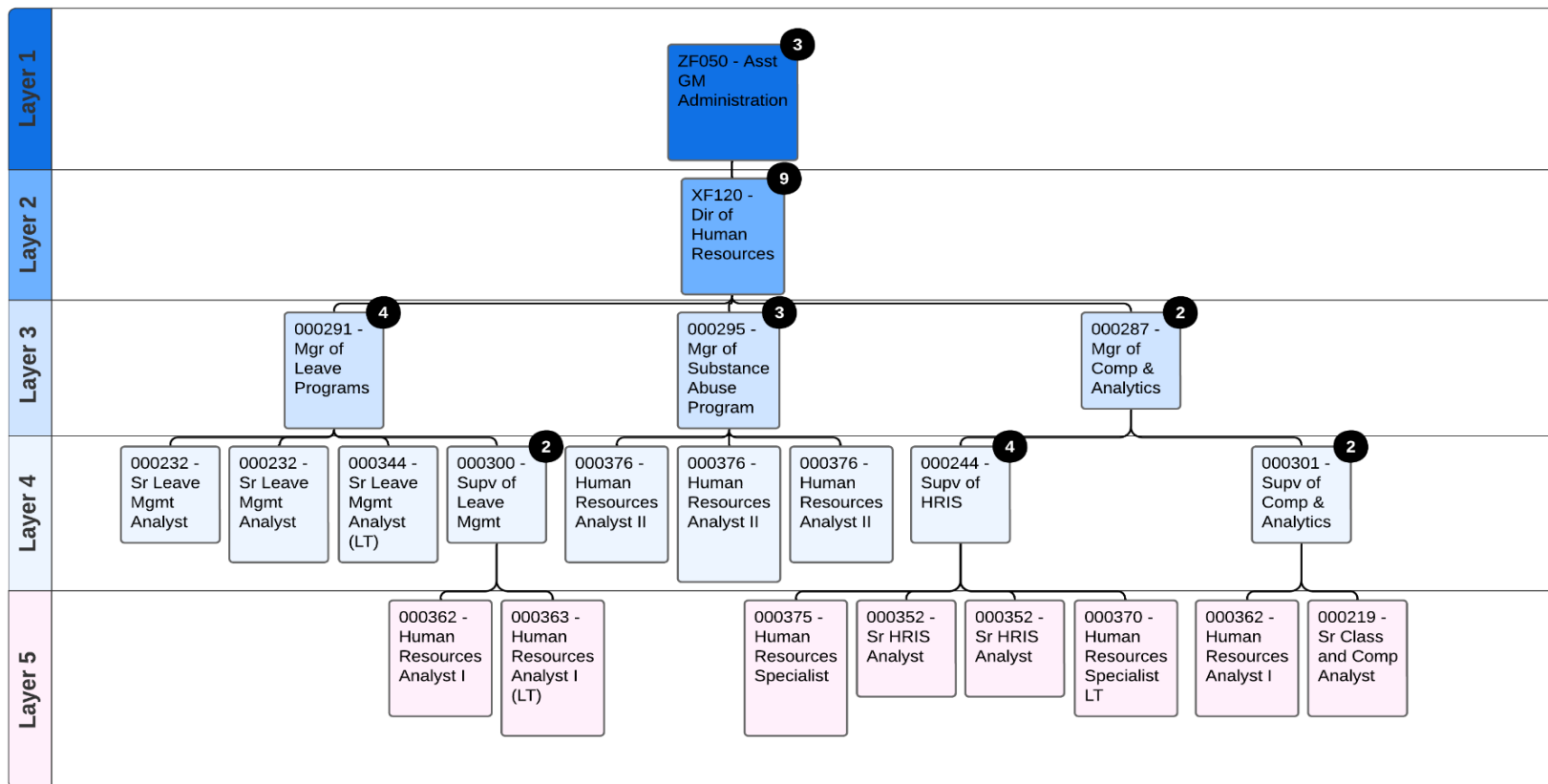
| Department       | FY22 Adopted |         | FY23 Adopted |         | FY24 Adopted |         |
|------------------|--------------|---------|--------------|---------|--------------|---------|
|                  | Operating    | Capital | Operating    | Capital | Operating    | Capital |
| Total for Office | 139.6        | 13.0    | 139.6        | 14.0    | 159.6        | 13.0    |
| Administration   | 3.0          | 0.0     | 2.0          | 0.0     | 3.0          | 0.0     |
| Human Resources  | 39.6         | 4.0     | 42.6         | 5.0     | 48.6         | 1.0     |
| Procurement      | 90.0         | 8.0     | 89.0         | 9.0     | 99.0         | 12.0    |
| Labor Relations  | 7.0          | 0.0     | 6.0          | 0.0     | 9.0          | 0.0     |

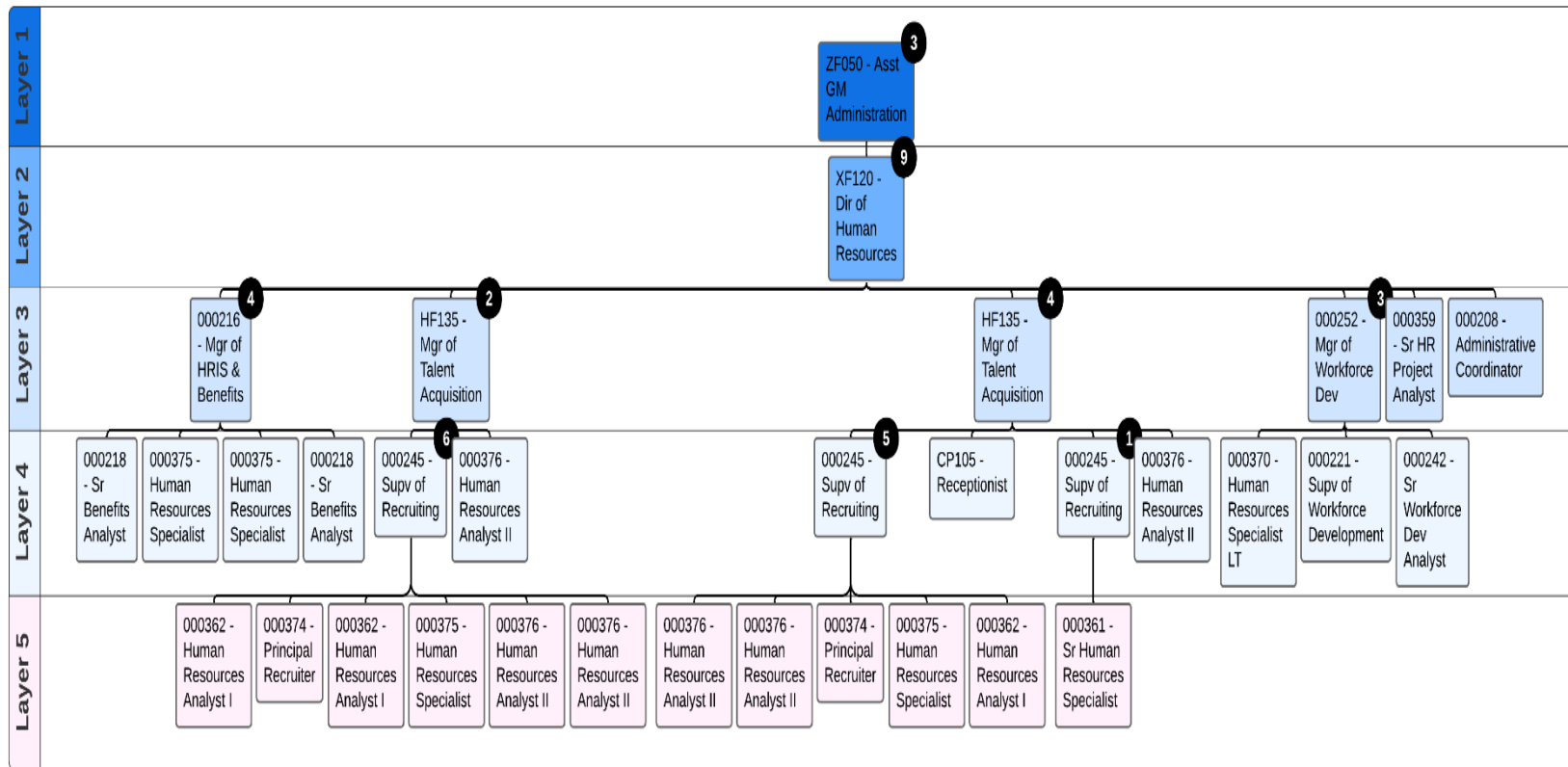
## High-Level Organizational Framework and Span of Control Ratio

For each department within the Office of Administration, the charts below describe and illustrate the organizational framework of at the time of the audit.

### Human Resources and Administration

The Human Resources department, the second largest department within the Office, is overseen by a director who supervises seven managers, an analyst, and an administrative coordinator. Each manager within the department is responsible for supervising two to four staff, including supervisors and analysts, with some also overseeing analysts and/or specialists.

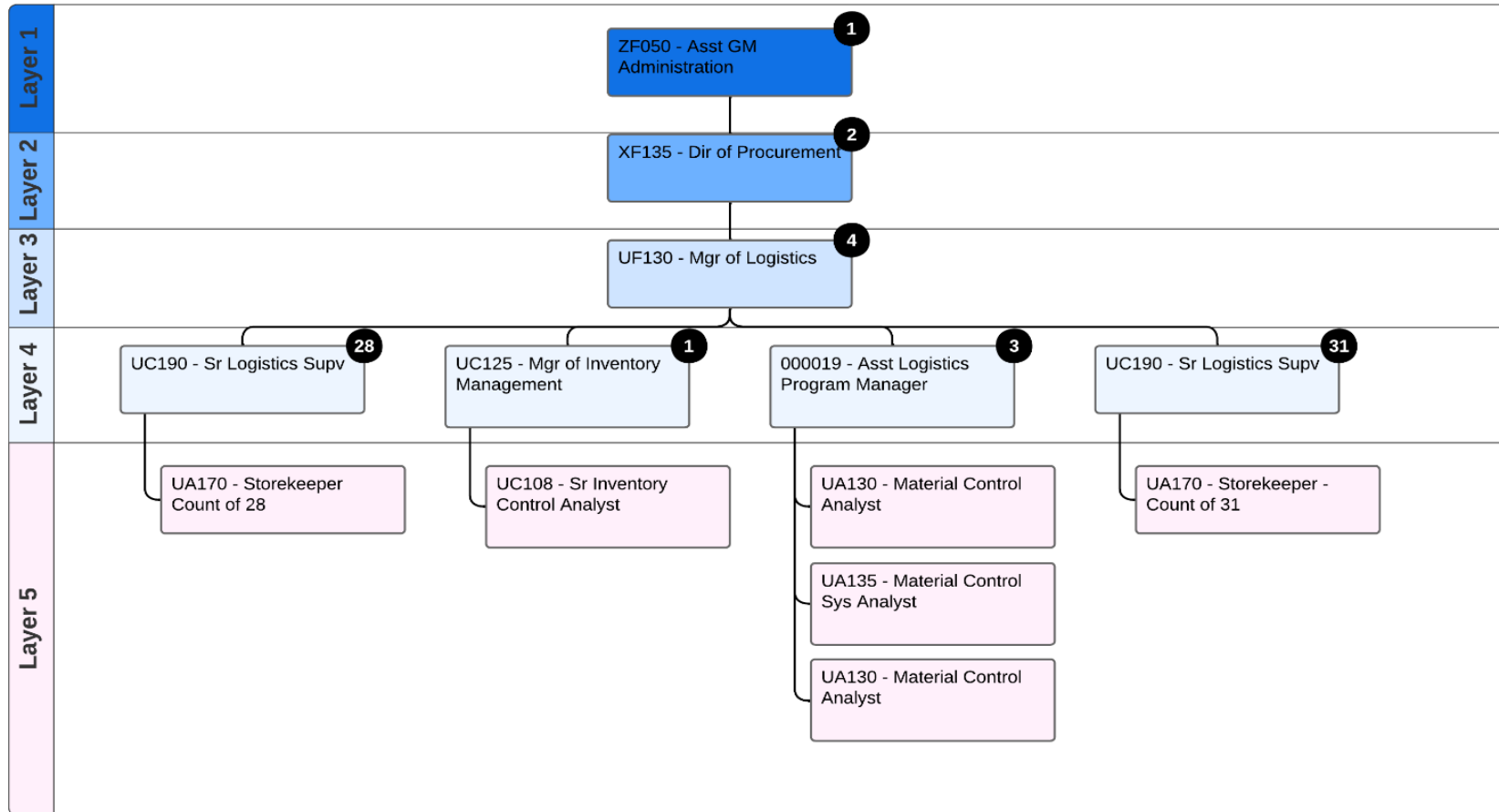


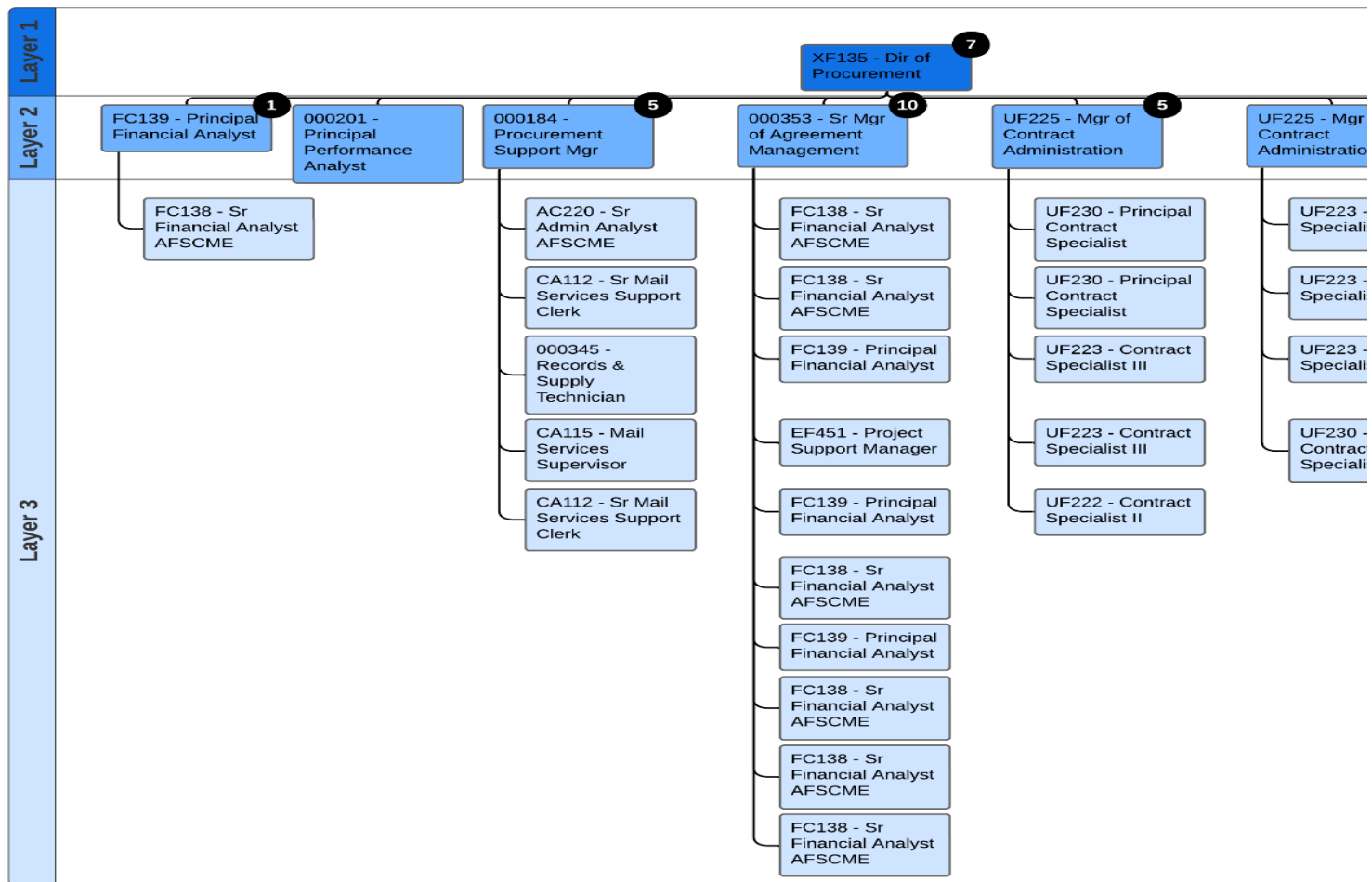


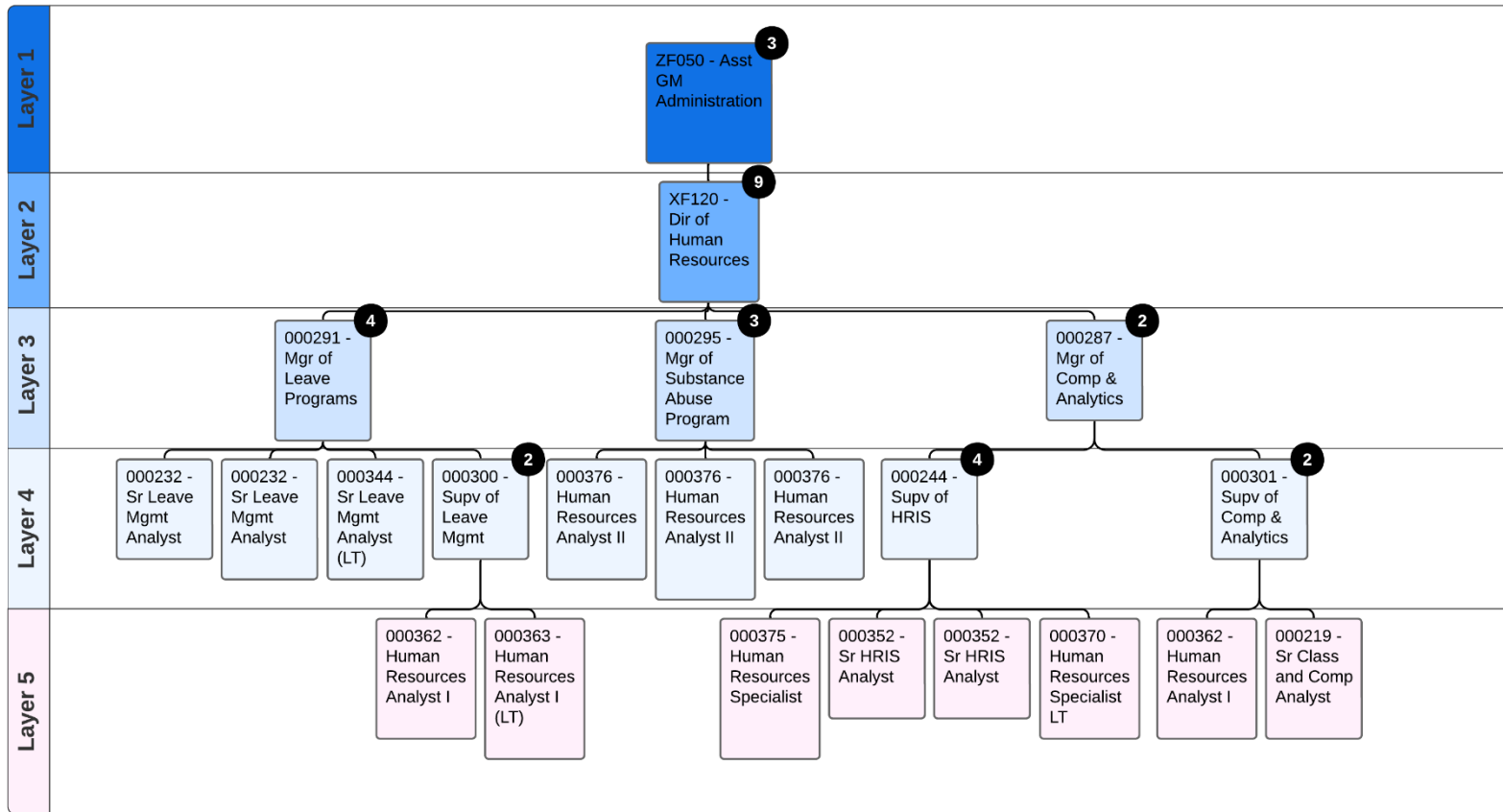


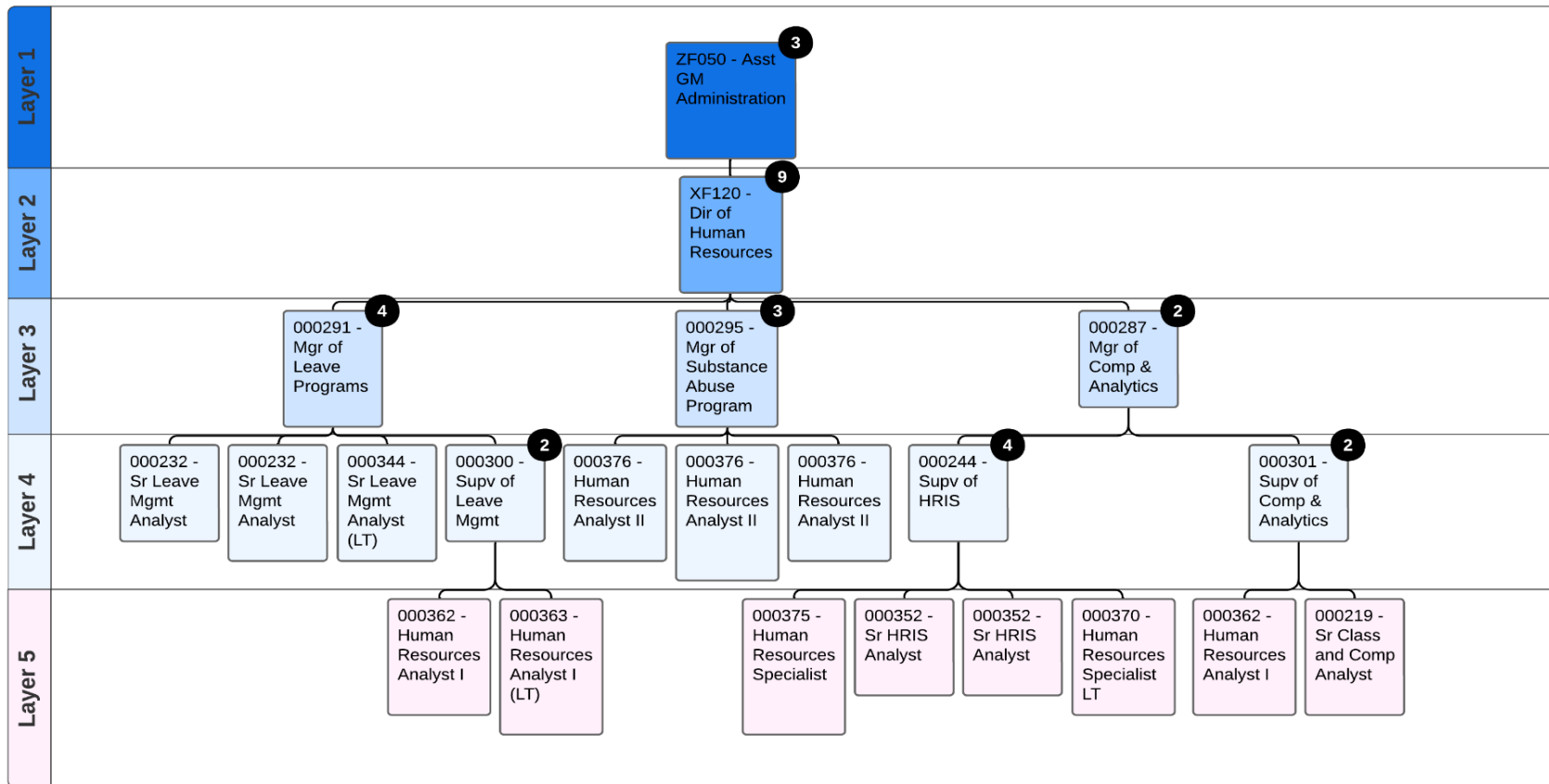
## Procurement

The Director of Procurement supervises six managers and two analysts. Additionally, the Manager of Logistics oversees two managers and two senior logistics supervisors, each of whom supervises 28-31 senior storekeepers and storekeepers. Two charts illustrate the organizational framework of Procurement, with a separate chart to illustrate Logistics.



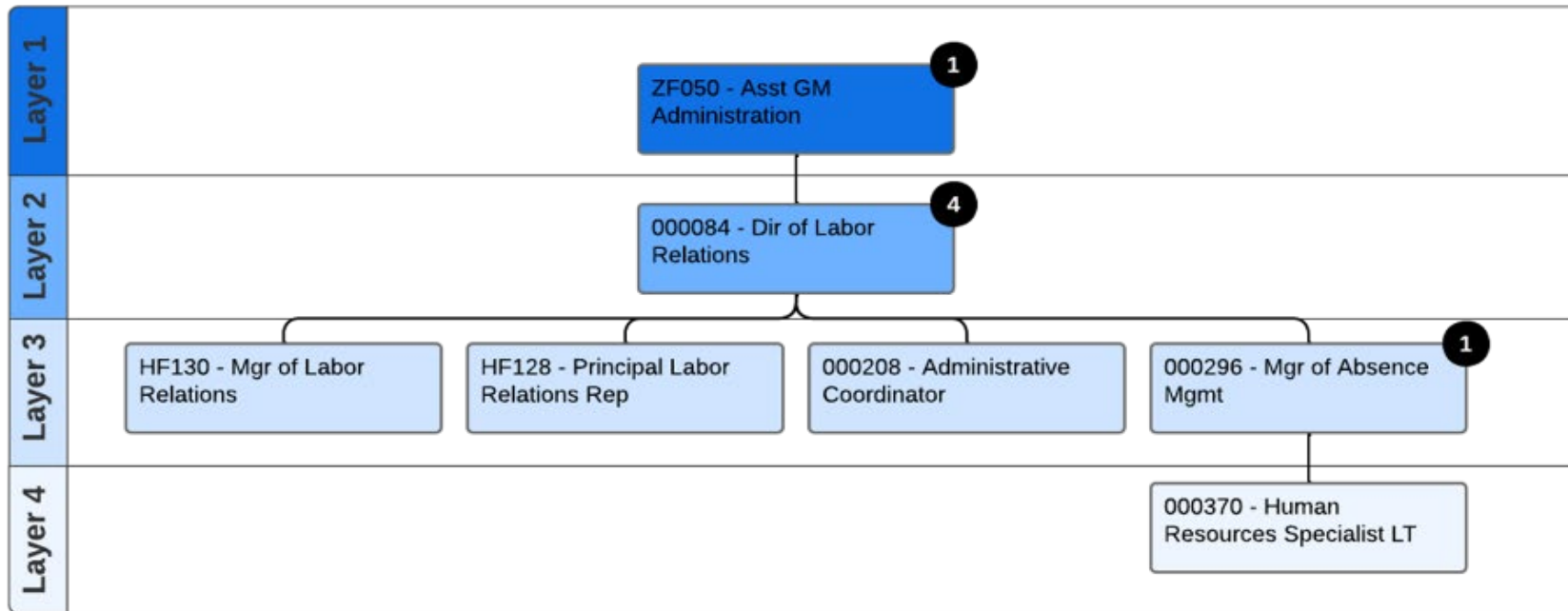






## Labor Relations

The director of the Labor Relations department supervises four staff, which includes two managers. One of the managers is responsible for supervising a human resources specialist.



### Median Span of Control for the Office and by Organizational Layer (OL)

Administration has a median span of control of 1:4 across its six organizational layers, with a total of 38 designated supervisors.

|                 | Office | OL-1 | OL-2 | OL-3 | OL-4  | OL-5 | OL-6 |
|-----------------|--------|------|------|------|-------|------|------|
| Span of Control | 4      | 3:1  | 8:1  | 4:1  | 3.5:1 | 4:1  |      |
| #Supervisors    | 38     | 1    | 3    | 15   | 10    | 9    |      |
| #Positions      | 166    | 1    | 3    | 21   | 58    | 33   | 50   |

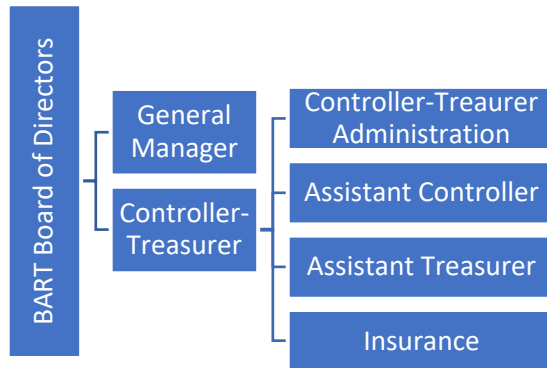
|                 | Office | Administration | Human Resources | Procurement | Labor Relations |
|-----------------|--------|----------------|-----------------|-------------|-----------------|
| Span of Control | 4      | 3              | 3.5             | 4           | 2.5             |
| #Supervisors    | 38     | 1              | 14              | 21          | 2               |
| #Positions      | 166    | 1              | 52              | 107         | 6               |

Note: The numbers presented are based on data provided to TAP International from BART's HRIS and updates from Office executives. These may differ from the numbers presented in the BART annual budgets due to timing or other differences.

### Office of the Controller-Treasurer

The Office of the Controller-Treasurer has 102 budgeted positions across four departments: Controller-Treasurer Administration, Assistant Controller, Assistant Treasurer, and Insurance. The Office of the Controller-Treasurer is responsible for BART's finances and collects, disburses, accounts for, and creates financial reports for all monies that flow in or out of BART. The Controller-Treasurer is a Board Appointed Office, who reports directly to the Board of Directors.

### BART's Functional Organizational Chart



### BART Budget Position Summary

| Department           | FY22 Adopted |         | FY23 Adopted |         | FY24 Adopted |         |
|----------------------|--------------|---------|--------------|---------|--------------|---------|
|                      | Operating    | Capital | Operating    | Capital | Operating    | Capital |
| Total for Office     | 93.0         | 8.0     | 94.0         | 8.0     | 94.0         | 8.0     |
| Administration       | 2.0          | 0.0     | 2.0          | 0.0     | 2.0          | 0.0     |
| Assistant Controller | 37.0         | 7.0     | 38.0         | 7.0     | 38.0         | 7.0     |
| Assistant Treasurer  | 50.0         | 0.0     | 50.0         | 0.0     | 50.0         | 0.0     |
| Insurance            | 4.0          | 1.0     | 4.0          | 1.0     | 4.0          | 1.0     |

### High-Level Organizational Framework and Span of Control Ratio

The Acting Controller-Treasurer (OL-1) oversees twelve (12) employees, including a director of risk and insurance management, assistant treasurer, seven managers, two junior accountants, and an executive assistant. The assistant treasurer and six managers (in OL-2) lead teams of three to nine

analysts, accountants, and/or cash handlers in (OL-3). The third and fourth organizational layers encompass the positions of foreworker and cash handler.

In a separate review, an external consultant recommends restructuring the highest organizational layers into the Finance Department.<sup>5</sup> Creating a direct reporting relationship between the department executive and the BART General Manager may widen the span of control ratio for the General Manager's office.

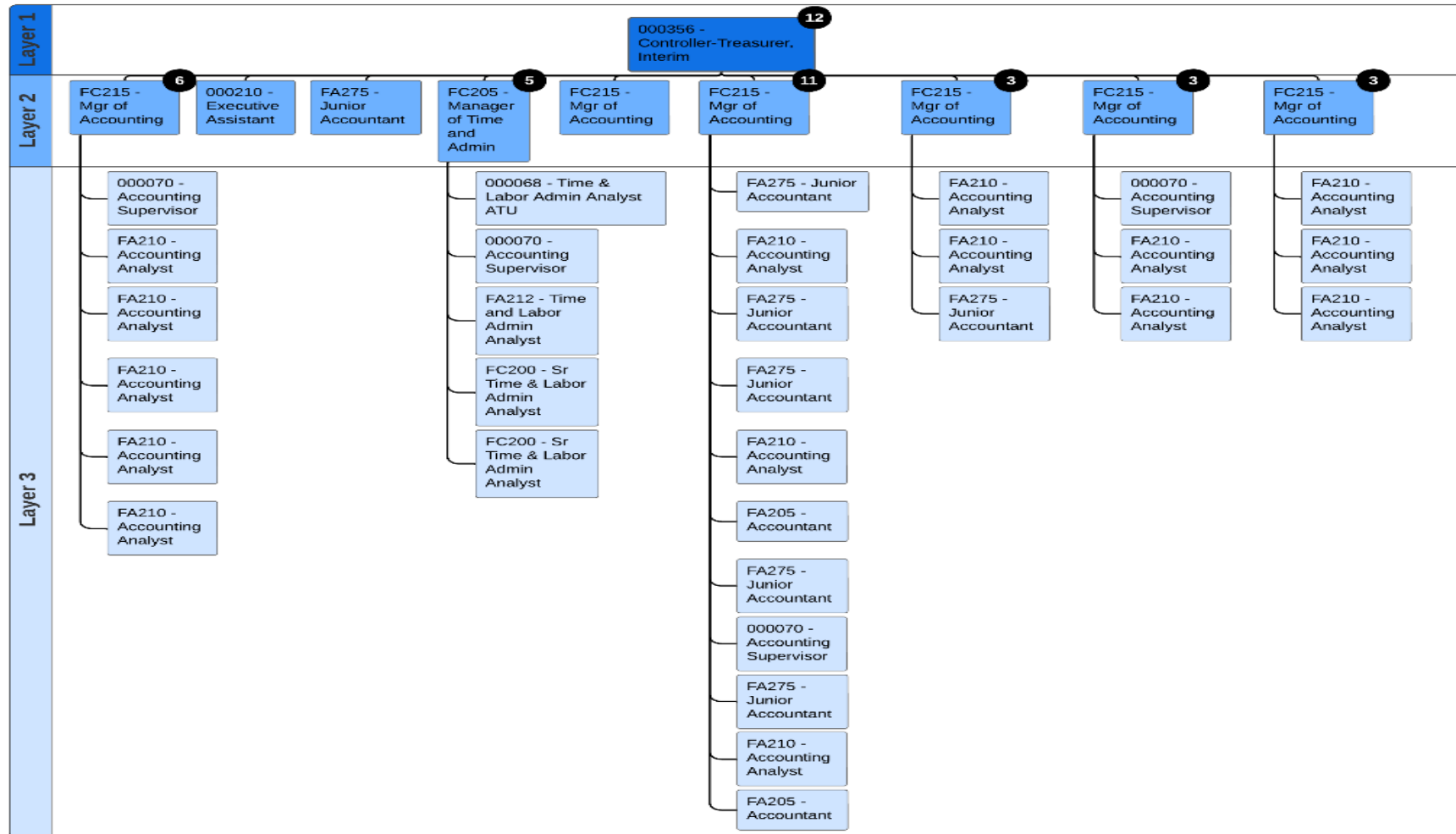
The following charts illustrate the organizational framework of the Controller-Treasurer's office at the time of the audit, by each department within the office. The departments of Administration and Assistant Controller are combined.

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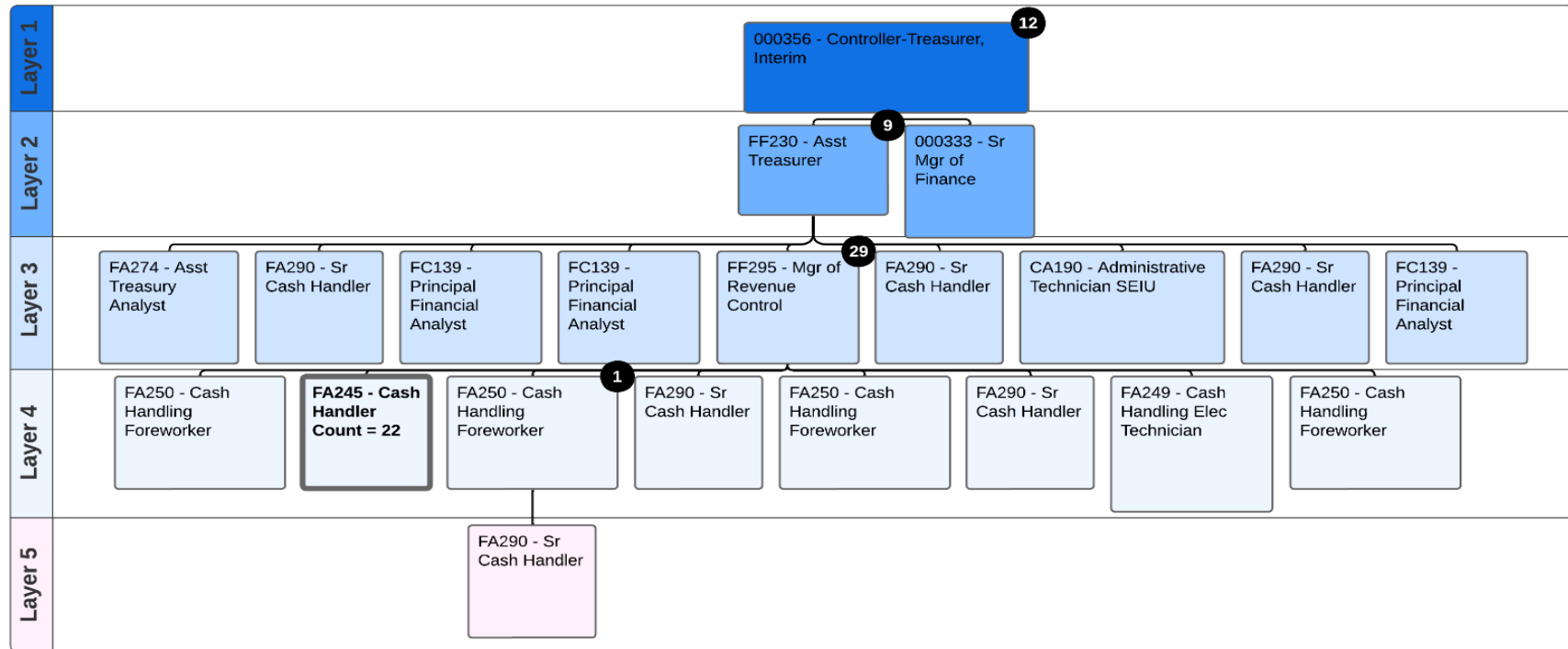
<sup>5</sup> In 2022, the BART Board of Directors, at the recommendation of the Office of the Inspector General, adopted a CFO structure to bring together the functions from the Offices of the Controller and the Treasurer. In 2023, BART's General Manager hired a consulting team to develop a roadmap for implementing the financial organization structure. For more information: <https://www.bart.gov/news/articles/2023/news20231207>.



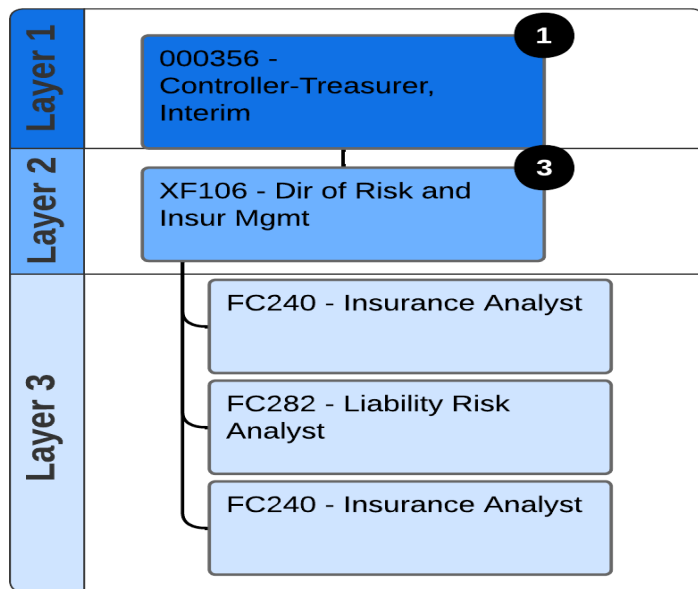
## Administration & Assistant Controller



## Assistant Treasurer



## Insurance



### Median Span of Control for the Office and by Organizational Layer (OL)

The Controller-Treasurer maintains a median span of control of 1:5 across its four organizational layers, with a total of 11 designated supervisors.

|                 | Office | OL-1 | OL-2 | OL-3 | OL-4 | OL-5 | OL-6 |
|-----------------|--------|------|------|------|------|------|------|
| Span of Control | 5      | 12   | 4    | 29   | 1    |      |      |
| #Supervisors    | 11     | 1    | 8    | 1    | 1    |      |      |
| #Positions      | 86     | 1    | 12   | 43   | 29   | 1    |      |

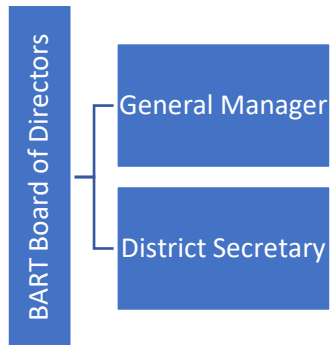
|                 | Office | Administration | Assistant<br>Controller | Assistant<br>Treasurer | Insurance |
|-----------------|--------|----------------|-------------------------|------------------------|-----------|
| Span of Control | 5      | 12             | 4                       | 9                      | 3         |
| #Supervisors    | 11     | 1              | 6                       | 3                      | 1         |
| #Positions      | 86     | 2              | 39                      | 41                     | 4         |

Note: The numbers presented are based on data provided to TAP International from BART's Human Resources Information System and updates from Office executives. These may differ from the numbers presented in the BART annual budgets due to timing or other differences.

### Office of the District Secretary

The Office of the District Secretary has seven budgeted positions. The District Secretary offers administrative support to the Board of Directors by recording the activities of the Board, communicating on behalf of the Board, providing contract administration support, serving as the authorized agent of BART for legal services and requests for records, and administering BART's conflict of interest codes. The District Secretary, a Board Appointed Officer, reports directly to the Board of Directors.

### BART's Functional Organizational Chart

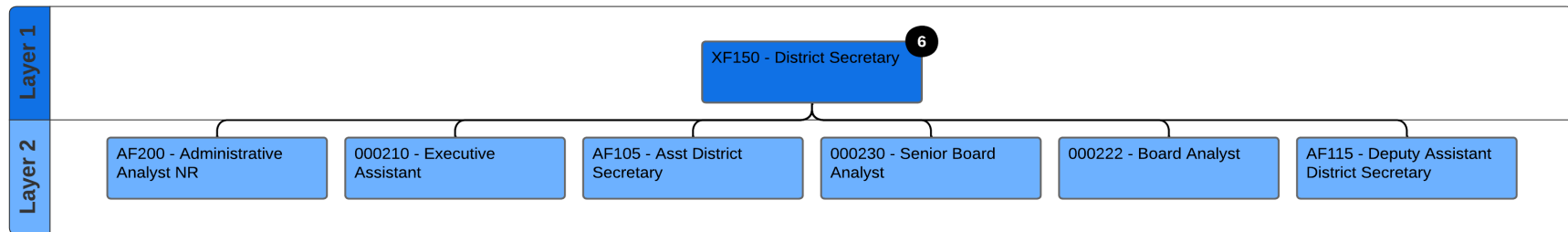


### BART Budget Position Summary

| Department                       | FY22 Adopted |         | FY23 Adopted |         | FY24 Adopted |         |
|----------------------------------|--------------|---------|--------------|---------|--------------|---------|
|                                  | Operating    | Capital | Operating    | Capital | Operating    | Capital |
| Office of the District Secretary | 7.0          | 0.0     | 7.0          | 0.0     | 7.0          | 0.0     |

### High-Level Organizational Framework and Span of Control Ratio

The Board of Directors appoints the District Secretary, who oversees a team of six staff members. This team includes an Assistant District Secretary, Deputy Assistant District Secretary, three analysts, and an Executive Assistant.



### Median Span of Control for the Office and by Organizational Layer (OL)

The District Secretary has a median span of control of 1:6 across its four organizational layers, with one designated supervisor. The District Secretary explained that broader spans of control can aid in building institutional knowledge for business continuity and succession planning, as reporting employees gain a deeper understanding of the roles and responsibilities within the office.

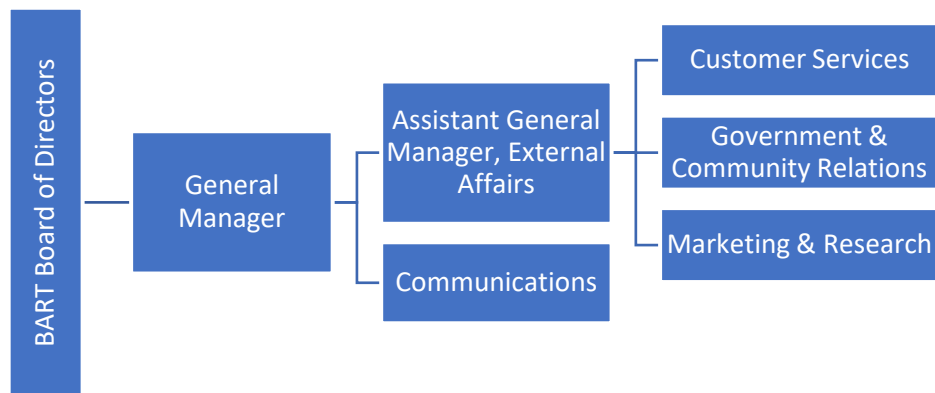
|                 | Office | OL-1 | OL-2 | OL-3 | OL-4 | OL-5 | OL-6 |
|-----------------|--------|------|------|------|------|------|------|
| Span of Control | 6      | 1    | 6    |      |      |      |      |
| #Supervisors    | 1      | 1    |      |      |      |      |      |
| #Positions      | 7      | 1    | 6    |      |      |      |      |

Note: The numbers presented are based on data provided to TAP International from BART's Human Resources Information System and updates from Office executives. These may differ from the numbers presented in the BART annual budgets due to timing differences.

## Office of External Affairs

The Office of External Affairs comprises 53.2 budgeted positions distributed across four departments: Communications, Customer Services, Government and Community Relations, and Marketing and Research. The Assistant General Manager of External Affairs reports directly to the General Manager. Additionally, the Chief Communications Officer also reports to the General Manager.

### BART's Functional Organizational Chart



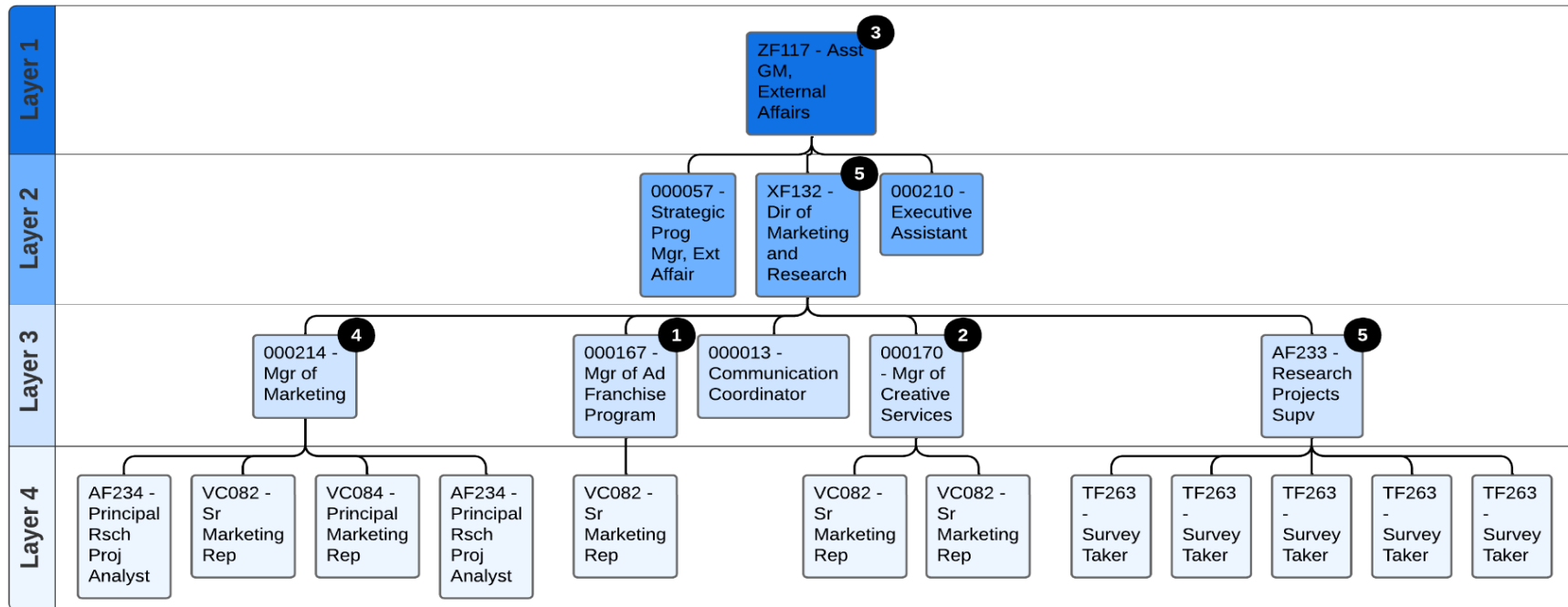
### BART Budget Position Summary

| Department                       | FY22 Adopted |         | FY23 Adopted |         | FY24 Adopted |         |
|----------------------------------|--------------|---------|--------------|---------|--------------|---------|
|                                  | Operating    | Capital | Operating    | Capital | Operating    | Capital |
| Total for Office                 | 43.4         | 5.8     | 44.4         | 5.8     | 48.4         | 4.8     |
| Administration                   | 2.8          | 0.3     | 2.8          | 0.3     | 2.8          | 0.3     |
| Communications                   | 8.5          | 1.5     | 8.5          | 1.5     | 9.5          | 1.5     |
| Customer Services                | 12.0         | 2.0     | 12.0         | 2.0     | 12.0         | 2.0     |
| Government & Community Relations | 7.0          | 0.0     | 8.0          | 0.0     | 9.0          | 0.0     |
| Marketing & Research             | 13.1         | 2.0     | 13.1         | 2.0     | 15.1         | 1.0     |

### High-Level Organizational Framework and Span of Control Ratio

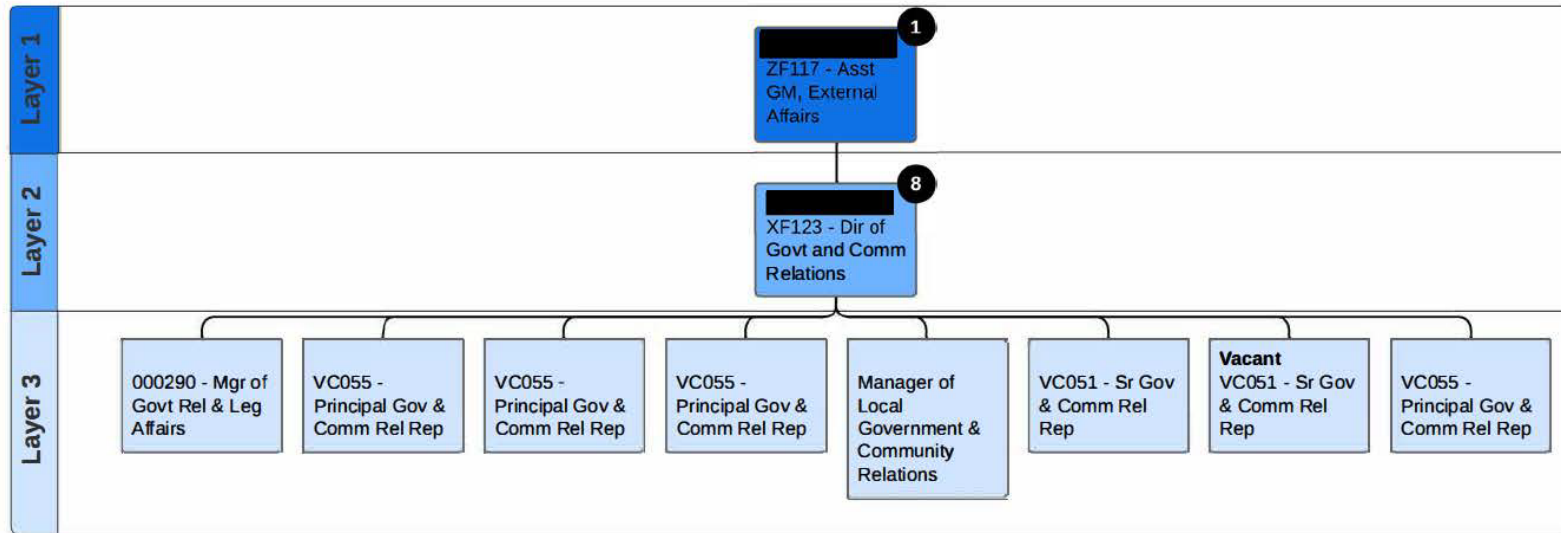
Located within the same office, both the AGM, External Affairs, and the Communications Director each report to the BART General Manager. The Assistant General Manager supervises the directors of Customer Services, Government & Community Relations, and Marketing & Research.

## Marketing & Research & Administration

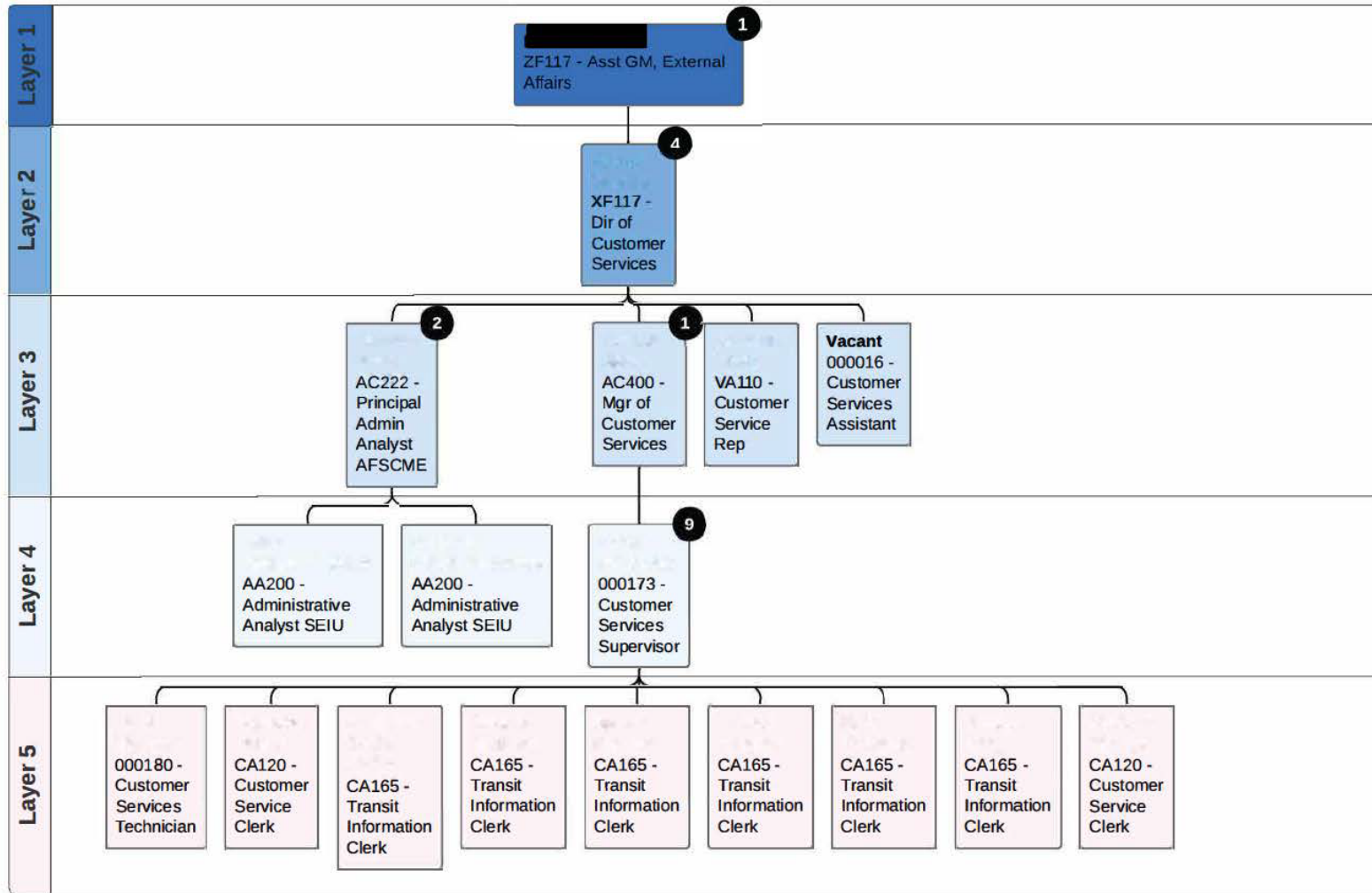




## Government & Community Relations

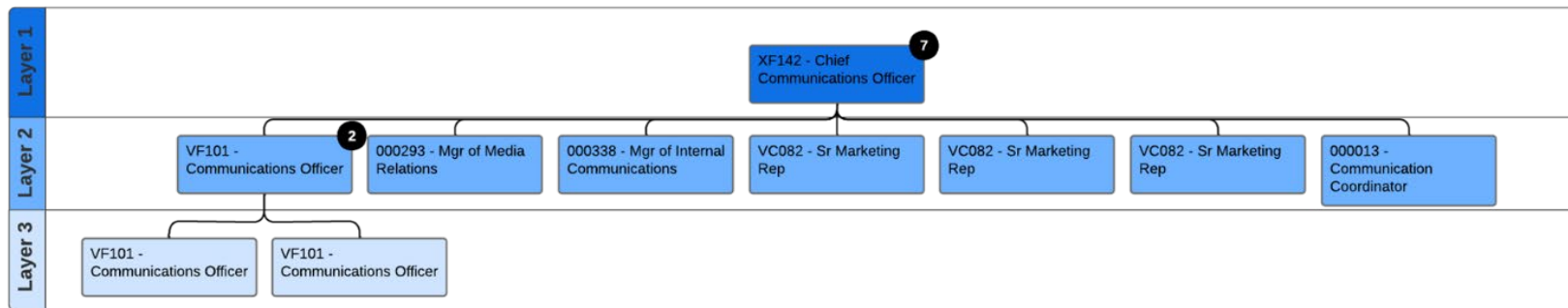


## Customer Services



## Communications

The Chief Communications Officer, who reports directly to the General Manager, supervises two managers and seven staff members in the Communications department. In comparison to External Affairs as a whole, Communications maintains fewer positions and organizational layers.



## Median Span of Control for the Office and by Organizational Layer (OL)

The Office of External Affairs has a median span of control of 1:4 across its four organizational layers with 13 designated supervisors.

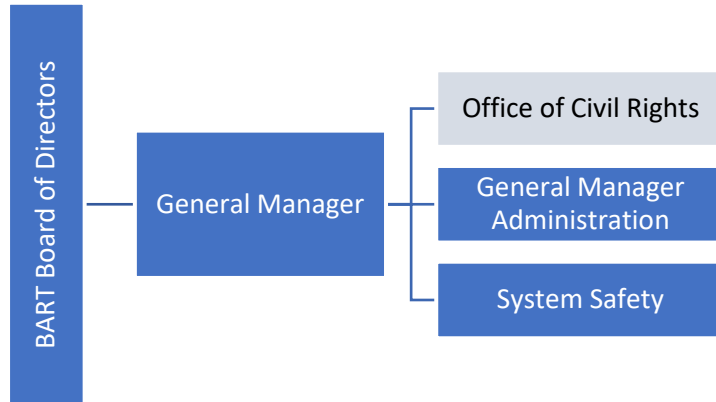
|                 | Office | OL-1 | OL-2 | OL-3 | OL-4 | OL-5 | OL-6 |
|-----------------|--------|------|------|------|------|------|------|
| Span of Control | 4      | 6    | 4.5  | 2    | 9    |      |      |
| #Supervisors    | 13     | 2    | 4    | 6    | 1    |      |      |
| #Positions      | 57     | 2    | 12   | 19   | 15   | 9    |      |

Note: The numbers presented are based on data provided to TAP International from BART's Human Resources Information System and updates from Office executives. These may differ from the numbers presented in the BART annual budgets due to timing or other differences.

### Office of the General Manager, Office of Civil Rights

The Office of Civil Rights, located within the Office of the General Manager, oversees 28 budgeted positions distributed among four divisions: Contract and Labor Compliance Programs, Economic Opportunity Policies and Programs, Workforce and Policy Compliance, and Agreement Compliance Programs. The General Manager is the reporting authority for the Director of the Office of Civil Rights.

### BART's Functional Organizational Chart

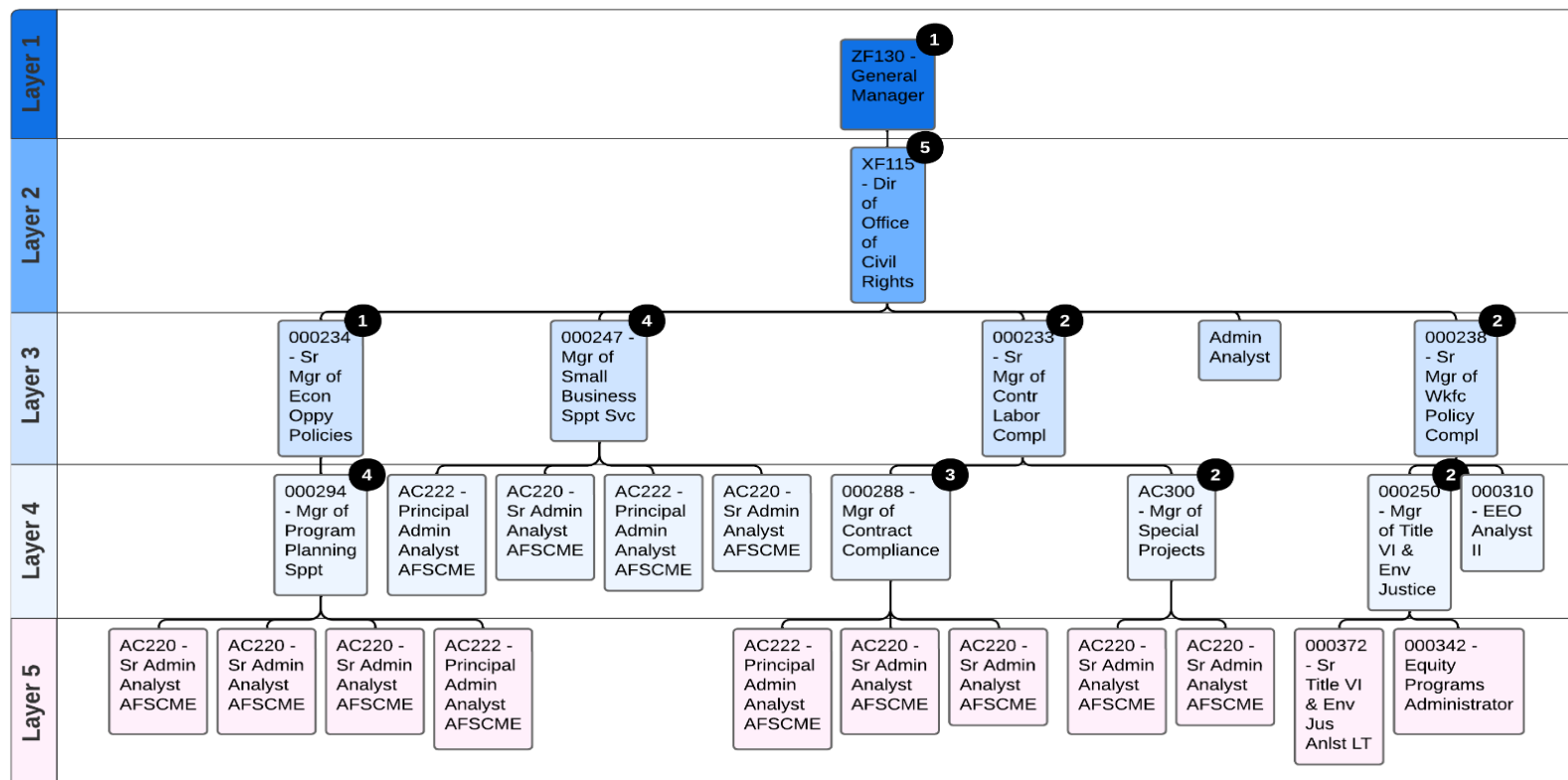


### BART Budget Position Summary

| Department             | FY22 Adopted |         | FY23 Adopted |         | FY24 Adopted |         |
|------------------------|--------------|---------|--------------|---------|--------------|---------|
|                        | Operating    | Capital | Operating    | Capital | Operating    | Capital |
| Office of Civil Rights | 13.0         | 8.0     | 15.0         | 11.0    | 15.0         | 13.0    |

### High-Level Organizational Framework and Span of Control Ratio

Operating under the oversight of the General Manager at the first organizational layer (OL-1), the Director of Civil Rights (OL-2) is responsible for overseeing four divisions, each headed by a manager (OL-3). The span of control exhibits slight variation across the four divisions. In three out of the four divisions, an additional layer of managers exists, with each manager reporting to the division manager, resulting in a 1:1 reporting ratio. Each manager oversees between two to four analysts at organizational layer 5. The positions in organizational layers 4 and 5 primarily consist of union-represented and non-union represented principal and senior-level analysts, as well as administrators. The executive stated that the Office intentionally maintains a narrower span of control to ensure compliance with federal and state regulations and due to the specialized expertise required for the services provided.



### Median Span of Control for the Office and by Organizational Layer (OL)

Civil Rights maintains a median span of control of 1:2 across its four organizational layers, with ten designated supervisors. The BART General Manager occupies the first organizational layer (OL-1).

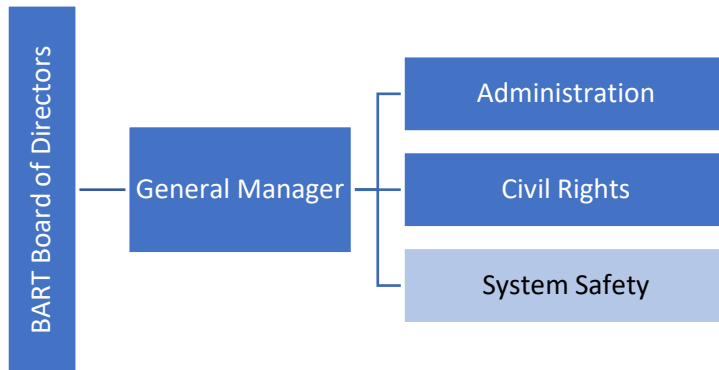
|                 | Office | OL-1 | OL-2 | OL-3 | OL-4 | OL-5 | OL-6 |
|-----------------|--------|------|------|------|------|------|------|
| Span of Control | 2      | 1    | 5    | 2    | 2.5  |      |      |
| #Supervisors    | 10     | 1    | 1    | 4    | 4    |      |      |
| #Positions      | 27     | 1    | 1    | 5    | 9    | 11   |      |

Note: The numbers presented are based on data provided to TAP International from BART’s Human Resources Information System and updates from Office executives; for Civil Rights, this excludes the BART General Manager. These numbers may differ from the numbers presented in the BART annual budgets due to timing or other differences.

### Office of the General Manager, System Safety

Under the Office of the General Manager, System Safety comprises 19 budgeted positions distributed across five divisions: Operations Safety, Engineering Safety, Employee/Patron Safety, Safety Management System (SMS), and Environmental Safety. The Chief Safety Officer reports directly to the General Manager. The responsibilities of System Safety encompass oversight, audits, and monitoring of safety within Rail Operations, Occupational Health & Safety, Engineering & Safety Certification, and Environmental Compliance.

### BART's Functional Organizational Chart

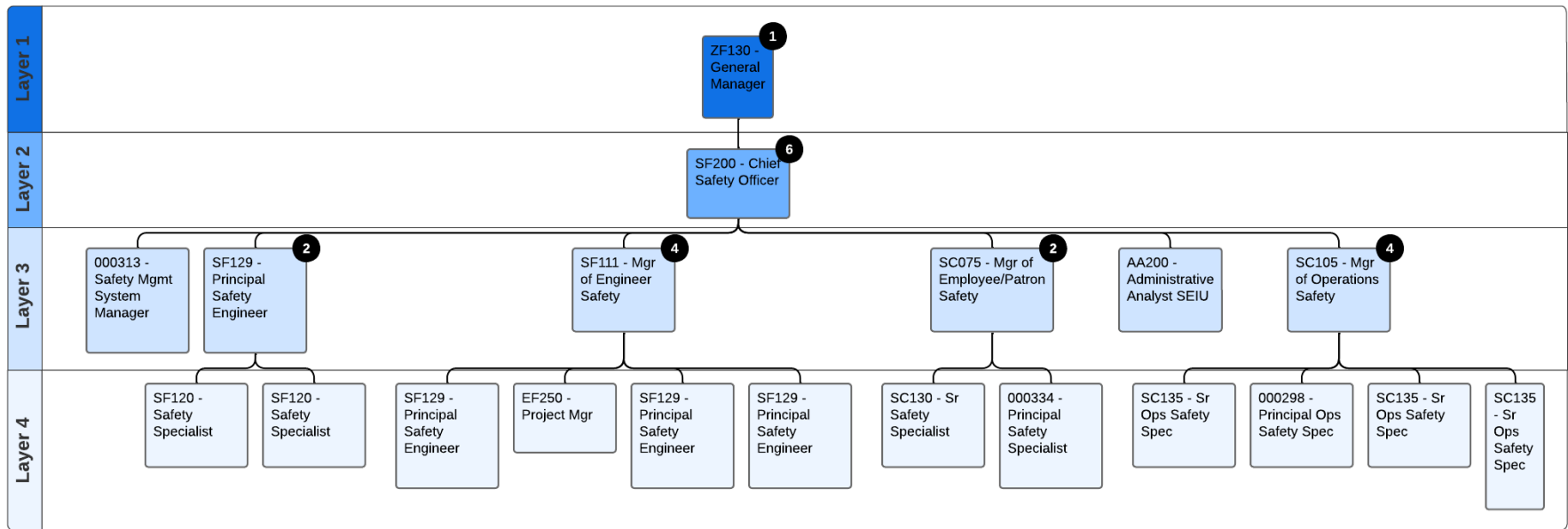


### BART Budget Position Summary

| Department    | FY22 Adopted |         | FY23 Adopted |         | FY24 Adopted |         |
|---------------|--------------|---------|--------------|---------|--------------|---------|
|               | Operating    | Capital | Operating    | Capital | Operating    | Capital |
| System Safety | 15.0         | 4.0     | 15.0         | 4.0     | 15.0         | 4.0     |

### High-Level Organizational Framework and Span of Control Ratio

Under the supervision of the General Manager (OL-1), the Chief Safety Officer (OL-2) has oversight of four managers and a Principal Safety Engineer (in OL-3). Among the four managers, three have supervisory responsibilities, each overseeing two to four staff members. The Principal Safety Engineer also holds supervisory responsibilities in the third and fourth organizational layers. The staff under the managers and Principal Safety Engineer includes safety specialists, other principal safety engineers, a project manager, and safety specialists. Notably, the level of supervisory responsibilities varies among employees with the same position classification, such as principal safety engineer, in the third and fourth organizational layers.



### Median Span of Control for the Office and by Organizational Layer (OL)

System Safety maintains a median span of control of 1:3 across its four organizational layers, with a total of five designated supervisors overseeing various levels of staff within the organization.

|                 | Office | OL-1 | OL-2 | OL-3 | OL-4 | OL-5 | OL-6 |
|-----------------|--------|------|------|------|------|------|------|
| Span of Control | 3      | 1    | 6    | 3    |      |      |      |
| #Supervisors    | 5      | 1    | 1    | 4    |      |      |      |
| #Positions      | 20     | 1    | 1    | 6    | 12   |      |      |

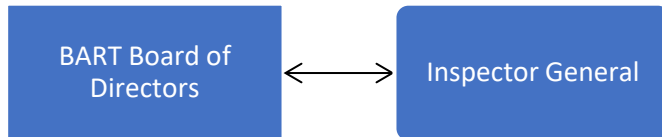
Note: The numbers presented are based on data provided to TAP International from BART’s Human Resources Information System and updates from Office executives. These may differ from the numbers presented in the BART annual budgets due to timing or other differences.



### Office of the Inspector General

The Office of the Inspector General has three budgeted positions, growing to seven positions in fiscal year 2024. The Inspector General is appointed by the California Governor and has the responsibility to administer the Inspector General functions independently from BART's general management and in compliance with generally accepted government audit standards. The Inspector General reports, at least annually, its findings and activities to the California Legislature and BART Board of Directors.

### Functional Organizational Chart

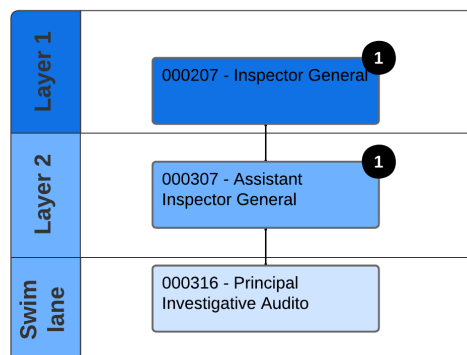


### BART Budget Position Summary

| Department        | FY22 Adopted |         | FY23 Adopted |         | FY24 Adopted |         |
|-------------------|--------------|---------|--------------|---------|--------------|---------|
|                   | Operating    | Capital | Operating    | Capital | Operating    | Capital |
| Inspector General | 3.0          | 0.0     | 3.0          | 0.0     | 7.0          | 0.0     |

### High-Level Organizational Framework and Span of Control Ratio

The Governor appoints the Inspector General, who supervises an assistant inspector general and a principal investigative auditor and reports to the Board of Directors.



### Median Span of Control for the Office and by Organizational Layer (OL)

The Inspector General has a median span of control of 1:1 across its four organizational layers, with two designated supervisors.

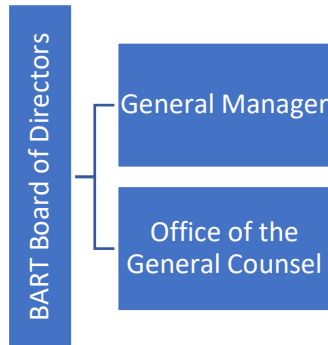
|                 | Office | OL-1 | OL-2 | OL-3 | OL-4 | OL-5 | OL-6 |
|-----------------|--------|------|------|------|------|------|------|
| Span of Control | 1      | 1    | 1    |      |      |      |      |
| #Supervisors    | 2      | 1    | 1    |      |      |      |      |
| #Positions      | 3      | 1    | 1    | 1    |      |      |      |

Note: The numbers presented are based on data provided to TAP International from BART's Human Resources Information System and updates from Office executives. These may differ from the numbers presented in the BART annual budgets due to timing or other differences.

### Office of the General Counsel

Under the General Counsel's supervision (OL-1), there is an Assistant General Counsel (OL-2), who oversees staff (OL-3) and responsible for legal matters related to Labor, Employment, Compliance, Litigation, Real Estate, and Commercial Contracts. The staff positions include senior legal analysts and a paralegal, who also report to Assistant General Counsel.

#### BART's Functional Organizational Chart

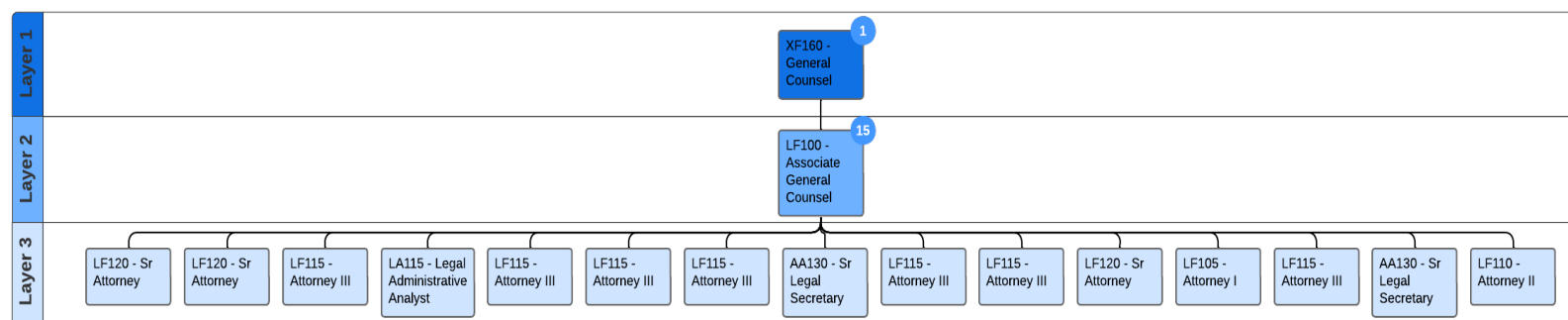


#### BART Budget Position Summary

| Department                    | FY22 Adopted |         | FY23 Adopted |         | FY24 Adopted |         |
|-------------------------------|--------------|---------|--------------|---------|--------------|---------|
|                               | Operating    | Capital | Operating    | Capital | Operating    | Capital |
| Office of the General Counsel | 17.0         | 2.0     | 17.0         | 2.0     | 19.0         | 0.0     |

## High-Level Organizational Framework and Span of Control Ratio

The General Counsel, appointed by the Board of Directors, oversees the Associate General Counsel, who, in turn, supervises attorneys, legal secretaries, and administrative analysts within the Office, as directed by the General Counsel.



## Median Span of Control for the Office and by Organizational Layer (OL)

The General Counsel has a median span of control of 1:3 across its four organizational layers, with two designated supervisors. The executive noted that there are additional reporting relationships within the Office of the General Counsel, such as three senior attorneys supervising other attorneys. The absence of this organizational data limits the effective use of span of control as a tool for swiftly evaluating organizational efficiency.

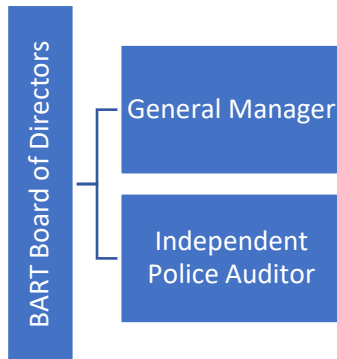
|                 | Office | OL-1 | OL-2 | OL-3 | OL-4 | OL-5 | OL-6 |
|-----------------|--------|------|------|------|------|------|------|
| Span of Control | 3      | 1    | 16   |      |      |      |      |
| #Supervisors    | 2      | 1    | 1    |      |      |      |      |
| #Positions      | 17     | 1    | 1    | 16   |      |      |      |

Note: The numbers presented are based on data provided to TAP International from BART's Human Resources Information System and updates from Office executives. These may differ from the numbers presented in the BART annual budgets due to timing or other differences.

### Office of the Independent Police Auditor

The Office of the Independent Police Auditor, on behalf of the public, provides independent oversight of the BART Police Department through investigations, reviews of police department activities, policy recommendations to improve Police performance, and communication with members of the public in the BART service area. The office has five budgeted positions and reports to the Board of Directors, while its budget and positions available are controlled by the BART General Manager.

### BART's Functional Organizational Chart

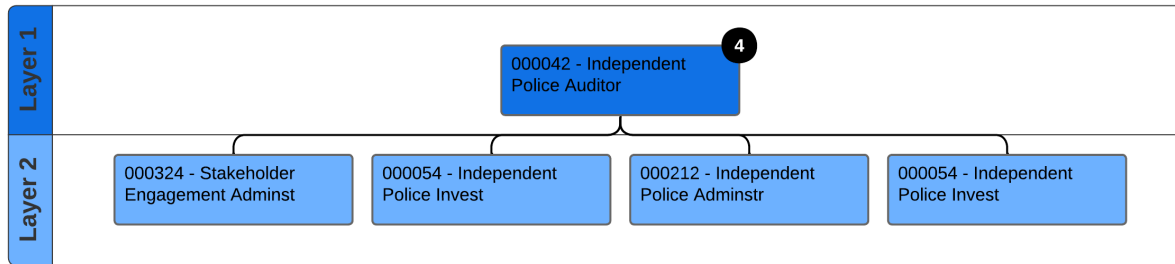


### BART Budget Position Summary

| Department          | FY22 Adopted |         | FY23 Adopted |         | FY24 Adopted |         |
|---------------------|--------------|---------|--------------|---------|--------------|---------|
|                     | Operating    | Capital | Operating    | Capital | Operating    | Capital |
| Ind. Police Auditor | 5.0          | 0.0     | 5.0          | 0.0     | 5.0          | 0.0     |

### High-Level Organizational Framework and Span of Control Ratio

The Independent Police Auditor directly reports to the Board of Directors and supervises two investigator and two administrator positions.



### Median Span of Control for the Office and by Organizational Layer (OL)

The Independent Police Auditor has a median span of control of 1:4 across its four organizational layers, with one designated supervisor.

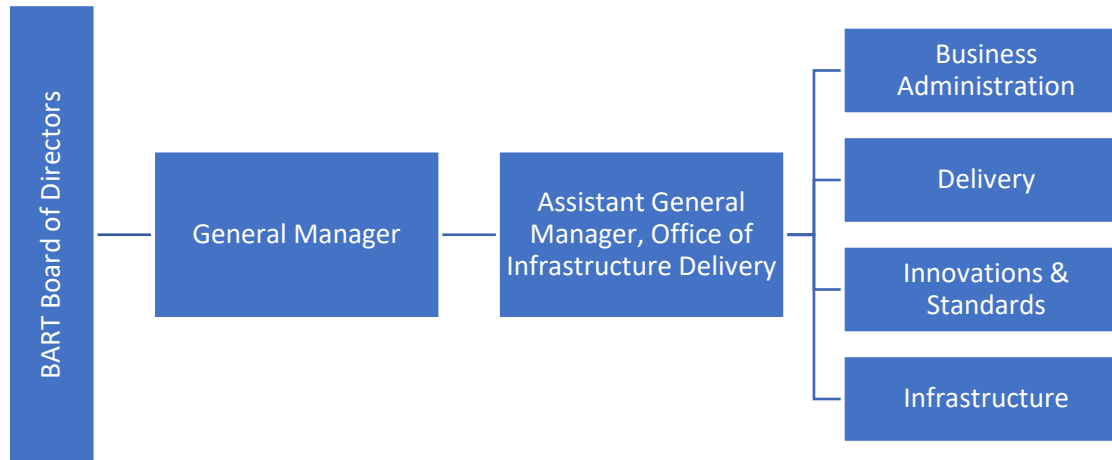
|                 | Office | OL-1 | OL-2 | OL-3 | OL-4 | OL-5 | OL-6 |
|-----------------|--------|------|------|------|------|------|------|
| Span of Control | 4      | 4    |      |      |      |      |      |
| #Supervisors    | 1      | 1    |      |      |      |      |      |
| #Positions      | 5      | 1    | 4    |      |      |      |      |

Note: The numbers presented are based on data provided to TAP International from BART's human resource information system and updates from Office executives. These may differ from the numbers presented in the BART annual budgets due to timing or other differences.

## Office of Infrastructure Delivery

The reorganized Office of Infrastructure Delivery, led by the Assistant General Manager, reports to the General Manager, and has 394 budgeted positions across four areas: Business Administration, Delivery, Innovation & Standards, and Infrastructure.

### BART's Functional Organizational Chart



### BART Budget Position Summary

| Department         | FY22 Adopted |         | FY23 Adopted |         | FY24 Adopted |         |
|--------------------|--------------|---------|--------------|---------|--------------|---------|
|                    | Operating    | Capital | Operating    | Capital | Operating    | Capital |
| Total for Office   | 4.3          | 64.8    | 4.3          | 78.8    | 70.7         | 323.3   |
| Administration     | 1.1          | 5.0     | 1.1          | 21.0    | 33.9         | 39.2    |
| District Architect | 1.7          | 5.3     | 1.7          | 5.3     |              |         |
| Delivery           |              |         |              |         | 12.8         | 104.3   |
| Infrastructure     |              |         |              |         | 23.1         | 175.9   |
| Extensions         | 1.5          | 54.5    | 1.5          | 52.5    | 1.0          | 1.0     |

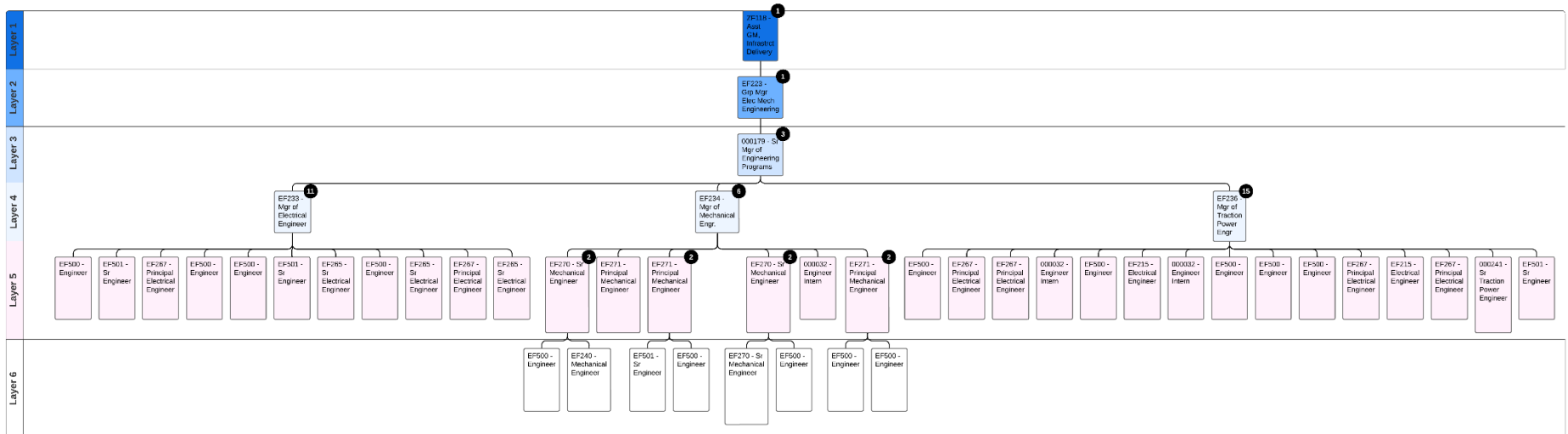
Note: The budget reflects the names of organizational units prior to the reorganization.

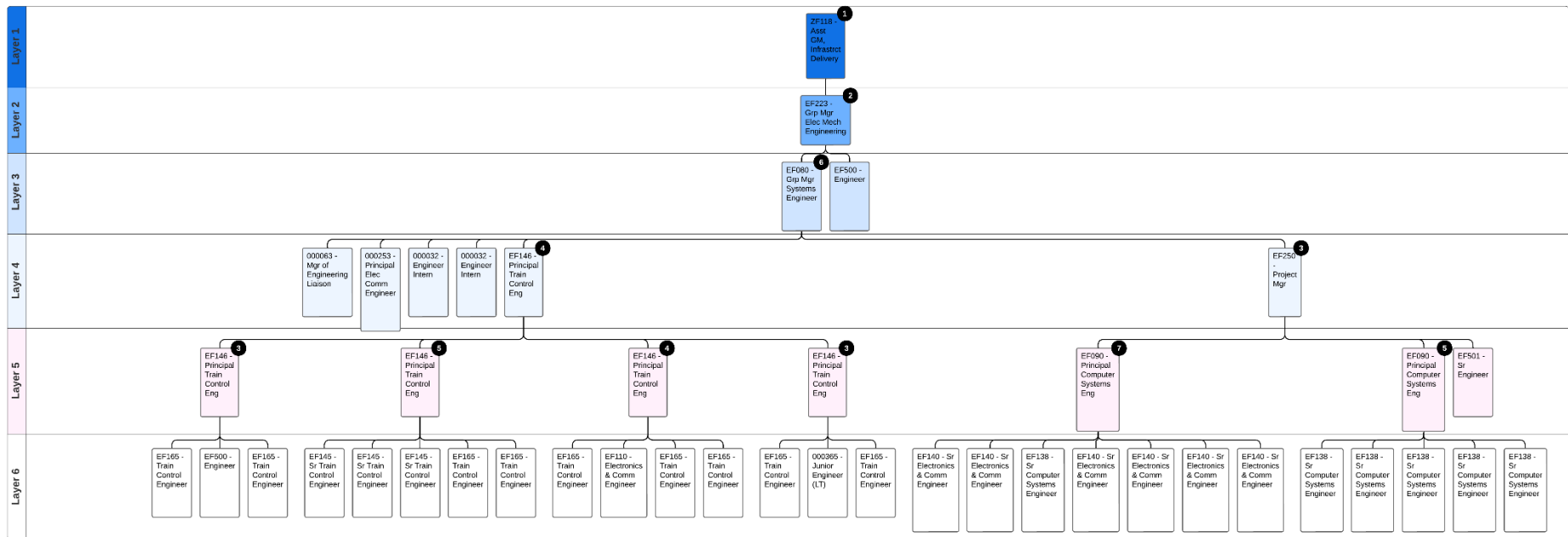
### High-Level Organizational Framework and Span of Control Ratio

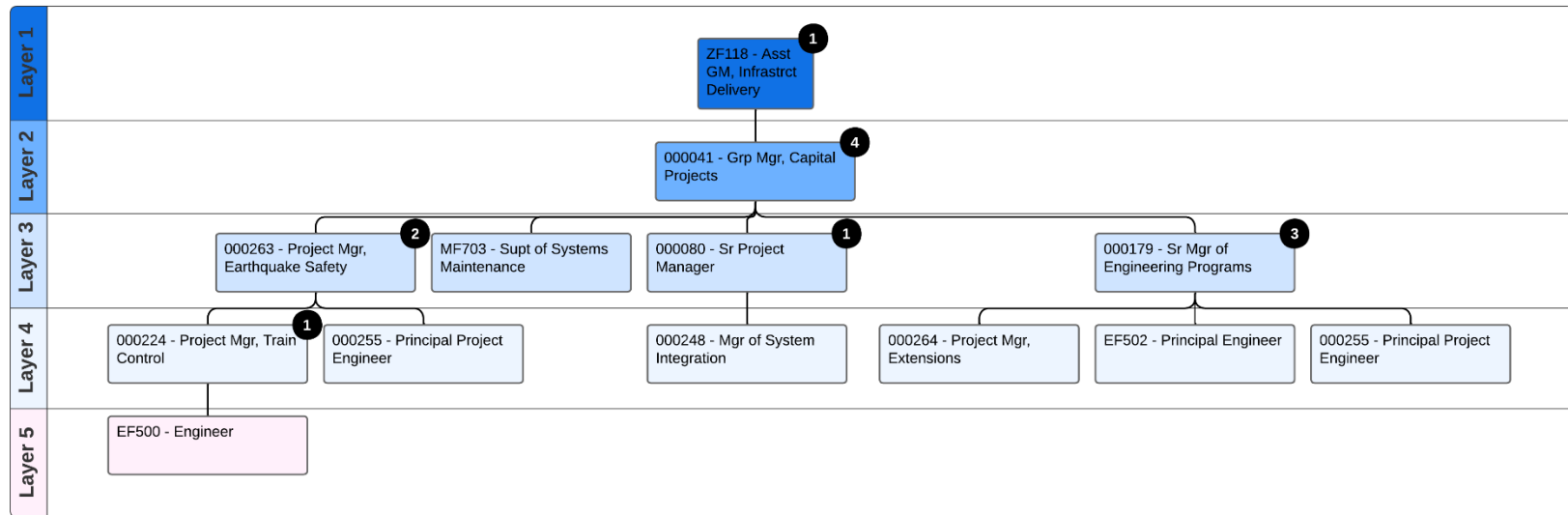
The Infrastructure Delivery organizational framework is evolving as it incorporates organizational units like the District Architect into the new office. This organizational layer and span of control analysis is based on data available at the time of the audit and reflects the reporting relationships, where available, by group manager.

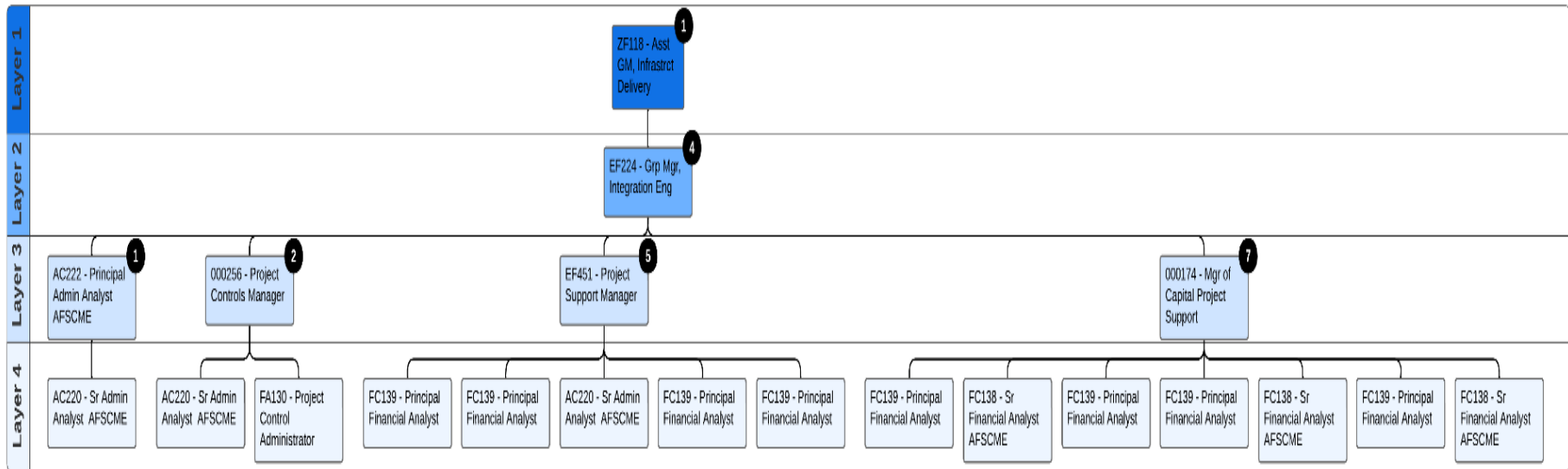


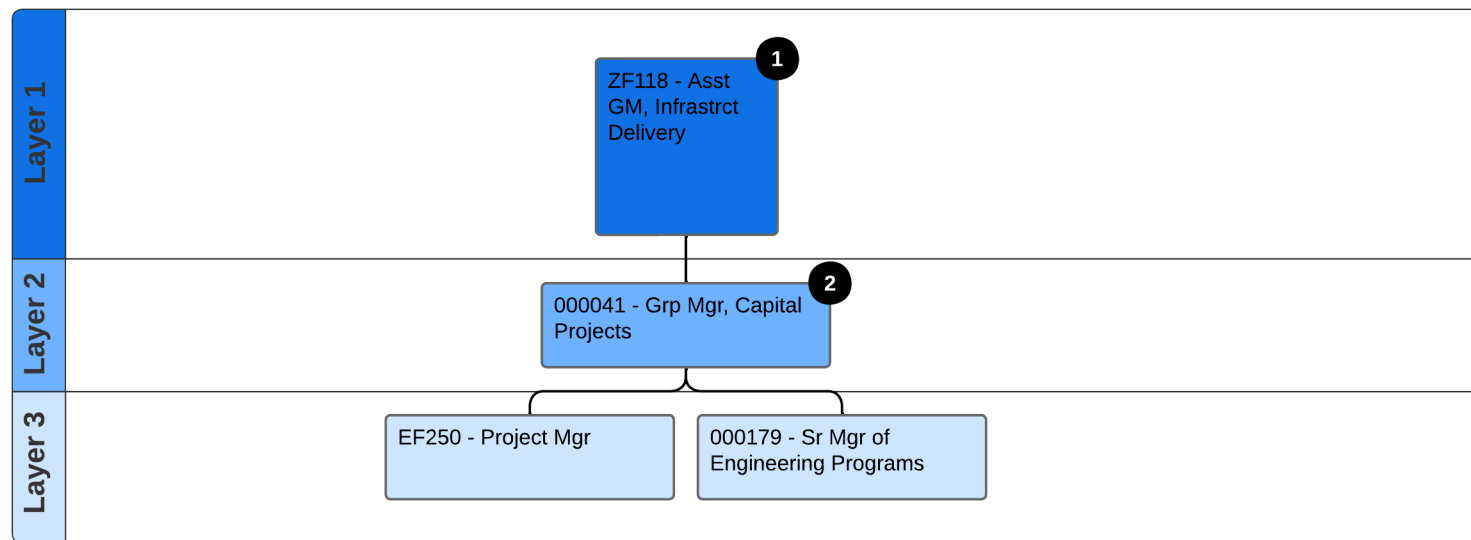
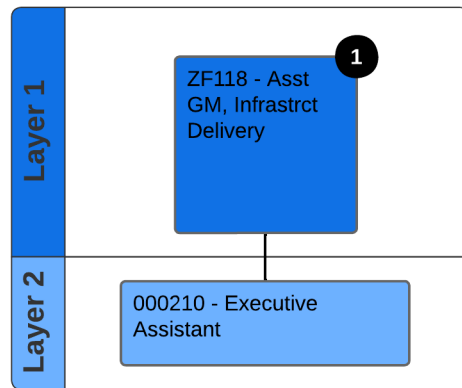


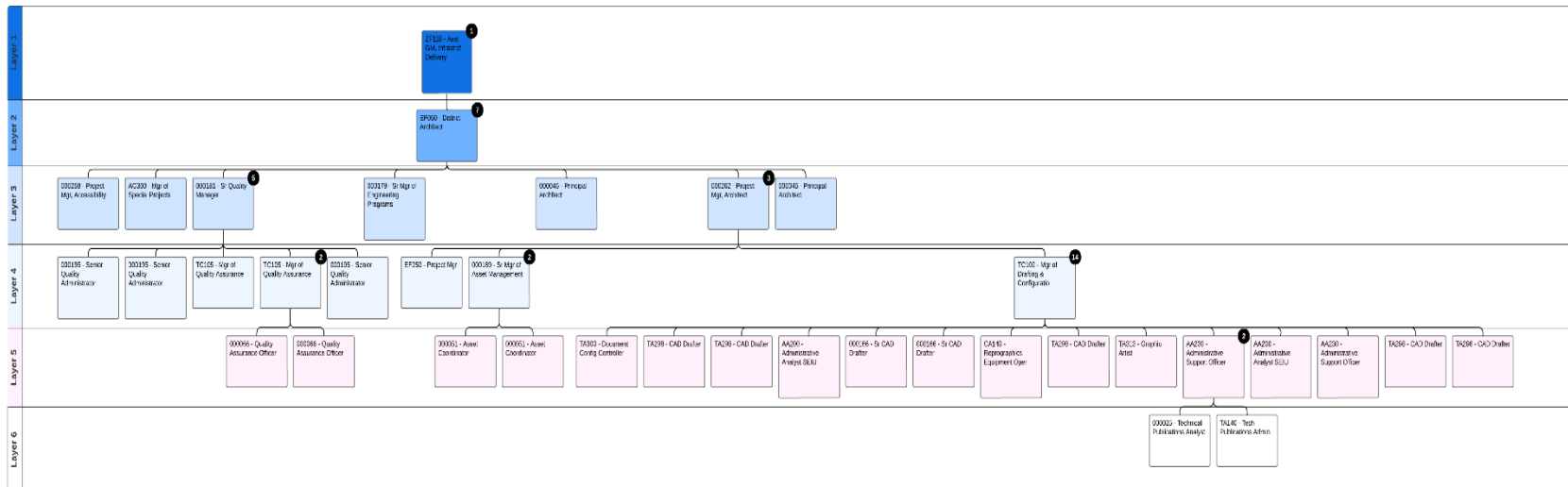


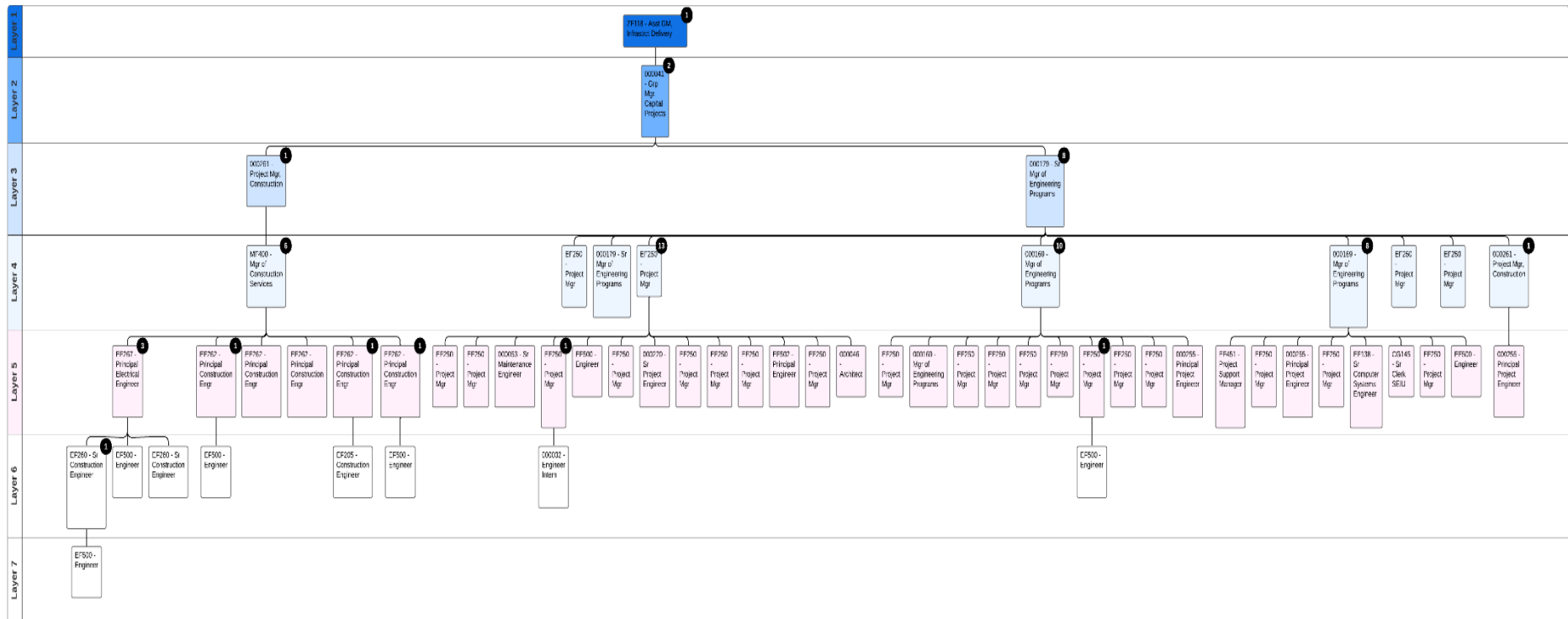














### Median Span of Control for the Office and by Organizational Layer (OL)

|                 | Office | OL-1 | OL-2 | OL-3 | OL-4 | OL-5 | OL-6 | OL-7 |
|-----------------|--------|------|------|------|------|------|------|------|
| Span of Control | 3      | 7    | 4    | 3.5  | 4    | 1    | 1.5  |      |
| #Supervisors    | 75     | 1    | 6    | 16   | 23   | 25   | 4    |      |
| #Positions      | 299    | 1    | 7    | 24   | 61   | 126  | 72   | 8    |

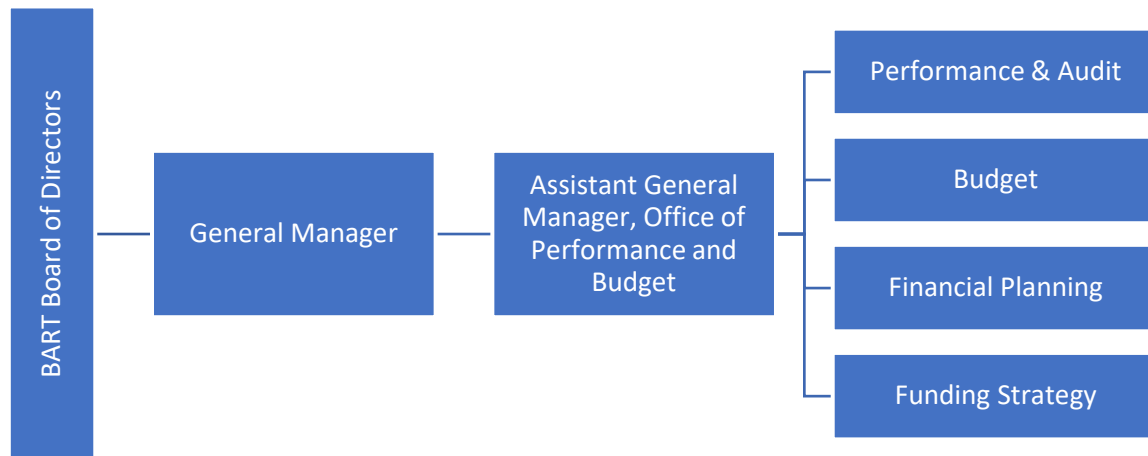
|                 | Office | Administration | Delivery | Infrastructure | Extensions |
|-----------------|--------|----------------|----------|----------------|------------|
| Span of Control | 3      | 4              | 2        | 3              | NA         |
| #Supervisors    | 75     | 8              | 24       | 43             | NA         |
| #Positions      | 299    | 53             | 74       | 172            | NA         |

Note: The numbers presented are based on data provided to TAP International from BART's Human Resources Information System and updates from Office executives. These may differ from the numbers presented in the BART annual budgets due to timing or other differences.

### Office of Performance and Budget

The Office of Performance & Budget oversees 45 budgeted positions across four departments: Budget, Financial Planning, Funding Strategy, and Performance & Audit. The office is responsible for developing and managing BART's operating and capital budgets, overseeing grant compliance and reporting, conducting internal audits, and implementing financial planning strategy and analysis. The Assistant General Manager, Performance, and Budget reports directly to the General Manager.

### BART's Functional Organizational Chart



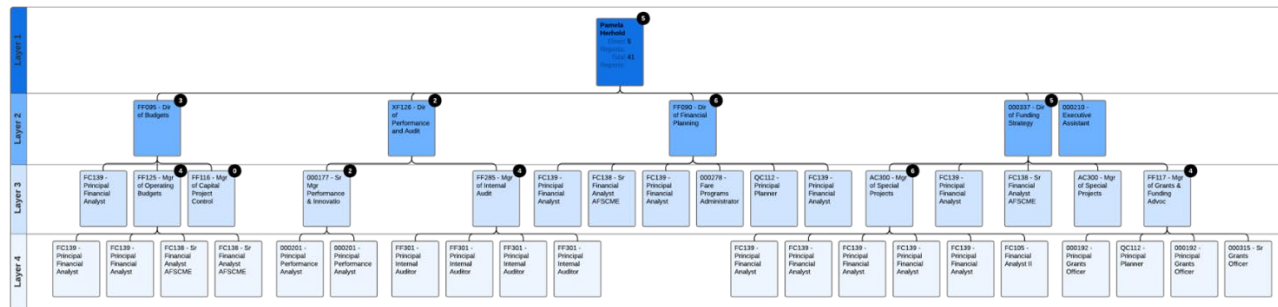
### BART Budget Position Summary

| Department          | FY22 Adopted |         | FY23 Adopted |         | FY24 Adopted |         |
|---------------------|--------------|---------|--------------|---------|--------------|---------|
|                     | Operating    | Capital | Operating    | Capital | Operating    | Capital |
| Total for Office    | 27.5         | 10.5    | 34.5         | 8.5     | 36.5         | 8.5     |
| Administration      | 4.0          | 0.0     | 2.0          | 0.0     | 2.0          | 0.0     |
| Budget              | 10.0         | 3.0     | 14.0         | 2.0     | 14.0         | 2.0     |
| Financial Planning  | 7.5          | 5.5     | 5.0          | 3.0     | 5.0          | 3.0     |
| Funding Strategy    |              |         | 7.5          | 1.5     | 8.5          | 1.5     |
| Performance & Audit | 6.0          | 2.0     | 6.0          | 2.0     | 7.0          | 2.0     |

### High-Level Organizational Framework and Span of Control Ratio

Performance and Budget has a median span of control of 1:4 across its four organizational layers, with eleven designated supervisors.

The Office is organized with four directors in the second organizational layer, each overseeing one of the four departments and reporting directly to the Assistant General Manager for Performance and Budget. Of the eight managers who report directly to the four directors, six are assigned supervisory responsibilities, while two managers have no direct reports. Other staff without supervisory responsibilities also report directly to the four directors. For example, the position of Principal Financial Analyst, found in the Office's third and fourth organizational layers, reports either to a director or to a manager, who then reports to a director. Office executives explained that, while only a manager or director can approve a timesheet, some Principal Financial Analysts supervise the work of others.



### Median Span of Control for the Office and by Organizational Layer (OL)

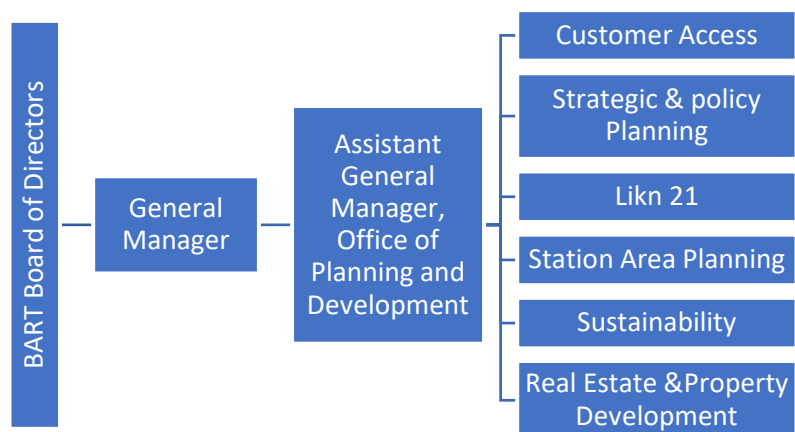
|                 | Office | OL-1 | OL-2 | OL-3 | OL-4 | OL-5 | OL-6 |
|-----------------|--------|------|------|------|------|------|------|
| Span of Control | 4.0    | 5.0  | 3.5  | 4.0  | 5.0  |      |      |
| #Supervisors    | 11     | 1    | 4    | 6    | 0    |      |      |
| #Positions      | 42     | 1    | 5    | 16   | 20   |      |      |

Note: The numbers presented are based on data provided to TAP International from BART's Human Resources Information System and updates from Office executives. These may differ from the numbers presented in the BART annual budgets due to timing or other differences.

## Office of Planning and Development

The Assistant General Manager for Planning and Development reports to the General Manager, overseeing six departments: Customer Access, Real Estate & Property Development, Station Area Planning, Strategic & Policy Planning, Sustainability, and Link 21. The Office of Planning and Development has a budgeted staff of over 53 positions.

### BART's Functional Organizational Chart

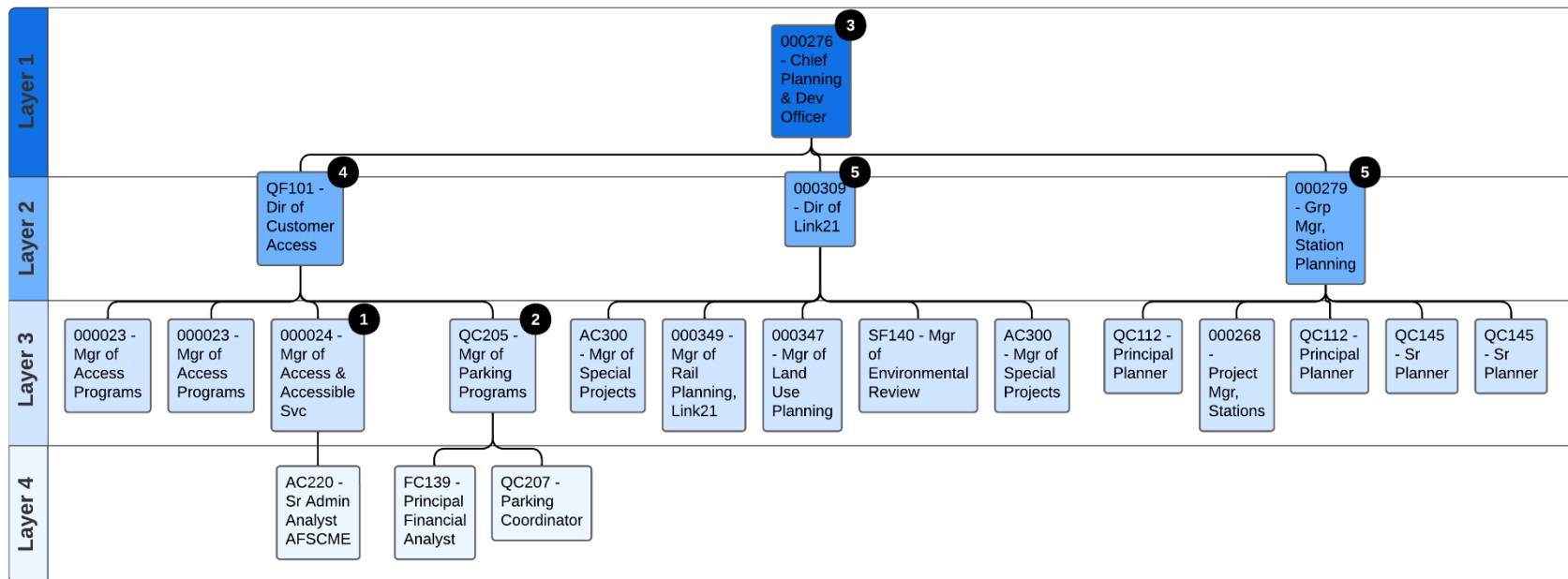


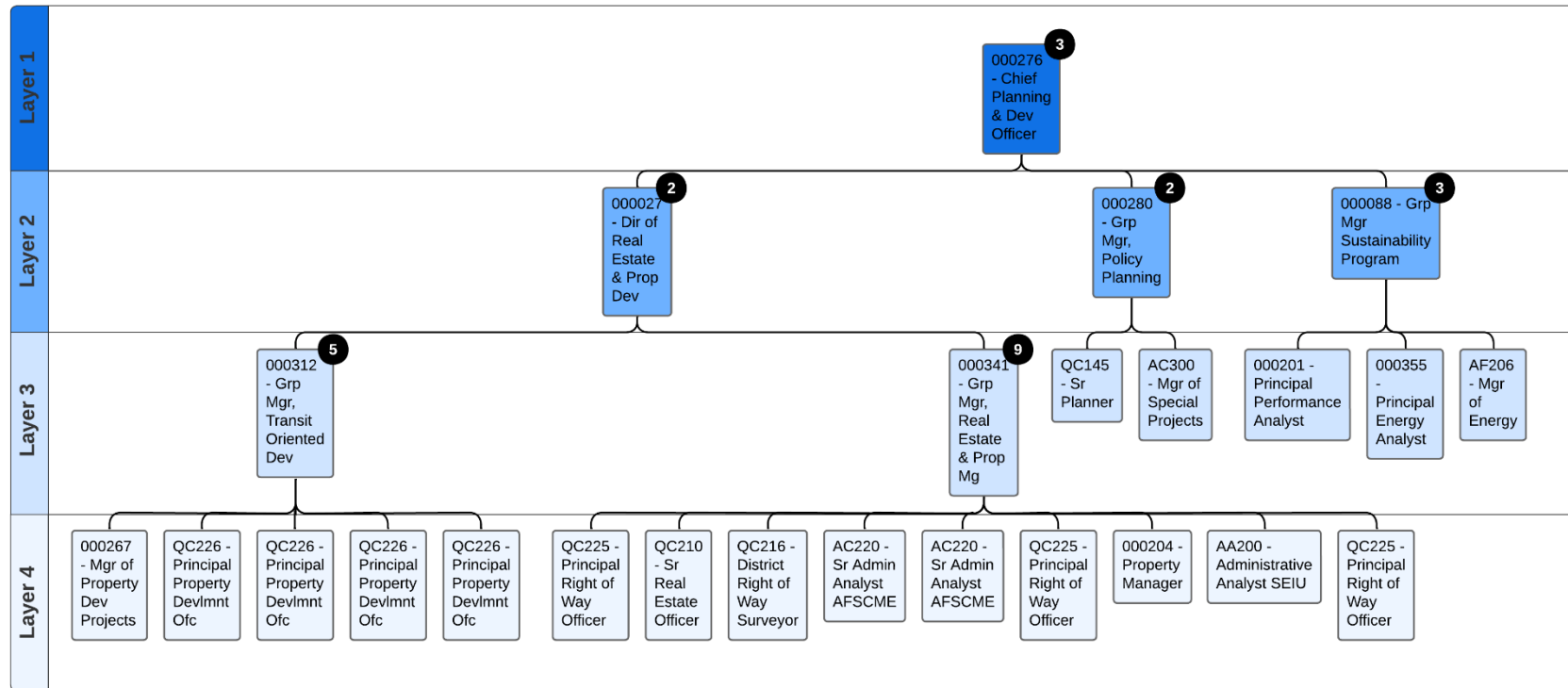
### BART Budget Position Summary

| Department                         | FY22 Adopted |         | FY23 Adopted |         | FY24 Adopted |         |
|------------------------------------|--------------|---------|--------------|---------|--------------|---------|
|                                    | Operating    | Capital | Operating    | Capital | Operating    | Capital |
| Total for Office                   | 33.4         | 17.7    | 36.1         | 17.0    | 37.6         | 15.5    |
| Administration                     | 0.5          | 0.5     | 0.8          | 0.3     | 0.8          | 0.3     |
| Customer Access                    | 8.5          | 1.5     | 8.5          | 0.5     | 8.5          | 0.5     |
| Link 21                            | 0.0          | 5.0     | 0.0          | 7.0     | 0.0          | 7.0     |
| Real Estate & Property Development | 13.9         | 5.2     | 16.8         | 3.2     | 16.8         | 3.2     |
| Station Area Planning              | 4.0          | 2.0     | 4.0          | 2.0     | 4.0          | 2.0     |
| Strategic & Policy Planning        | 4.0          | 1.0     | 3.5          | 1.5     | 3.5          | 1.5     |
| Sustainability                     | 2.5          | 2.5     | 2.5          | 2.5     | 4.0          | 1.0     |

## High-Level Organizational Framework and Span of Control Ratio

The Chief Planning and Development Officer directly supervises three directors (Real Estate & Property Development, Customer Access, Link 21) and three group managers (Policy Planning, Sustainability, Station Area Planning). Each group manager oversees two to five manager-level positions, and some of these managers also have supervisory responsibilities. Among them, the group manager of Real Estate & Property Management has the widest span of control at 1:9, while the manager of Access & Accessible Services has the narrowest span of control at 1:1, directly supervising a senior administrative analyst.





### Median Span of Control for the Office and by Organizational Layer (OL)

Planning & Development has a median span of control of 1:4 across its four organizational layers, with 11 designated supervisors.

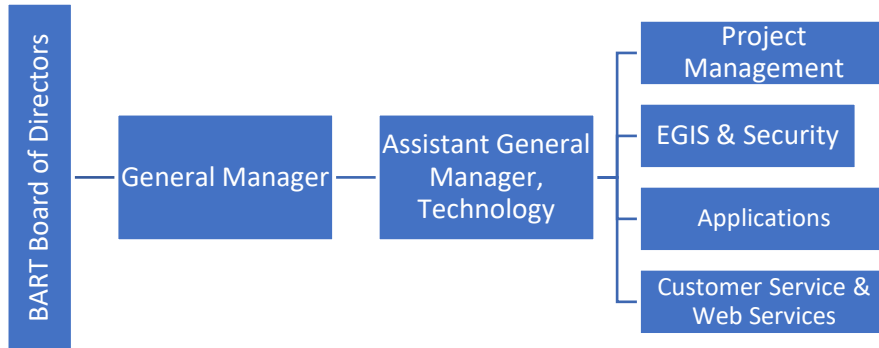
|                 | Office | OL-1 | OL-2 | OL-3 | OL-4 | OL-5 | OL-6 |
|-----------------|--------|------|------|------|------|------|------|
| Span of Control | 4      | 6    | 3.5  | 3.5  |      |      |      |
| #Supervisors    | 11     | 1    | 6    | 4    |      |      |      |
| #Positions      | 45     | 1    | 6    | 21   | 17   |      |      |

Note: The numbers presented are based on data provided to TAP International from BART's Human Resources Information System and updates from Office executives. These may differ from the numbers presented in the BART annual budgets due to timing or other differences.

## Office of Technology

Under the leadership of the Chief Information Officer (CIO), also known as the Assistant General Manager, Technology, the Office of Technology encompasses 63 budgeted positions spread across four departments: Enterprise Geographic Information Systems (EGIS) & Security, Applications, Customer Services & Web Services, and Project Management. The CIO reports directly to the General Manager.

### BART's Functional Organizational Chart

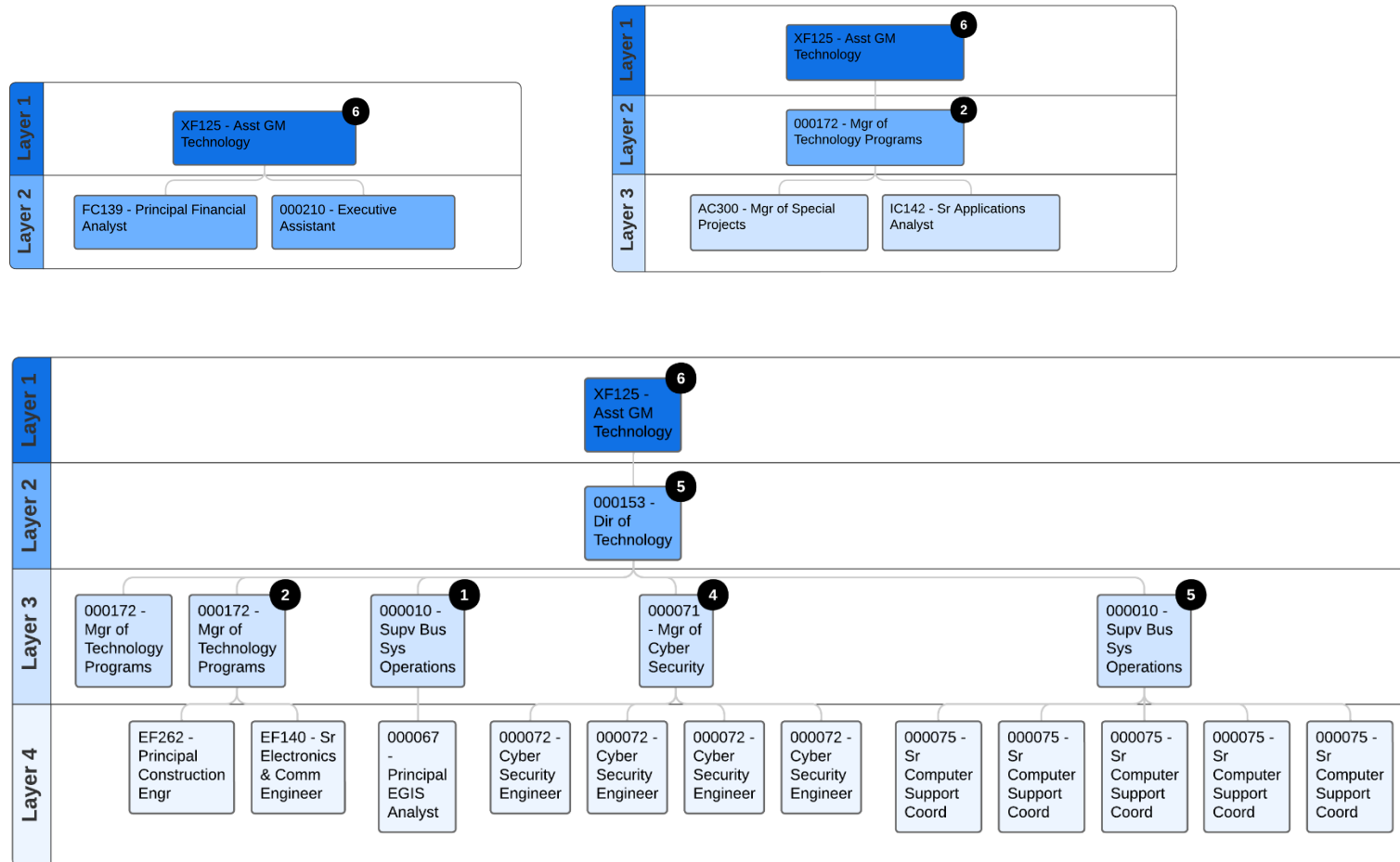


### BART Budget Position Summary

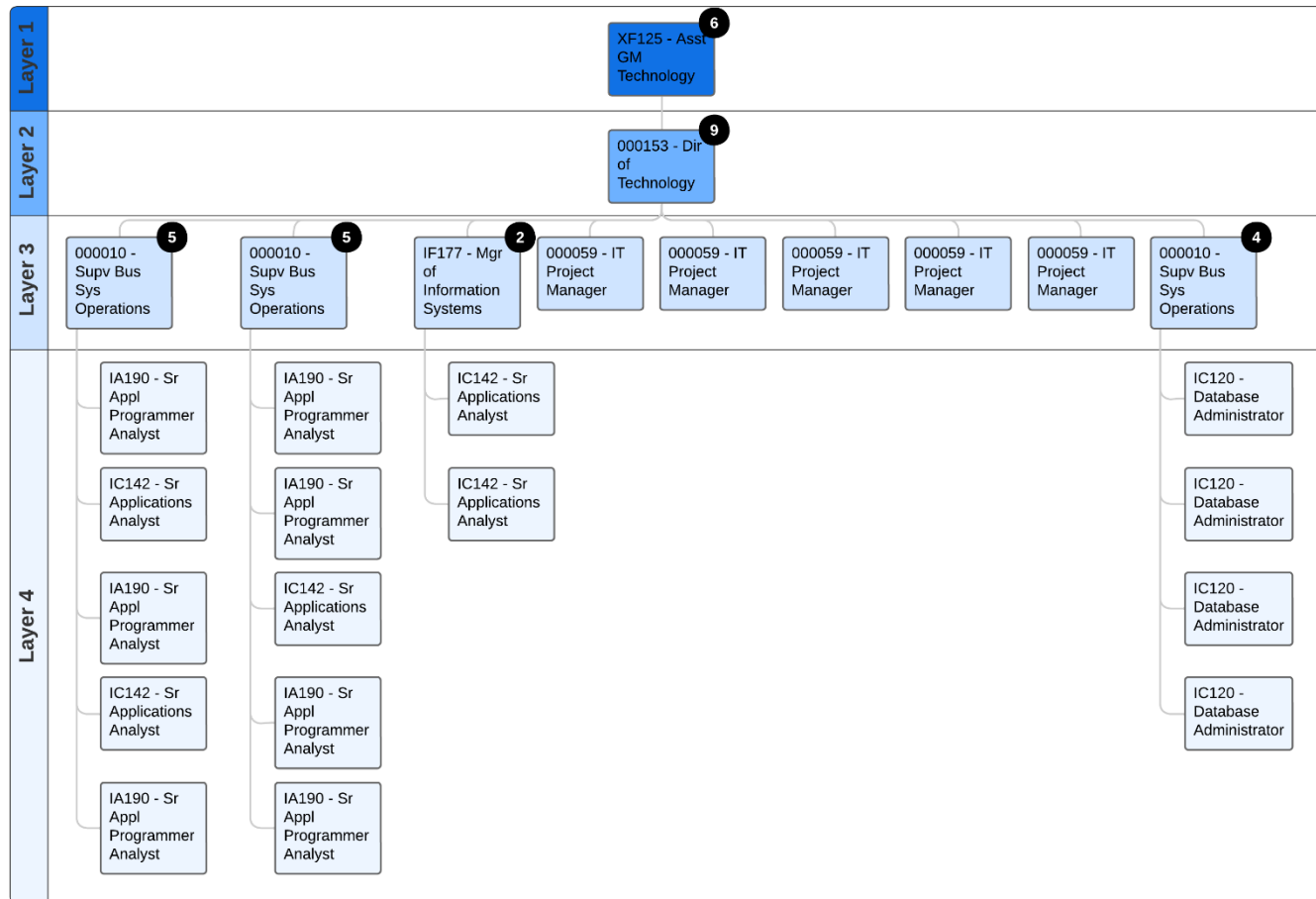
| Department                | FY22 Adopted |         | FY23 Adopted |         | FY24 Adopted |         |
|---------------------------|--------------|---------|--------------|---------|--------------|---------|
|                           | Operating    | Capital | Operating    | Capital | Operating    | Capital |
| Chief Information Officer | 60.5         | 2.5     | 60.5         | 2.5     | 60.5         | 2.5     |

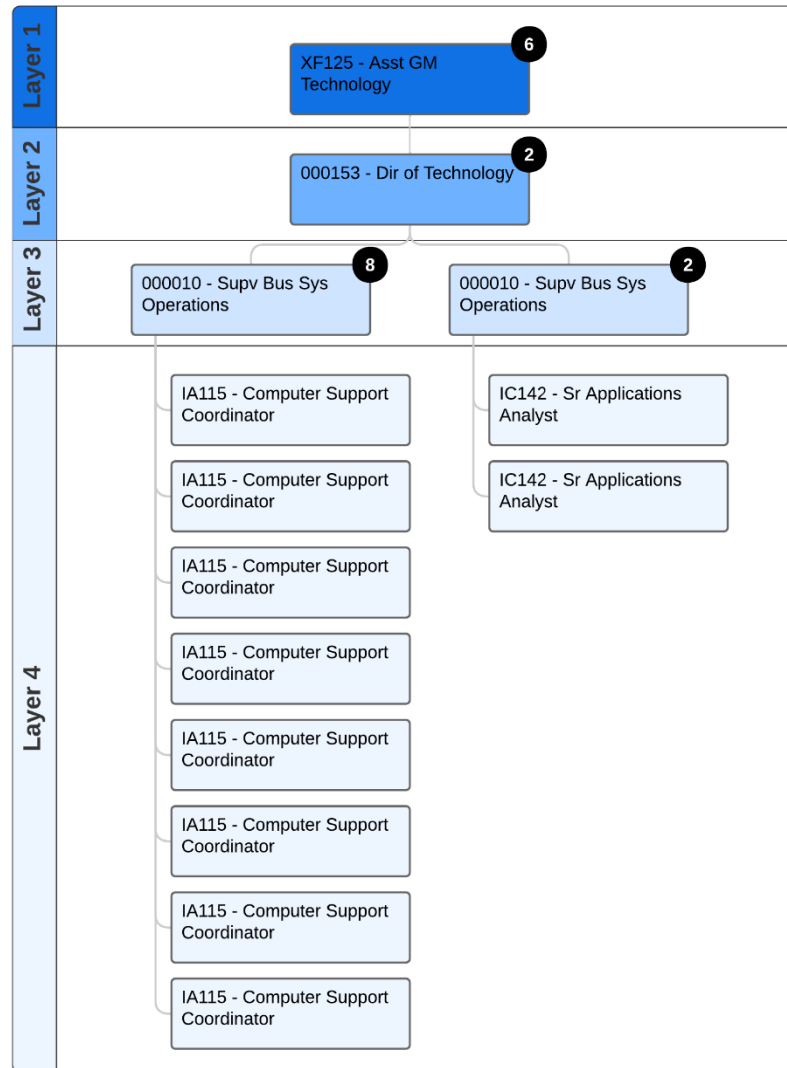
### High-Level Organizational Framework and Span of Control Ratio

Three directors of technology and one manager of technology lead one of the Office's four divisions (in OL-2), directly reporting to the Assistant General Manager for Technology (OL-1), who reports to the General Manager. The third organizational layer is composed of 10 managers and supervisors who supervise others, and five information technology project managers, a manager of special projects, a manager of technology programs, and a senior applications analyst who do not supervise others. There is no overlap of positions across the third and fourth organizational layers. The five charts below illustrate the organizational framework for each group within the Office of Technology, one group led by the AGM, three groups each led by a director of technology, and one group led by a manager of technology.









### Median Span of Control for the Office and by Organizational Layer (OL)

Technology has a median span of control of 1:4 across its four organizational layers. There are 15 designated supervisors.

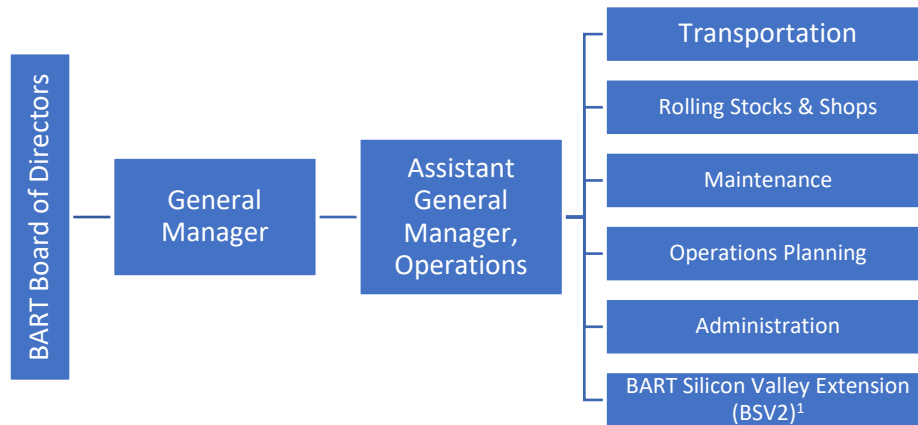
|                 | Office | OL-1 | OL-2 | OL-3 | OL-4 | OL-5 | OL-6 |
|-----------------|--------|------|------|------|------|------|------|
| Span of Control | 4      | 6    | 3.5  | 4    |      |      |      |
| #Supervisors    | 15     | 1    | 4    | 10   |      |      |      |
| #Positions      | 63     | 1    | 6    | 18   | 38   |      |      |

Note: The numbers presented are based on data provided to TAP International from BART's Human Resources Information System and updates from Office executives. These may differ from the numbers presented in the BART annual budgets due to timing or other differences.

## Operations

Operations comprises 3,176.2 budgeted positions across five departments: Transportation, Rolling Stock & Shops, Maintenance, Operations Planning, and the BART Silicon Valley Phase 2 (BSV2) team. Operations supplies maintenance frontline employees for BART's 50 stations, 131.4 miles of track, control systems and infrastructure, passenger trains, and work equipment. The General Manager oversees Operations, and the Assistant General Manager for Operations reports to the General Manager.

### BART's Functional Organizational Chart



<sup>1</sup> BSV2 is not a department but Operations identified it a distinct unit, which includes Fire Life Safety. Starting with the FY23 adopted budget, no positions were allocated to the department for BART to Antioch/BART to Oakland.

### BART Budget Position Summary

| Department                  | FY22 Adopted |         | FY23 Adopted |         | FY24 Adopted |         |
|-----------------------------|--------------|---------|--------------|---------|--------------|---------|
|                             | Operating    | Capital | Operating    | Capital | Operating    | Capital |
| Total for Office            | 2,538.9      | 862.9   | 2,602.4      | 916.8   | 2,552.2      | 624.0   |
| Administration              | 2.0          | 0.0     | 2.0          | 0.0     | 2.0          | 0.0     |
| BART to Antioch/BART-to-OAK | 57.0         | 0.0     |              |         |              |         |
| Maintenance                 | 705.3        | 778.2   | 746.4        | 775.1   | 690.2        | 508.3   |
| Operations Planning         | 12.0         | 6.0     | 12.0         | 7.0     | 17.0         | 5.0     |
| Rolling Stocks & Shops      | 760.8        | 72.0    | 780.8        | 128.0   | 781.8        | 104.0   |
| Transportation              | 1,001.9      | 6.8     | 1,061.3      | 6.8     | 1,061.3      | 6.8     |

### High-Level Organizational Framework and Span of Control Ratio

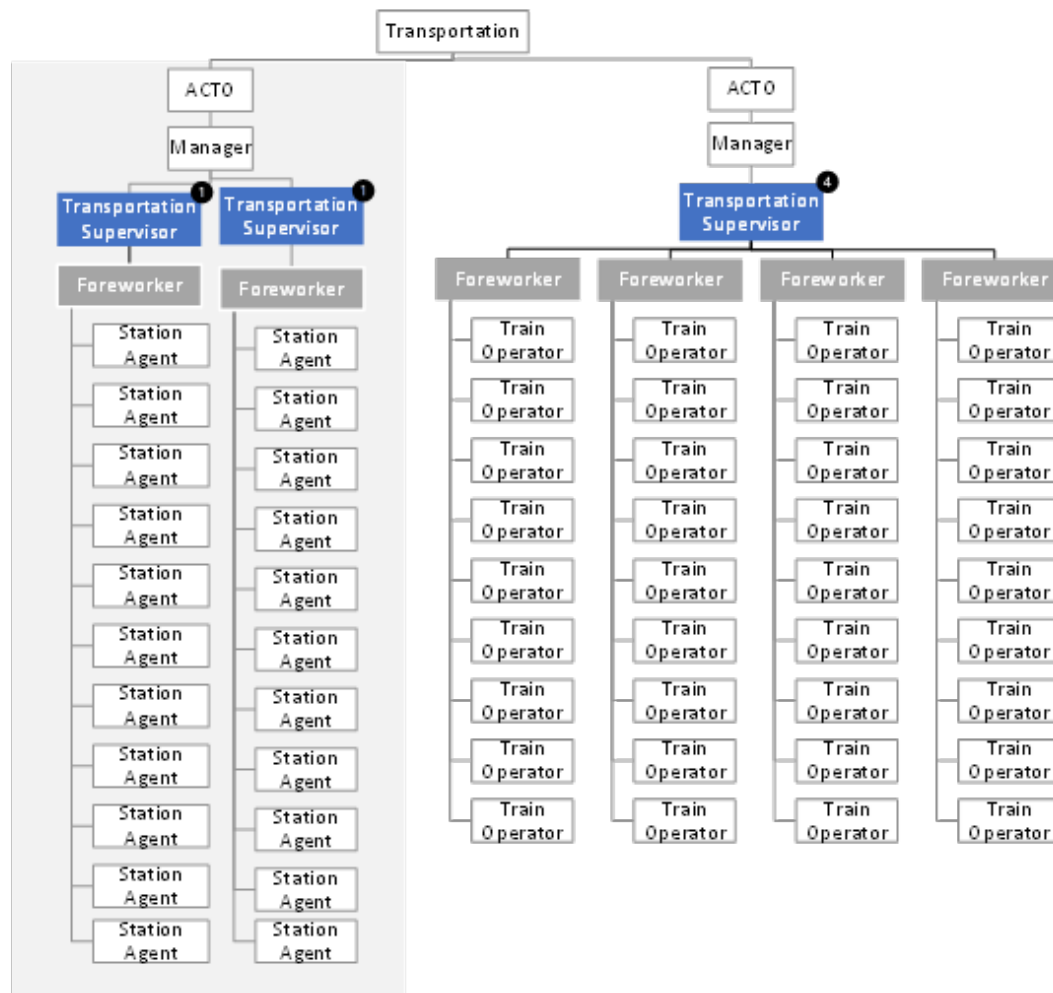
With more positions than any other executive office, Operations presently oversees two departments, each with over 1,000 positions: Transportation and Maintenance. A third department, Rolling Stocks & Shops, has more than 885 positions. These three departments operate with a different hierarchy and positions compared to other BART offices. Maintenance and Rolling Stocks & Shops are each headed by a Chief Mechanical Officer, and Transportation is overseen by a Chief Transportation Officer. The Operations Planning Department is supervised by a director, and the BSV2 team is under the supervision of the AGM, Operations. Unlike other BART executive offices, organizational charts fail to fully illustrate all positions within each Operations department, with the lowest organizational layer shown being the lowest level with formal supervisory responsibilities.

#### Transportation

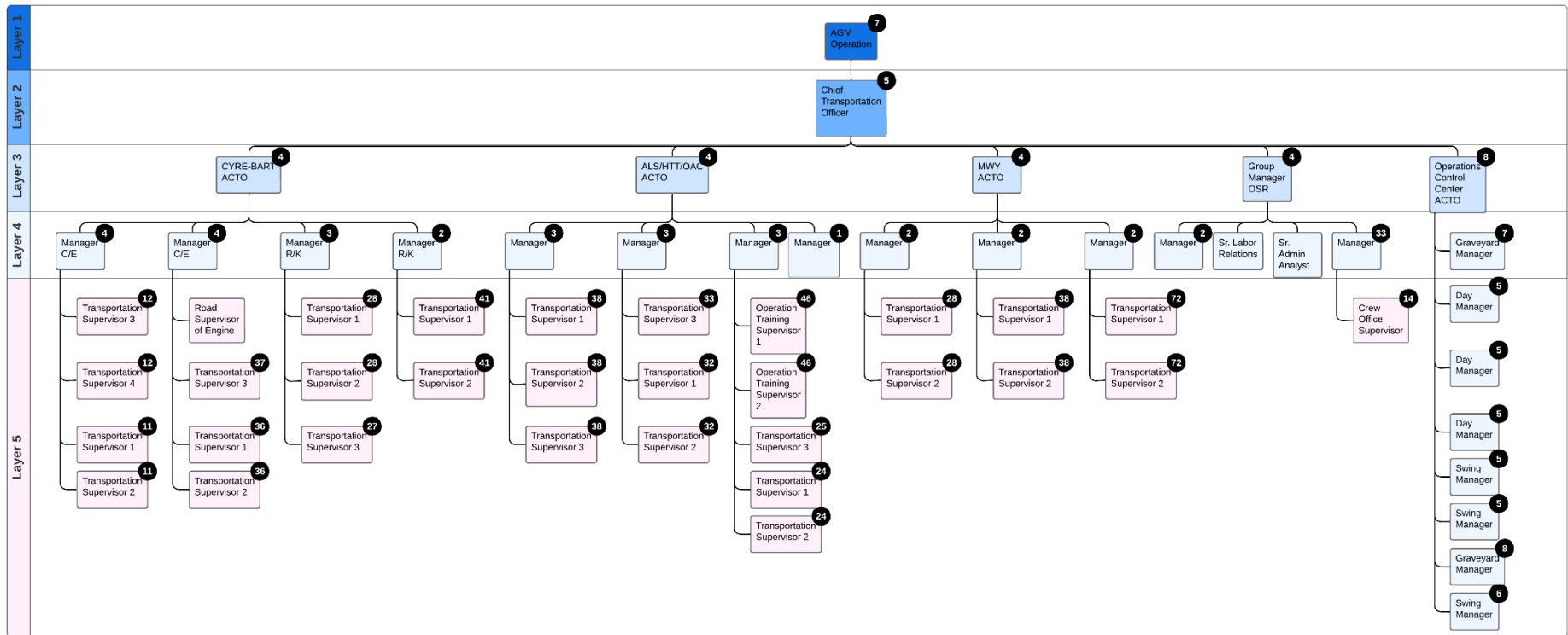
In the Transportation department, four Assistant Chief Transportation Officers (ACTO) and one Group Manager oversee the five units. Each ACTO supervises between four to eight managers, and the group manager supervises two managers. Within the Operations Control Center, under the ACTO's purview, eight managers each supervise a team of five to eight staff, comprising communication specialists, controllers, and analysts. Under the three other ACTOs, one to four supervisors report to each manager, overseeing between one to eight foreworkers. Although not officially designated as supervisors, certain foreworkers direct the work of frontline employees such as station agents and train operators.

In specific instances under certain managers in Transportation, the span of control for 11 transportation supervisors to foreworkers is even or almost even, resulting in a 1:1 span of control, as opposed to the more typical 1:4 or 1:8 ratio under other managers. The executive explained that Operations is actively working on a plan to widen these spans of control, stemming from an initiated but not completed reorganization plan by a past executive. Operations is currently updating organizational charts to reflect changes from retirements and to outline future operational plans.

Example: Illustrated Comparison of a 1:1 (left) and 1:4 (right) Span of Control between Transportation Supervisor and Foreworker.

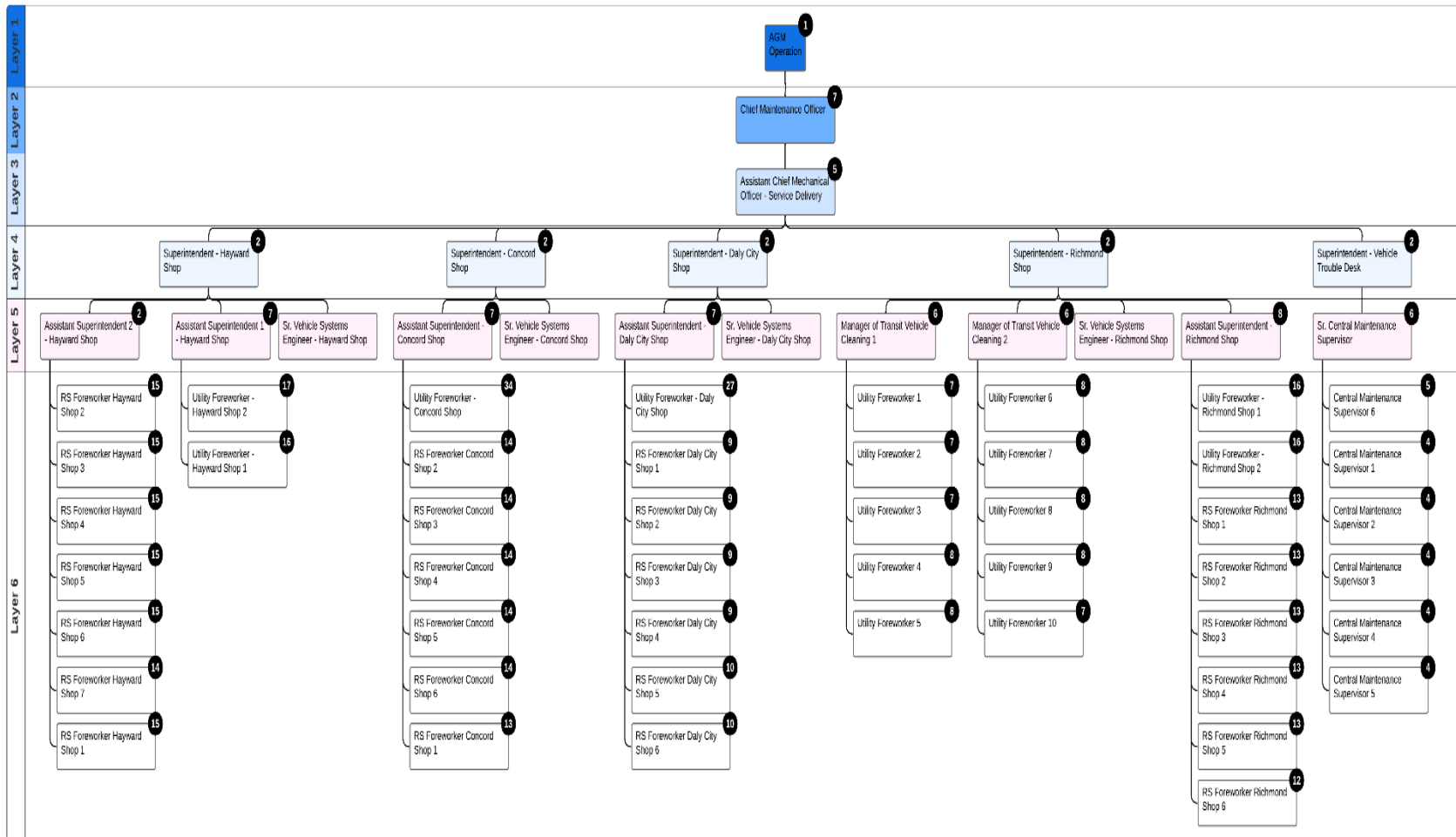


The organization chart below, based on information provided by Operations executives, shows the span of control for those with supervisory responsibility in Transportation and does not illustrate all positions within the department.

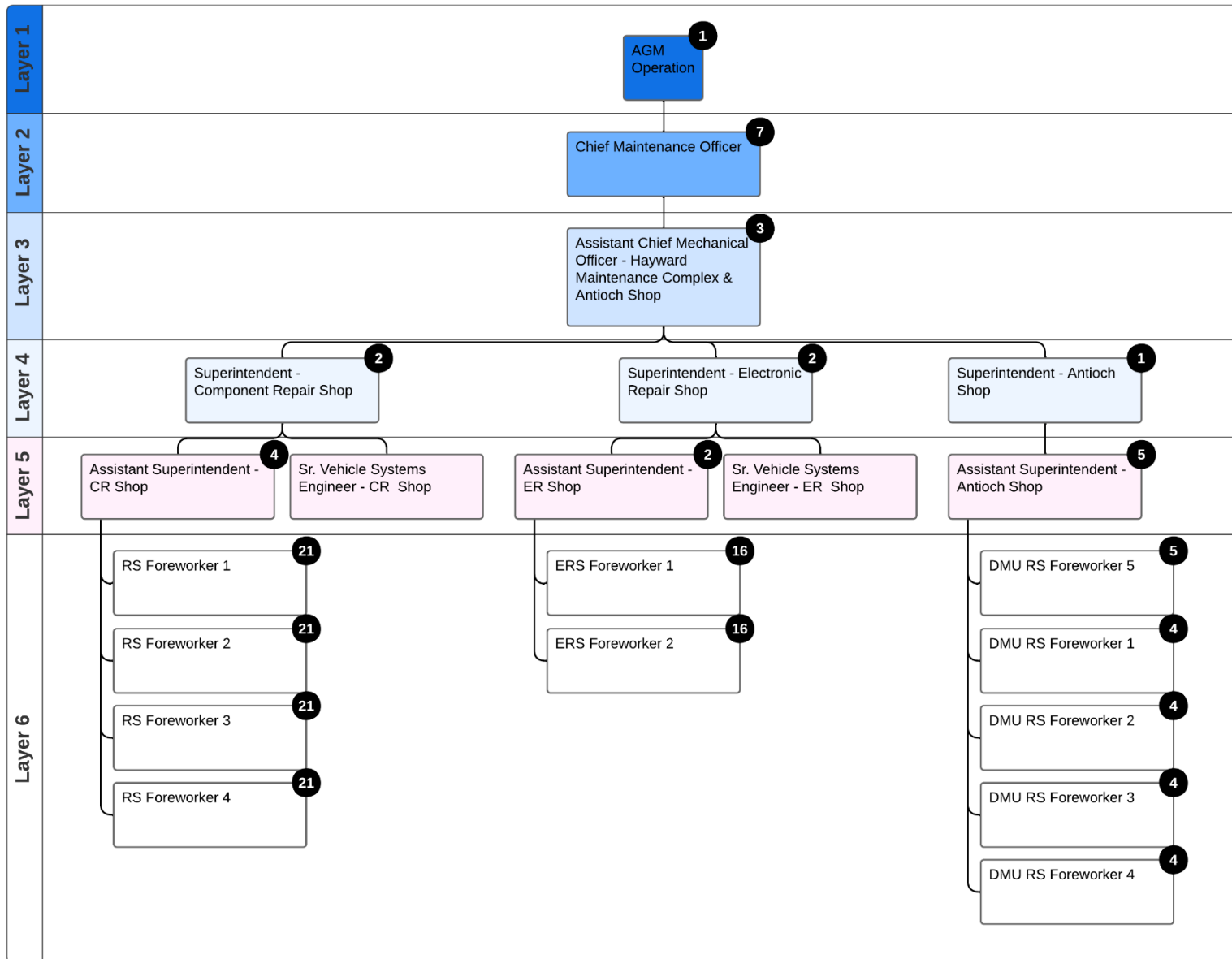


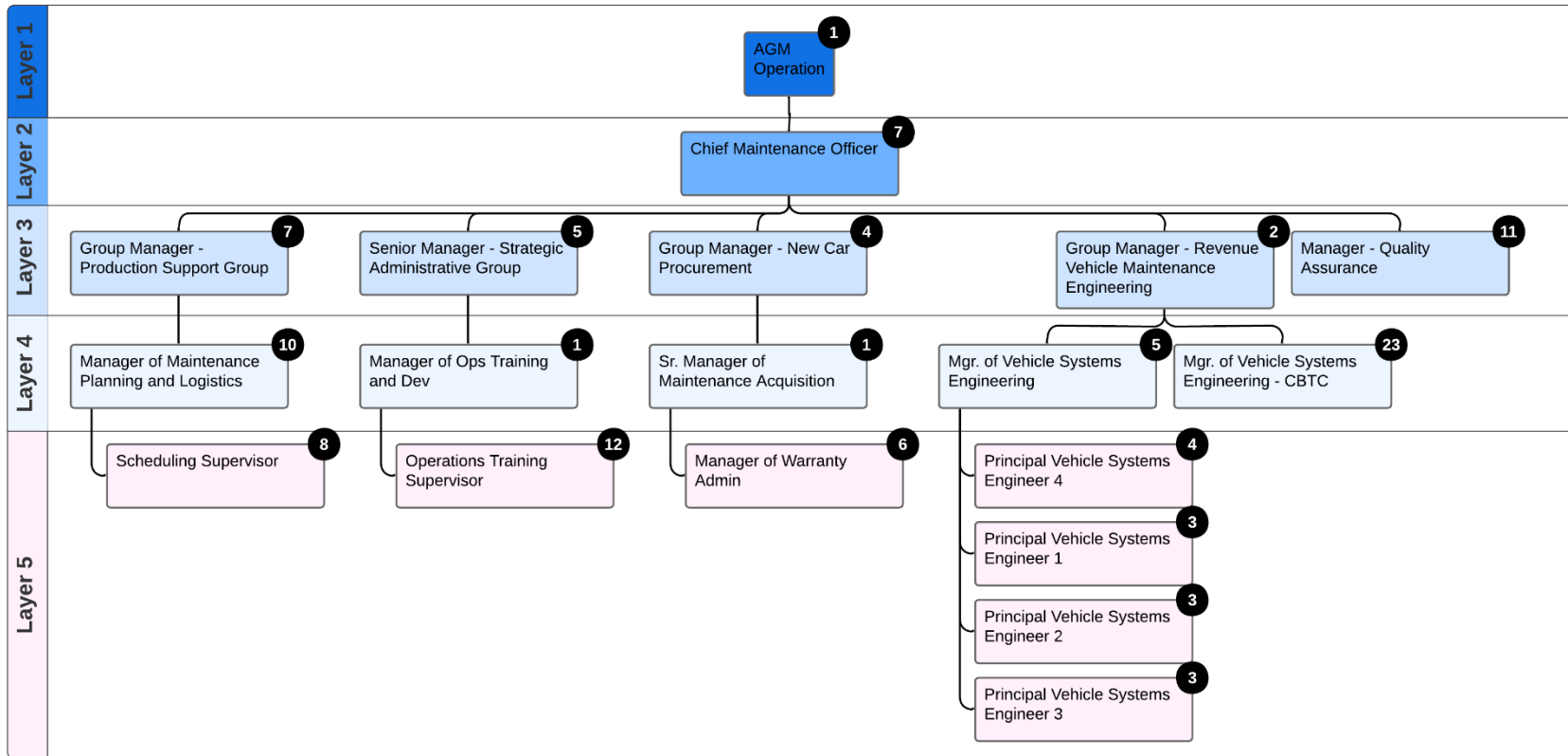
### Rolling Stocks & Shops (RSS)

The Chief Mechanical Officer oversees two Assistant Chief Mechanical Officers, one for Service Delivery (613 positions) and another for Hayward Maintenance Complex & Antioch Shop (156 positions), along with five managers, each responsible for Revenue Vehicle Maintenance Engineering (43 positions), Production Support Group (25 positions), Strategic Administrative Group (19 positions), Quality Assurance (11 positions), and New Car Procurement (11 positions). Within RSS, assistant superintendents directly supervise foreworkers in each shop. The span of control ratio for assistant superintendents to foreworkers ranges from 1:2 to 1:8, with a median span of control of 1:5. The charts below illustrate spans of control and do not illustrate all positions at lower organizational layers and without direct reports, within the department.



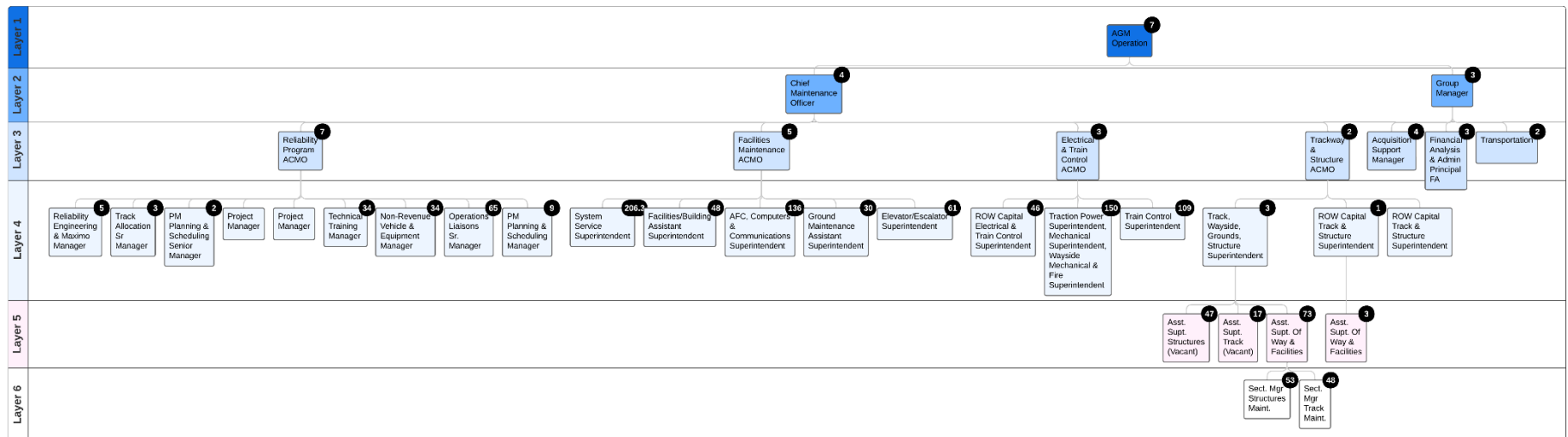






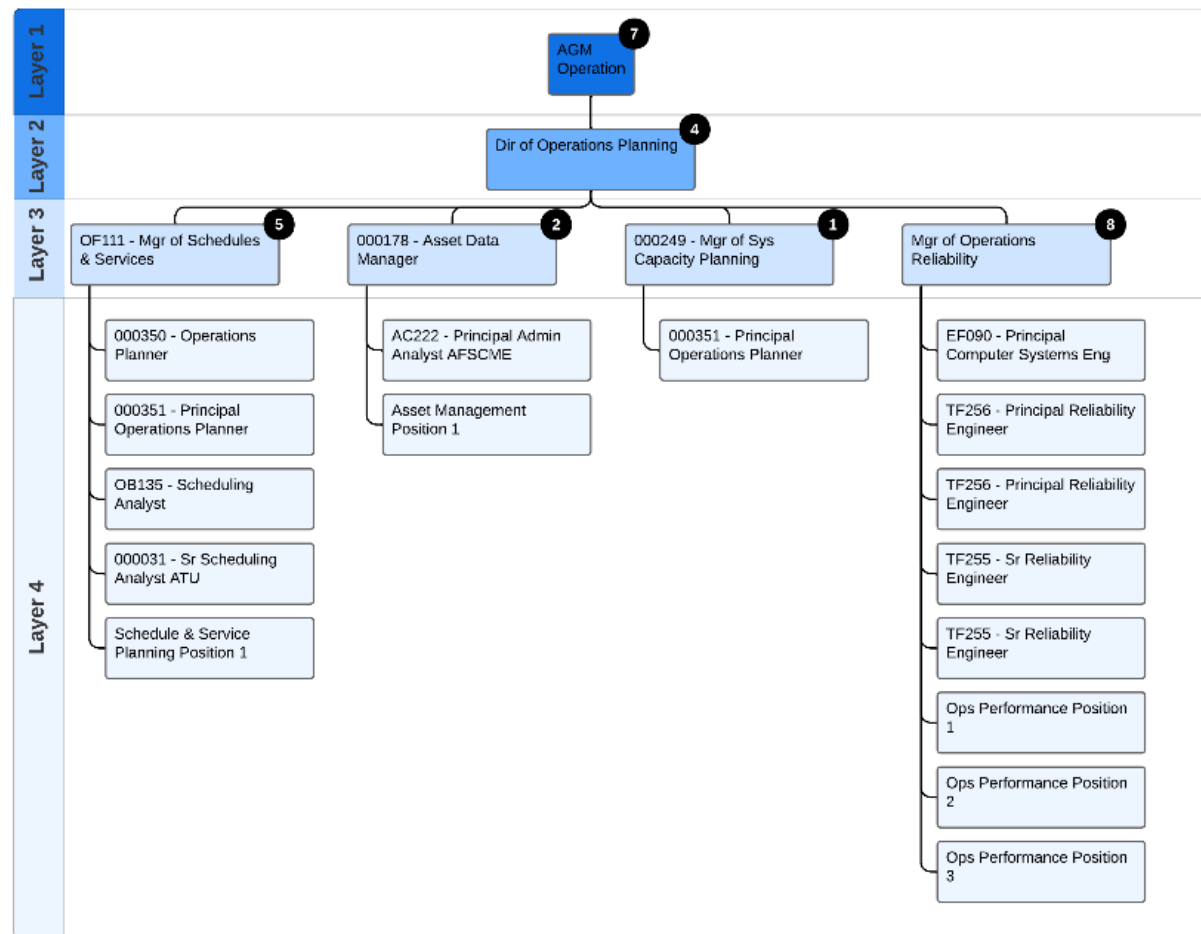
## Maintenance

Four Assistant Chief Maintenance Officers (ACMO) report to the Chief Maintenance Officer, with each ACMO overseeing three to six superintendents or managers. The span of control ratios for Maintenance are likely overestimated because the organizational data provided by Operations executives, in response to this audit, did not define reporting relationships below the assistant superintendent or section manager organizational layer. The charts below illustrate spans of control and do not illustrate all positions at lower organizational layers and without direct reports, within the department.



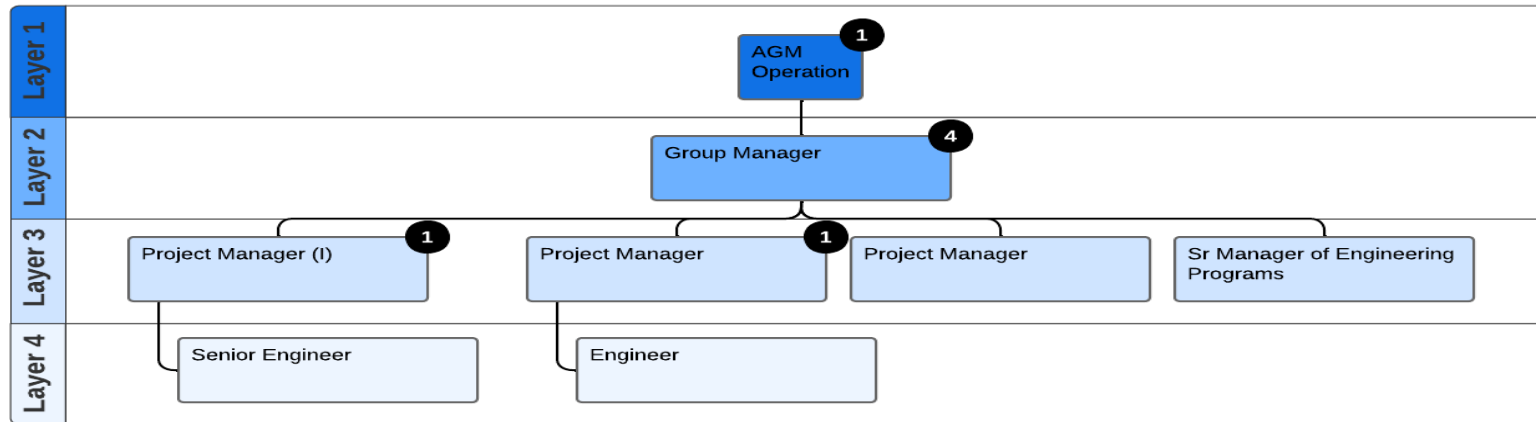
## Operations Planning

Similar to other BART departments providing support to service delivery departments, Operations Planning is under the leadership of a director who supervises four managers. The span of control for these managers to their staff ranges from 1:1 to 1:5.



## BART Silicon Valley Extension

The group manager within Operations leads the staff on this team and reports directly to the AGM for Operations. Additionally, two of the four project managers supervised by the group manager also oversee one engineer each.



## Median Span of Control for the Office and by Organizational Layer (OL) and by Department

Across its departments, Operations has a median span of control of 1:8 across its six organizational layers, with 195 designated supervisors.

|                 | Office  | OL-1 | OL-2 | OL-3 | OL-4 | OL-5 | OL-6   |
|-----------------|---------|------|------|------|------|------|--------|
| Span of Control | 8       | 7    | 4    | 4    | 3.5  | 17   | 13.5   |
| #Supervisors    | 195     | 1    | 6    | 25   | 46   | 55   | 62     |
| #Positions      | 3,251.3 | 7    | 27   | 104  | 632  | 1229 | 1252.3 |

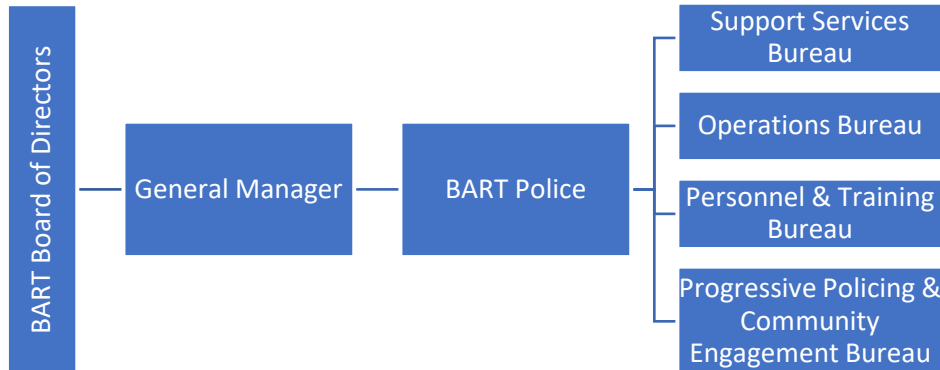
Note: The numbers presented are based on data provided to TAP International from BART's Human Resources Information System and updates from Office executives. These may differ from the numbers presented in the BART annual budgets due to timing or other differences.

|                 | Office  | Maintenance | Transportation | Rolling Stocks<br>& Shops | Administration | Operations<br>Planning | BSV2 |
|-----------------|---------|-------------|----------------|---------------------------|----------------|------------------------|------|
| Span of Control | 8       | 13          | 12             | 8                         | 7              | 4                      | 1    |
| #Supervisors    | 195     | 32          | 57             | 97                        | 1              | 5                      | 3    |
| #Positions      | 3,251.3 | 1216.3      | 1125           | 877                       | 7              | 20                     | 6    |

## Police

The BART Police comprises 409 budgeted positions distributed across four bureaus: Support Services, Operations, Personnel & Training, and Progressive Policing & Community Engagement. These bureaus collectively offer 24/7 full-service law enforcement services for BART. The Chief of Police reports directly to the General Manager.

### BART's Functional Organizational Chart



### BART Budget Position Summary

| Bureaus <sup>1</sup> | FY22 Adopted |         | FY23 Adopted |         | FY24 Adopted |         |
|----------------------|--------------|---------|--------------|---------|--------------|---------|
|                      | Operating    | Capital | Operating    | Capital | Operating    | Capital |
| Total for Police     | 402.0        | 3.0     | 409.0        | 0.0     | 409.0        | 0.0     |

<sup>1</sup> BART's FY24-25 adopted budget did not include a distribution of positions across the Police bureaus.

### High-Level Organizational Framework and Span of Control Ratio

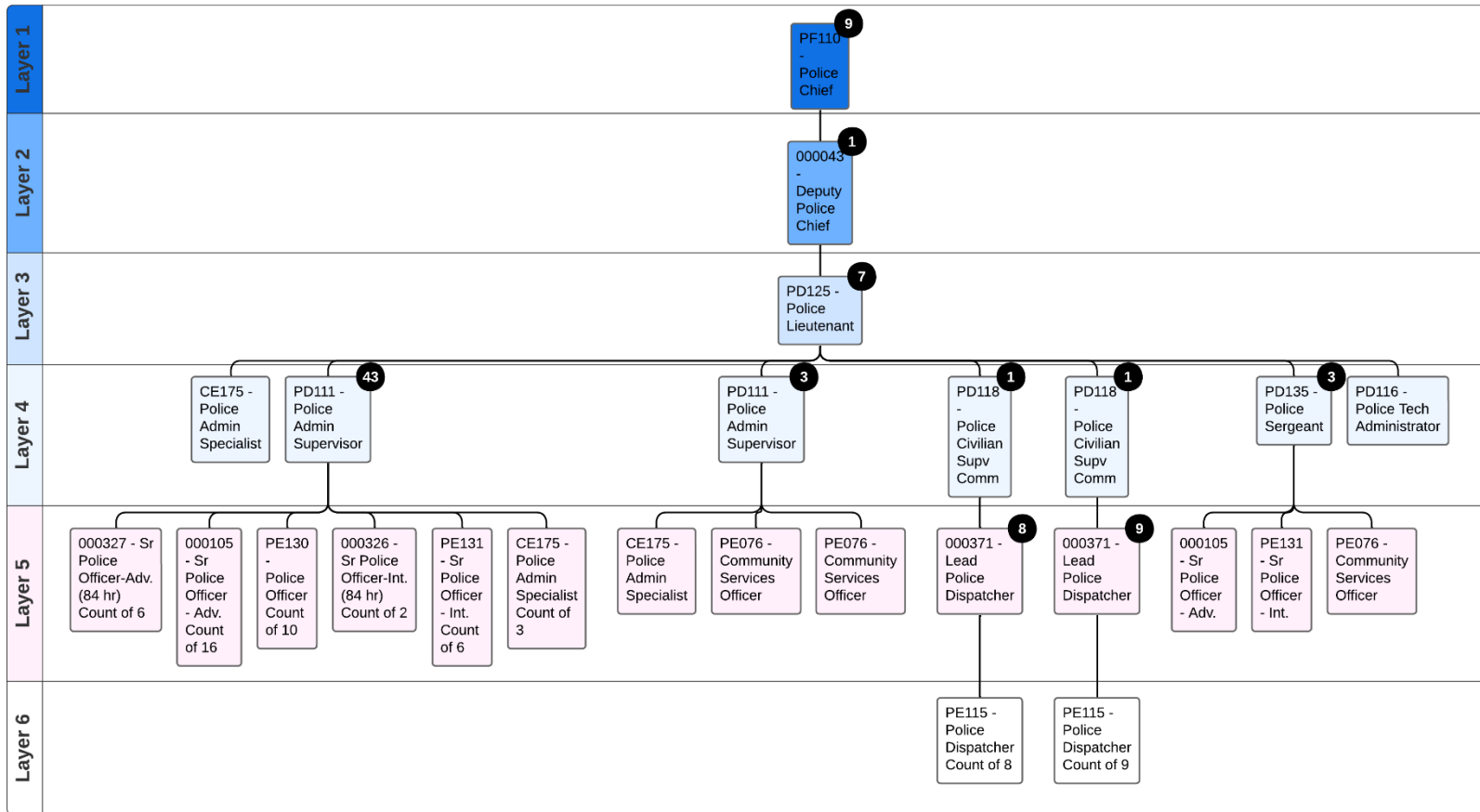
The Chief of Police actively oversees the BART Police. Reporting directly to the Chief of Police are four deputy chiefs, one for each bureau, and a chief of staff. Within the Support Services Bureau, a Lieutenant reports to the Deputy Chief and supervises six total supervisors and sergeants, who, in turn, supervise officers and non-sworn personnel. The Operations bureau deputy chief supervises 11 lieutenants, who serve as watch commanders and actively oversee the six patrol divisions and the Traffic and Parking Divisions. A deputy chief also oversees the personnel and training bureau, directly supervising a lieutenant. Two sergeants report to the lieutenant and actively supervise police officers and non-sworn staff.

The Deputy Chief of Progressive Policing & Community Engagement, unlike the other Deputy Chiefs, actively supervises two sergeants who supervise officers, crime intervention specialists, the Police Chaplain, transit ambassadors, and other non-sworn staff. Finally, the Chief of Police supervises the lieutenant responsible for internal affairs, the manager of accreditation, and the director for security programs.

The Chief of Police explained that one supervisor was assigned a span of control of over 1:330 for budgeting purposes and is working to correct this span of control in the HRIS but has encountered technology issues delaying the further definition of reporting relationships. Reconciling position data in the HRIS with available documentation from the Police Department may pose challenges because the relationships between positions are not clear.

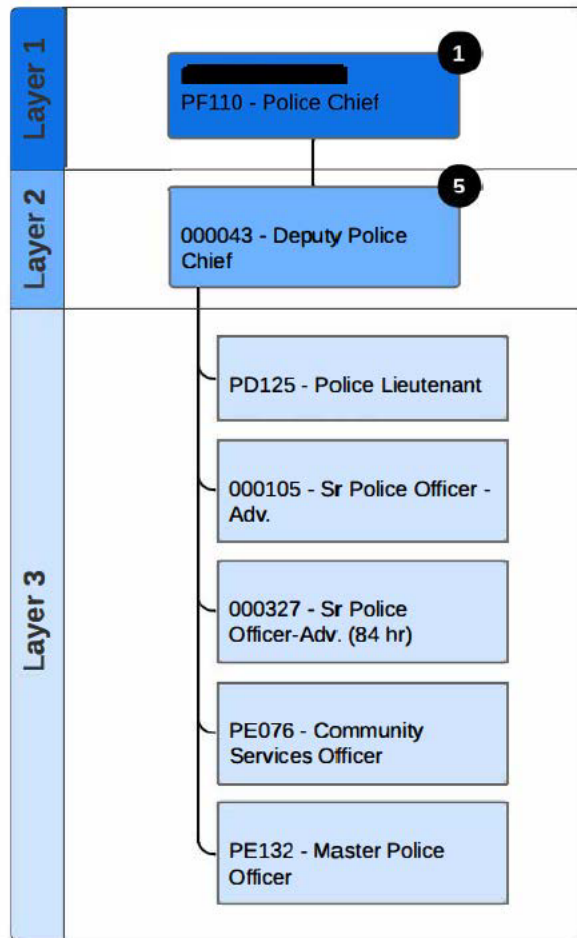
Note: These organizational charts are based on position level data from BART's HRIS, updated with supplemental information provided by BART Police.

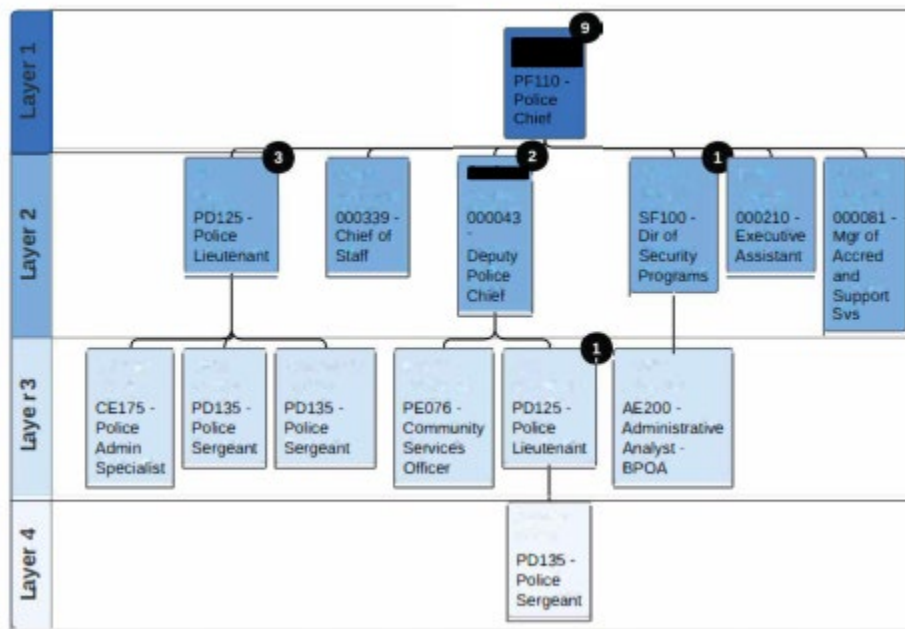


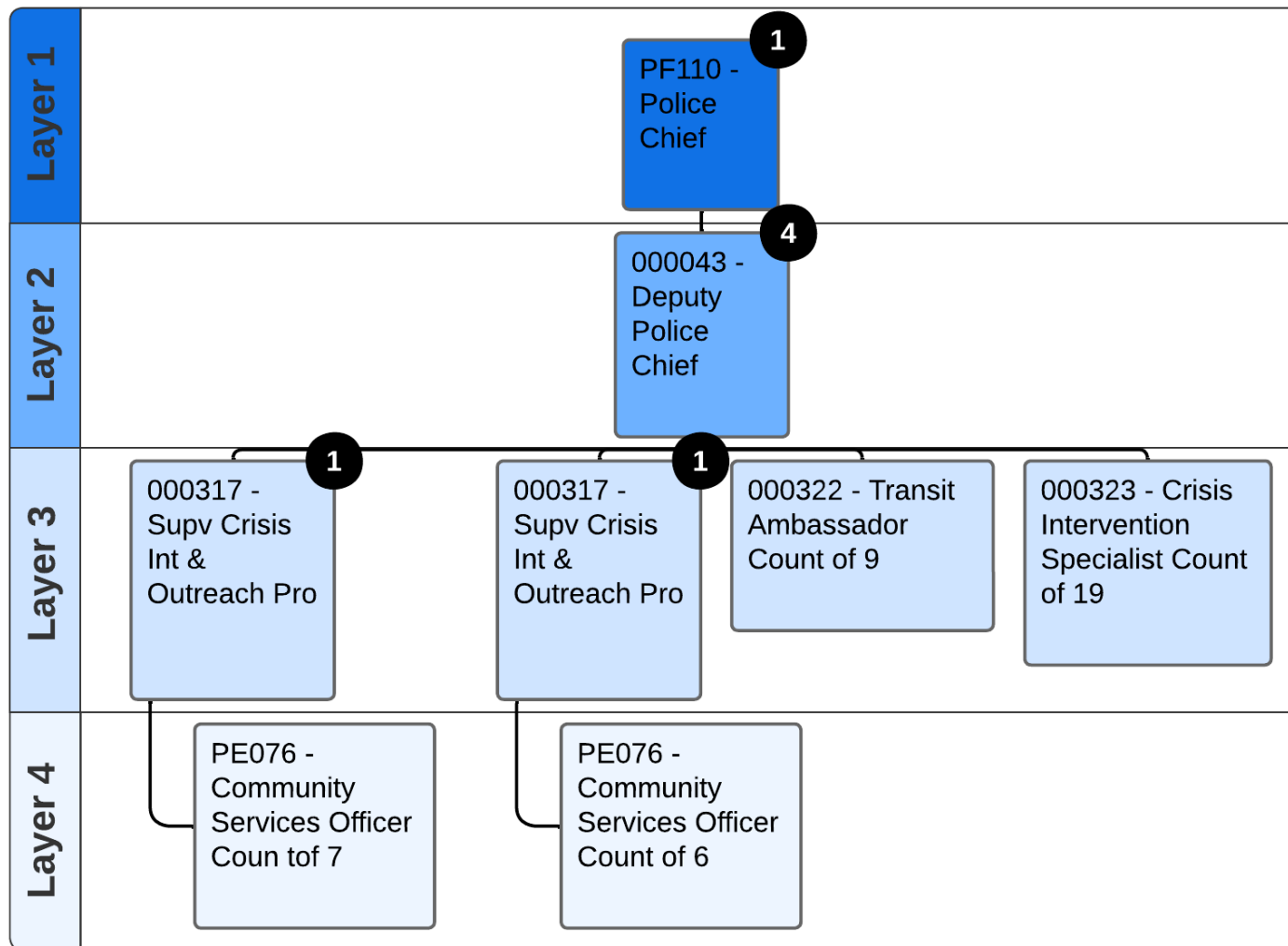












### Median Span of Control for the Office and by Organizational Layer (OL)

BART Police has a median span of control of 1:4 across its four organizational layers, with a total of 53 designated supervisors.

|                 | Office | OL-1 | OL-2 | OL-3 | OL-4 | OL-5 | OL-6 |
|-----------------|--------|------|------|------|------|------|------|
| Span of Control | 4      | 9    | 2.5  | 5.5  | 3    | 8.5  |      |
| #Supervisors    | 53     | 1    | 6    | 12   | 32   | 2    |      |
| #Positions      | 355    | 1    | 9    | 50   | 67   | 211  | 17   |

Note: The numbers presented are based on data provided to TAP International from BART's HRIS and updates from Office executives. These may differ from the numbers presented in the BART annual budgets due to timing or other differences.

## APPENDIX B: OTHER POTENTIAL IMPROVEMENT OPPORTUNITIES REPORTED BY BART EXECUTIVES

BART executives identified other opportunities in four key areas – human resources management, cost savings/and or revenue enhancement, the operating environment, and organizational alignment – that can help strengthen BART’s organizational framework.

| AREA FOR IMPROVEMENT REPORTED BY EXECUTIVES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | SUGGESTED IMPROVEMENT                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>HUMAN RESOURCES MANAGEMENT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                |
| <p><u>Misdirected Job Applications:</u><br/>Job seekers often apply for the wrong openings because the general definition of a position's role, such as "senior administrative analyst," fails to convey the specialized skills required for successful job performance.</p> <p><u>Restricted Employee Mobility:</u><br/>The lack of transparency in articulating a position's roles and responsibilities hinders employee development and mobility across BART offices. Employees may find it challenging to explore different opportunities within the organization due to unclear job expectations.</p> <p><u>Difficulty in Identifying Responsibilities:</u><br/>When collaborating across offices, the absence of clear position descriptions makes it difficult to identify which individuals are responsible for specific functions. This lack of clarity can impede effective communication and collaboration between different departments and teams.</p> | <p>Develop specific position descriptions and clarify job titles and roles and responsibilities.</p>                                                                                                           |
| <p>High turnover in certain departments or staff going on leave has brought attention to the necessity of cross-training to uphold productivity during these events. This can pose a challenge across union-represented positions when cross-training is not clearly defined in the job description.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>Include cross training in all job descriptions where necessary.</p>                                                                                                                                         |
| <p>Current position classifications impose constraints on organizational flexibility. Specialized roles requiring technical expertise limit the utilization of existing resources, hindering management’s capacity to transfer, for instance, an analyst from one unit to another to address vacancies or during staff leave.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p>Review job descriptions and negotiated labor agreements to identify barriers to cross-training and collaboration that could help executives address this challenge without adding additional positions.</p> |
| <p>Implementing a recent BART Policy involving the review and approval of temporary employees to ensure compliance with a 900-hour work limit. This task demands a substantial amount of time and labor.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>Evaluate the effectiveness of this BART policy, designed to address BART’s culture of hiring temporary employees or consultants for extended periods of time.</p>                                           |



| AREA FOR IMPROVEMENT REPORTED BY EXECUTIVES                                                                                                                                                                                                          | SUGGESTED IMPROVEMENT                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Addressing issues related to the performance of union-represented employees becomes challenging after the probation period concludes, leading offices to add employees to handle the arising concerns.                                               | Review existing negotiated procedures to address an employee's performance issues that prevent an employee and BART from entering cycles of repeated performance improvement plans.                                                                                   |
| Having too many position vacancies in shopkeeper positions has increased the time to deliver requested goods.                                                                                                                                        | Conduct span of control analysis to make transparent the effect of vacant positions on interdependent business processes both within and across offices.                                                                                                              |
| When priorities or workload demands change, the office may need to reallocate resources across a broader skill set to meet needs and reduce the demand to add positions.                                                                             | Identify and reward staff who possess, or are developing, adaptable skills across departments or offices for improving organizational flexibility even with narrower spans of control.                                                                                |
| <b>COST SAVINGS AND/OR REVENUE ENHANCEMENT</b>                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                       |
| Wide spans of control make the performance evaluation process and timesheet review time-consuming, reducing the time managers have available for completing improvement projects.                                                                    | Integrate workload analysis with span of control analysis.                                                                                                                                                                                                            |
| The Office of System Safety investigates incidents during 24/7 operations, and the current staffing levels pose challenges in covering areas beyond investigating serious incidents.                                                                 | Co-locate System Safety with BART Police to ensure BART compliance with federal safety requirements, resulting in cost savings from expanded coverage of incident investigation, reducing overtime, and preventing future incidents during nonstandard working hours. |
| Vacant positions, while saving the cost of the position, can lead to increased overtime and a decline in service delivery, as remaining employees add hours to complete the work that was originally performed by the employee holding the position. | Implement business process improvements if BART does not plan to fill the positions in the short term.                                                                                                                                                                |
| <b>OPERATING ENVIRONMENT</b>                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                       |
| Some Office departments perform very different functions but often serve the same BART office client. Ensuring collaboration, or getting staff to communicate with each other departments, is a challenge.                                           | Adopt a client-centered focus for support functions delivered by one Office to another.                                                                                                                                                                               |
| Financial controls and transparency over on-call contracts, real estate contracts, and collection are limited.                                                                                                                                       | Increase collaboration between the Controller-Treasurer's Office and other support units.                                                                                                                                                                             |

| AREA FOR IMPROVEMENT REPORTED BY EXECUTIVES                                                                                                                                                                                                                                                                                                                                                                                                                | SUGGESTED IMPROVEMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DATA MANAGEMENT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| BART Police does not have comprehensive data to assess the cost-effectiveness of the time spent on fare enforcement.                                                                                                                                                                                                                                                                                                                                       | Develop ways to better access data to make the evaluation of the effectiveness of BART programs and services quicker and easier and adjust programs to realize greater benefits.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>ORGANIZATIONAL ALIGNMENT</b>                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| The Office of Civil Rights lacks alignment with its departmental functions, as it conducts certifications while other agencies, such as LA Metro, maintain an independent certification unit for certifying vendors as small businesses—distinct from the unit handling Civil Rights. Organizational realignment within Procurement, a practice observed in other transit agencies, is under consideration.                                                | Explore the opportunity to provide quicker turnaround times and better risk mitigation of costly legal challenges by potentially establishing an independent business certification unit, separate from the Office of Civil Rights.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Executives note that collaboration across offices becomes more challenging when another office has a different organizational framework.                                                                                                                                                                                                                                                                                                                   | To make collaboration more efficient, add functional information to organizational charts and BART directories, making transparent who is responsible for which function and for what service delivery.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Consultants' expressed confusion regarding oversight responsibilities, such as determining whether contract oversight lies with the Procurement Department (within the Office of Administration) or the executive office responsible for service delivery (not the Office of Administration). Also confusing is managing the oversight of consultants in conjunction with other offices when implementing new technology projects is shared by Technology. | <p>Improve collaboration to minimize financial risk and enhance service delivery. Collaboration could result in more efficient oversight of contracted work and improved service delivery for the contracted work. To build better working relationships with consultants and establish clear lines of accountability, implement the following:</p> <ul style="list-style-type: none"> <li>• Clearly define points of contact for service delivery and contract administration for consultants.</li> <li>• Improve transparency about who is contracted and who is BART-employed staff for both BART and contracted staff.</li> <li>• Enhance consistency in holding consultants accountable for the management of their staff.</li> <li>• Expand the practice used by Technology-managed projects.</li> </ul> |

| AREA FOR IMPROVEMENT REPORTED BY EXECUTIVES                                                                                                                                 | SUGGESTED IMPROVEMENT                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Not all BART offices explicitly design organizational frameworks to clearly define accountability at each level for service delivery by BART employees and contracted work. | Clearly define accountability for service performance at lower organizational layers, not just for the higher managerial organizational layers, to better mitigate financial risk by focusing on key performance indicators for these lower levels. |

## APPENDIX C: HOW CAN ORGANIZATIONS IMPLEMENT SPAN OF CONTROL?

Implementing span of control in an organization can vary based on the organization's size, structure, and nature of the work. As a general guideline for adaption to specific needs, our analysis of management literature on span of control and continuous process improvement provides general guidelines for adaption to specific organizational needs at BART as follows:

1. Assess your current organizational structure. Understand the number of hierarchical levels, reporting relationships, and the number of employees at each level.
2. Establish benchmarks for your organization based on the type of work and roles and responsibilities of individuals in positions of management.
3. Clearly define the goals and objectives aimed at optimizing the organizational structure.
4. Analyze how work flows through your organization. Identify bottlenecks, communication gaps, and areas where decision-making is delayed.
5. Consider the communication needs within different teams and departments.
6. Assess the skills and competencies of your employees. Some employees may require more supervision and guidance, while others may be more independent.
7. If necessary, provide training for managers and leaders to enhance their skills in managing large teams.
8. Encourage a culture of autonomy and responsibility among employees.
9. Coordinate with the collective bargaining units regarding potential changes.
10. Clearly communicate the changes in the organizational structure to all employees. Address any concerns or questions.
11. Be transparent about the reasons for the changes and the expected benefits.
12. Continuously monitor the performance of teams and individuals under the new structure.
13. Be flexible and open to adjusting the span of control based on feedback and performance indicators.
14. Regularly assess the impact of changes on productivity, employee satisfaction, and overall organizational performance.
15. Adjust as needed based on the evaluation results.
16. Document the new structure, roles, and responsibilities clearly.
17. Ensure ongoing communication about the span of control and related changes.

## APPENDIX D: AUDITOR EVALUATION OF AGENCY COMMENTS

We provided a draft of this report to BART for review and comment. The Executive Director submitted a written response, which generally agreed with the overall findings and established plans to address the audit's recommendations but noted discrepancies between the organizational charts in the report and actual reporting relationships, which created questions about their impact on specific findings.

To ensure the reliability of our audit findings, TAP International gathered evidence from multiple sources, including the leaders of each BART Department. We relied on their reviews and updates to the organizational information provided. Throughout the audit process, BART officials had opportunities to provide additional updates to the organizational charts. Any further updates received would not have affected the findings regarding the variability of span of control ratios across BART or the recommendations aimed at enhancing organizational strategies and implementing tools for organizational changes.

## APPENDIX E: AGENCY COMMENTS

## SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

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### MEMORANDUM

**TO:** Claudette Biemeret, Inspector General

**DATE:** March 18, 2024

**FROM:** General Manager

**SUBJECT:** Management's Response to Span of Control Performance Audit

Attached is management's response, in blue, to the draft report BART Can Benefit from Implementing Span of Control Analysis dated January 24, 2024. In general, management agrees with the overall findings of the performance audit but notes that in some cases the organization charts included in the report do not reflect actual reporting relationships. It's unclear if the differences in reported versus actual reporting relationships impact specific findings, but the differences would not likely impact management's broader response to the recommendations.

Please contact me or Dennis Markham, Director of Performance & Audit, at [dmarkha@bart.gov](mailto:dmarkha@bart.gov) or (510) 464-6275 if you have any questions.



---

Robert M. Powers

Attachment

cc: Executive Staff  
Director of Performance & Audit

## Management Response to Span of Control Performance Audit

1. To ensure the success of strategies that promote cost-effective communication and collaboration, the Human Resources Director should develop processes to ensure that the HRIS includes an up-to-date dataset of reporting relationships among BART employees, including the lower organizational layers.

Processes are in place to ensure that the Human Resources Information System (HRIS) is updated on a consistent basis. However, at times there is a backlog or situations that create a lag between when the changes are known and when HRIS is updated. BART staff will work to ensure that there is a standardized process for updates and will provide reminders to managers to periodically check HRIS data for accuracy.

2. The BART General Manager should set expectations that executive offices maintain up-to-date organization charts that include contractors and contracted work, making transparent where accountability and the workload for reporting and oversight activities resides.

Management acknowledges that BART's organization charts can be inconsistent at the position level. Department level organization charts are prepared and published each year as part of the budget process. Management is evaluating possible solutions to address position-level organization charts, including utilizing the organization chart tool in the recently implemented NEOGOV system, with the goal of having accurate and consistent org. charts at the position level available for the FY25 budget (July 2024). Management does not intend to show contractors on the org. charts because doing so could create potential CalPERS issues with showing contractors comingled with BART employees. Management will determine a way to note on the organization charts if a department contains contractors.

3. The BART General Manager should establish guidance and/or criteria on the factors that executives should follow when assessing their organizational frameworks and making changes to spans of control to improve organizational health or performance. The guidance for making changes to span of control should include:

- Considering risk mitigation for areas of moderate to high operational, financial, service delivery, internal control, or reputational risk;
- Widening span of control ratios where a supervisor has only one or no direct reports (including at the Executive or Director level);
- Promoting equity in spans of control among employees holding the same position classification;
- Acknowledging the level of accountability for contracted work and its effect on spans of control;
- Considering the administrative workload of supervisors that may facilitate the need for narrower spans of control, such as timesheet review and preparation of performance evaluations.

Management directly and indirectly uses span of control when making organizational and hiring decisions. As noted in the OIG's Span of Control report, BART is similar to other transit agencies in that it has wider spans of control in areas of low risk and known, consistent job duties (e.g., train operations) and narrower spans of control in higher risk, more specialized areas. Situations where a manager may oversee few staff could be due to the department/division managing projects and/or contractors, but management will look into narrow spans where projects or contractors are not a factor. Equity continues to be an area that management, monitored by Human Resources and the Office of Civil Rights, considers when making hiring and promotional decisions. BART is looking at policies and practices, including span of control, in areas where time reporting verification issues exist.



4. The BART General Manager should adopt span of control as a management tool and require its use under the following conditions:

- When considering promotions and defining career development pathways,
- To ensure alignment with executive office goals,
- When identifying opportunities for collaboration and cross-training, and
- When there are opportunities to make operational enhancements in lieu of adding positions.

The General Manager will establish guidelines stipulating that all managers should consider span of control in their organizational structure, hiring, and promoting practices.

5. The BART General Manager should establish policies stipulating the conditions supporting span of control ratios of one supervisor to one employee.

Management will evaluate situations where managers are supervising only one employee that do not involve specific projects or programs, or that involve contractors. BART's Human Resources department evaluates promotional opportunities for job classifications through periodic classification and compensation studies and pay equity analyses.

## APPENDIX F: CONTACTS AND ACKNOWLEDGEMENTS

### **TAP INTERNATIONAL CONTACT**

Denise Callahan, President, Denise@tapinternational.org or 916.549.0831

### **BART OFFICE OF INSPECTOR GENERAL**

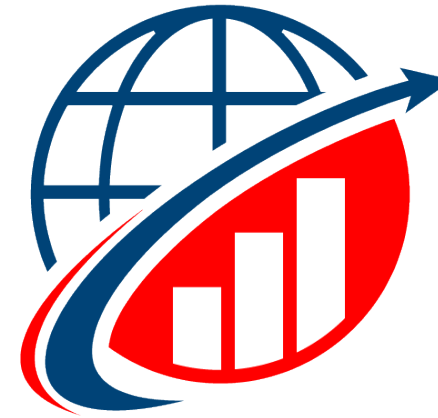
Claudette Biemeret, Inspector General, [claudette.biemer@BART.gov](mailto:claudette.biemer@BART.gov),

### **ACKNOWLEDGMENTS**

TAP International would like to thank BART executive management, department directors and staff who participated in this audit.

# Bay Area Rapid Transit District (BART)

BART Can Benefit  
from Applying  
Span of Control  
Analysis in its  
Organizational  
Decision-Making



**TAP INTERNATIONAL, INC.**  
*TRAINING ANALYTICS PERFORMANCE*

**BART Audit Committee Presentation**

**April 2024**

Thank you to all 16 BART departments that participated in the audit.

#### Included Offices

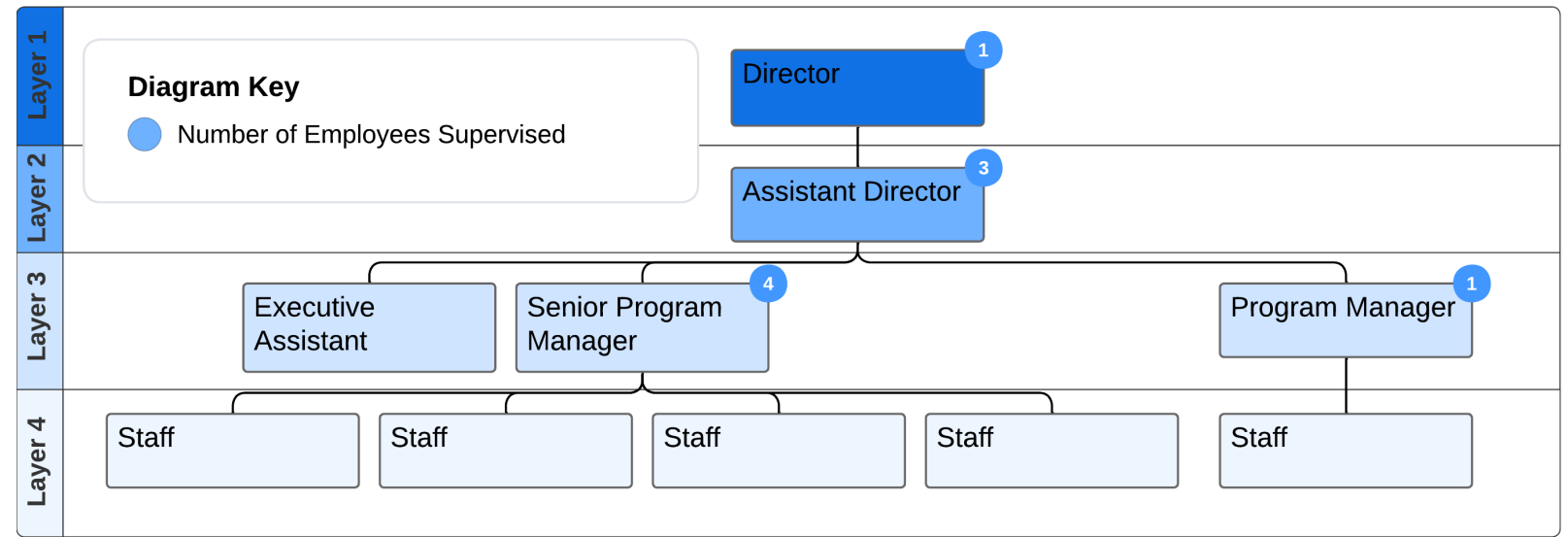
1. Office of Inspector General (OIG)\*
2. Office of Civil Rights
3. Office of Infrastructure Delivery
4. System Safety
5. District Secretary (BAO)
6. BART Police
7. Office of Technology
8. Office of Performance & Budget
9. Office of Planning & Development
10. Office of Administration
11. Office of External Affairs
12. Independent Police Auditor (BAO)
13. Controller-Treasurer (BAO)
14. Operations
15. General Counsel (BAO)
16. Capital Corridor\*

\* The OIG and Capital Corridor were included in the audit for completeness purposes.

# Background

## What is span of control?

Span of control is the number of employees reporting directly (direct reports) to an individual (supervisor).



Layer 1 to Layer 4: Organizational layers (OL) refers to the number of organizational levels having supervisory responsibilities. It measures the distance from the people in charge of the organization to the employee working at the front lines.

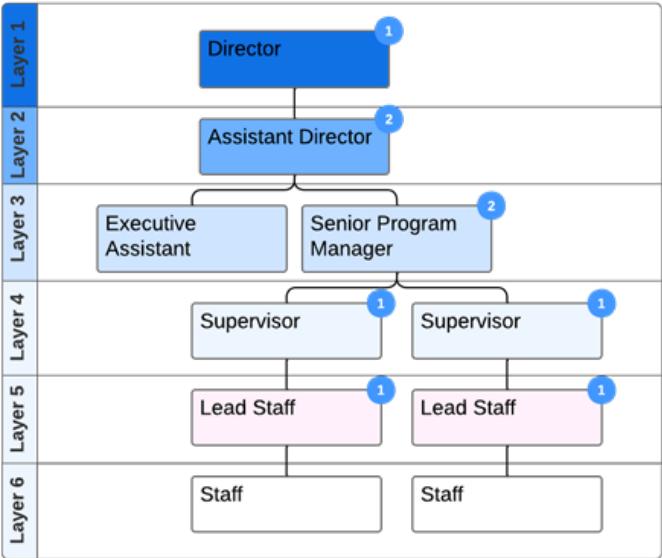
# Background

## Value of SOC analysis

1. *SOC analysis can identify areas for improvement in the organizational design.*

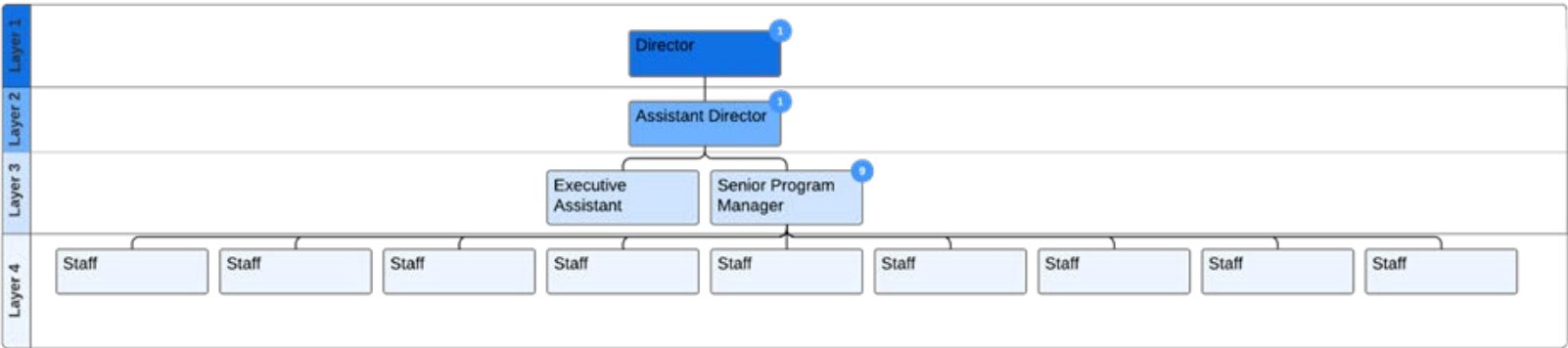
Span of control (SOC) is referred to as being narrow or wide.

Narrower Span of Control



**Narrower** span of control has more employees with supervisory responsibility. This model can be more costly, but can also provide opportunities for employment development, enhanced compliance, focused technical expertise.

Wider Span of Control



A **wider** span of control has fewer supervisors, costing less, and is considered helpful for faster decision-making and less micromanagement.

# Background

## Value of SOC analysis (Continued)

2. *Span of control can be a  
useful to enhance:*

- ✓ Operational efficiency
- ✓ Communication
- ✓ Supervision and leadership
- ✓ Flexibility and adaptability
- ✓ Organizational structure
- ✓ Employee morale
- ✓ Organizational design
- ✓ Collaboration

# Background

## Value of SOC analysis (Continued)

3. *Depending on an organization's goals and objective, span of control can be a useful tool determine potential staffing sizes.*

| <div>Narrower Span<span>←</span><span>→</span>Wider Span</div> |                        |        |
|----------------------------------------------------------------|------------------------|--------|
| Less                                                           | Accountability         | More   |
| Less                                                           | Agility                | More   |
| Less                                                           | Efficiency             | More   |
| Less                                                           | Empowerment            | More   |
| More                                                           | Cost                   | Less   |
| More                                                           | Micromanagement        | Less   |
| More                                                           | Operational Complexity | Less   |
| More                                                           | Performance Feedback   | Less   |
| Slower                                                         | Responsiveness         | Faster |



# Audit Objectives

1. Determine the span of control (number of staff reporting to each employee with supervisory responsibility such as managers, supervisors, or lead staff) within BART and how this compares with best practices and other transit agencies.
2. Identify the factors that affect BART's span of control and determine how they are applied throughout BART.

# Methodology

## Conducted a span of control analysis of 16 BART offices

- Obtained dataset of individual reporting relationships from HR.
- Calculated the median SOC for each office.
- Created an illustration of the reporting relationships (organization chart) for each office.
- Interviewed Executives in charge of 16 BART offices to review reporting relationship data, identify factors that influence span of control, and to discuss opportunities and risks presented by the current organizational framework.
- Had Department Directors review and update organizational data.
- Updated the reporting relationship dataset with the supplemental information provided.
- Re-calculated the SOC for each office and updated organizational charts.

### Included Offices

1. Office of Inspector General (OIG)\*
2. Office of Civil Rights
3. Office of Infrastructure Delivery
4. System Safety
5. District Secretary (BAO)
6. BART Police
7. Office of Technology
8. Office of Performance & Budget
9. Office of Planning & Development
10. Office of Administration
11. Office of External Affairs
12. Independent Police Auditor (BAO)
13. Controller-Treasurer (BAO)
14. Operations
15. General Counsel (BAO)
16. Capital Corridor\*

\* The OIG and Capital Corridor were included in the audit for completeness purposes.

# Finding 1

## Span of Control Ratios Vary Throughout BART

### Span of Control Benchmarks Are Not Generally Established

**BART Span of Control Ratios Range from 1:1 to 1:8.5 (Overall Median of Offices)**

| Span of Control by Office (MEDIAN) | Span of Control | Organizational Layer-1 | Organizational Layer-2 | Organizational Layer -3 | Organizational Layer -4 | Organizational Layer -5 | Organizational Layer -6 | # of Employees with Supervisory Role | # of Positions |
|------------------------------------|-----------------|------------------------|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------------------|----------------|
| Office of Civil Rights             | 2.0             | 1.0                    | 5.0                    | 2.0                     | 2.5                     | -                       | -                       | 10                                   | 26             |
| Infrastructure Delivery            | 3.0             | 7.0                    | 4.0                    | 3.5                     | 4.0                     | 2.0                     | 1.5                     | 75                                   | 299            |
| System Safety                      | 3.0             | 1.0                    | 6.0                    | 3.0                     | -                       | -                       | -                       | 5                                    | 19             |
| Police Department                  | 4.0             | 9.0                    | 2.5                    | 5.5                     | 3.0                     | 8.5                     | -                       | 53                                   | 355            |
| Technology                         | 4.0             | 6.0                    | 3.5                    | 4.0                     | -                       | -                       | -                       | 15                                   | 63             |
| Performance & Budget               | 4.0             | 5.0                    | 3.5                    | 4.0                     | 5.0                     | -                       | -                       | 11                                   | 42             |
| Planning & Development             | 4.0             | 6.0                    | 3.5                    | 3.5                     | -                       | -                       | -                       | 11                                   | 45             |
| Administration                     | 4.0             | 3.0                    | 8.0                    | 4.0                     | 3.5                     | 4.0                     | -                       | 38                                   | 166            |
| External Affairs                   | 4.0             | 6.0                    | 4.5                    | 2.0                     | 9.0                     | -                       | -                       | 13                                   | 57             |
| Operations                         | 8.0             | 7.0                    | 4.0                    | 4.0                     | 3.5                     | 17.0                    | 13.5                    | 196                                  | 3,253.3        |

## Finding 1, cont'd.

### Span of Control Ratios Vary Throughout BART

#### **BART Data Shows Multiple 1:1 Span of Control Ratios**

- At least 60 reporting relationships have 1:1 span of control ratios.

#### **Span of Control Ratios Are Likely Understated and Overstated**

- The extent that individual employees have responsibility for contractor oversight across offices is not visible in the BART organizational framework.
- Below the mid-manager organizational layers, BART's HRIS does not consistently or formally document employees with supervisory responsibilities.
- Certain mid-management positions and other professional classifications not represented by a collective bargaining agreement with a union – such as 'project manager' or 'resident engineer' – may formally supervise other staff, be assigned management-level responsibilities, or neither.
- The organizational data at the lower organizational layers is incomplete.

# Finding 2: Multiple Factors Drive BART’s Organizational Structure

Use of span of control as an internal control activity varies across BART Offices

- Seven offices use span of control
- Seven offices do not
- Other offices are too small to warrant its use

## Key Factors Reported by Department Executives

| Environment                                                                                                                                                                                                                                                                                                               | Strategy                                                                                      | Organizational Size                                                             | IT |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----|
| <ul style="list-style-type: none"> <li>• Nature of the work (12)</li> <li>• Supervisory Skill and Responsibilities (12)</li> <li>• Employee Competency (9)</li> <li>• Risk (6)</li> <li>• Employee Development and Morale (5)</li> <li>• Geographic Location (3)</li> <li>• Resource (Budget) Availability (3)</li> </ul> | <ul style="list-style-type: none"> <li>• Agency or Office Goals and Objectives (2)</li> </ul> | <ul style="list-style-type: none"> <li>• Degree of Collaboration (2)</li> </ul> | 0  |

# Recommendations

DRAFT



1. Develop processes to ensure that the HRIS includes an up-to-date dataset of reporting relationships among BART employees, including the lower organizational layers.
2. Set expectations that executive offices maintain up-to-date organization charts that include consideration of workloads created by contract management responsibilities, making transparent where accountability and the workload for contract management activities reside.



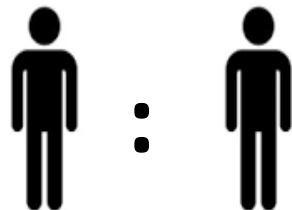
3. Establish guidance and/or criteria on the factors that executives should follow when assessing their organizational frameworks and making changes to spans of control to improve organizational health or performance. The guidance for making changes to span of control should include:

- Considering risk mitigation for areas of moderate to high operational, financial, service delivery, internal control, or reputational risk;
- Widening span of control ratios where a supervisor has only one or no direct reports (including at the Executive or Director level);
- Promoting equity in spans of control among employees holding the same position classification;
- Acknowledging the level of accountability for contracted work and its effect on spans of control;
- Considering the administrative workload of supervisors that may facilitate the need for narrower spans of control, such as timesheet review and preparation of performance evaluations.



4. Adopt span of control as a management tool and require its use under the following conditions:

- When considering promotions and defining career development pathways,
- To ensure alignment with executive office goals,
- When identifying opportunities for collaboration and cross-training, and
- When there are opportunities to make operational enhancements in lieu of adding positions.



5. Establish policies stipulating the conditions supporting span of control ratios of one supervisor to one employee.



# Questions



## SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT INDEPENDENT OFFICE OF THE INSPECTOR GENERAL

# MORE TIME THEFT CASES – CAUSE FOR CONCERN

### INVESTIGATION RESULTS



Three BART employees who were not approved for remote work and whose work is not conducive to remote work were at their personal residences during much or portions of their paid duty hours. Dollar loss from time theft was \$9,004, but time-data patterns and other evidence support the likelihood of a higher loss. Not performing assigned tasks while on duty is a violation of District policy and knowingly seeking payment for time not worked violates the law. One of the three employees retired after being confronted by the BART Police Department (BPD), which we referred the matter to for assistance. The BPD presented their investigative findings to the San Mateo County District Attorney's Office, which filed charges against the employee on November 3, 2023. The other two employees admitted to their misconduct prior to involving the BPD. Those matters were referred to BART Executive Management.

The employees claimed to be working 10-hour shifts and would report to their duty locations for brief periods but would then leave for their private residence where they would remain for much or portions of their shifts. Despite the employees often not being at their work locations or performing their duties, they collected their base salary and extra earnings from shift pay, overtime, and double time (holiday overtime). They also received compensation in the form of paid pension benefits, vacation accruals, and other benefits.

### RELEVANT LAW & POLICY



Penal Code 532 (a)(1) states no person shall “*knowingly and designedly, by any false or fraudulent representation or pretense, defrauds any other person of money....*” The California False Claims Act provides liability against anyone who “[k]nowingly presents or causes to be presented” false claims to a public entity. District Operations Rules & Procedures, § 1303 states, “*Employees shall, while on duty, perform all tasks assigned or directed by proper authority,*” and § 1703 states, “*No employee shall knowingly enter, or cause to be entered, any inaccurate [or] false... information on District records.*”

### WHY THIS INVESTIGATION MATTERS



Time theft, or payroll fraud, adversely affects the District, public, and employees. It takes funding away from critical needs such as repairs and maintenance, which hinders the District's ability to provide safe, clean, reliable service to the public. Time theft is also harmful to other employees who perform their work and adhere to laws and policies in conducting their duties. It requires them to carry a larger workload and diminishes opportunities for regular pay increases.

Time theft is also damaging to BART's reputation, particularly, when evidence supports it was not an isolated event. Legislators and taxpayers are less likely to support public funding when they believe the District cannot be entrusted with their funds.

### RECOMMENDATIONS IN BRIEF

To hold the employees accountable for their misconduct, BART Management should:

- Seek restitution.
- Coordinate years-of-service adjustments with CalPERS.
- Address the employee misconduct.
- Improve timekeeping controls.

See page three for details.



### Cause for Concern

These are the third, fourth, and fifth time-theft allegations that we substantiated in the past two years. In four of the five instances, the patterns were the same: the BART employee would clock-in for their shift and then spend most or portions of their paid workdays absent from District worksites altogether. We released our first report on [February 3, 2023](#) and our second report on [September 8, 2023](#).<sup>1</sup>

These thefts indicate a lack of sufficient oversight by supervisors and managers who are responsible for approving time. It is imperative that the District has strong internal controls over time reporting to prevent time theft. Such controls should clearly indicate that time approval is not a perfunctory duty, but one that requires reasonable assurance that time is accurate before approving it.

Although the instances of substantiated time theft are cause for concern, we must note that we conducted a sixth investigation into an allegation of time theft that we did not substantiate.

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## OIG REPORTING REQUIREMENT & DISCLOSURE PRACTICES

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We are providing this report to comply with California Public Utilities Code 28841, which requires that we keep BART administration, the Board of Directors, and the public informed of our fraud, waste, or abuse investigative findings and recommendations.

The OIG provides the names of those involved in our investigations in only limited circumstances. This avoids violating privacy and confidentiality rights granted by law. The decision to provide names is made on a case-by-case basis and considers all elements of an investigation, including potential litigation. This practice does not prevent individuals from requesting documents under the California Public Records Act (CPRA). However, such disclosures may be restricted or limited by law.

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<sup>1</sup> BART Employee Collected Pay & Benefits for Time Not Worked, February 2003; and Summary of Misconduct Investigations, September 8, 2023

## MANAGEMENT RESPONSE

| Recommendations |                                |                                                                                                                                                                                                                                   |
|-----------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.              | <b>Recommendation:</b>         | Seek civil restitution from the current employees for an amount to be determined by management.                                                                                                                                   |
|                 | <b>Implementation Date:</b>    | TBD                                                                                                                                                                                                                               |
|                 | <b>Corrective Action Plan:</b> | It is management's understanding that this case will not be referred for criminal charges. The Office of the General Counsel will advise management on options for seeking civil restitution for the District's losses.           |
| 2.              | <b>Recommendation:</b>         | Work with the General Counsel's Office to seek \$9,003.80 in restitution from former employee. Determine if the District should seek more if admitted to theft prior to the period covered in our investigation.                  |
|                 | <b>Implementation Date:</b>    | TBD                                                                                                                                                                                                                               |
|                 | <b>Corrective Action Plan:</b> | If the former employee is not ordered to pay restitution as a result of the pending criminal charge, the Office of the General Counsel will advise management on options for seeking civil restitution for the District's losses. |
| 3.              | <b>Recommendation:</b>         | Coordinate with CalPERS to make the appropriate years-of-service adjustments for the former employee's retirement calculation, pending results of prosecution.                                                                    |
|                 | <b>Implementation Date:</b>    | TBD                                                                                                                                                                                                                               |
|                 | <b>Corrective Action Plan:</b> | BART has made CalPERS aware of this case. Adjustment of the employee's pension benefit is permitted only upon conviction or admitted guilt of specified crimes. Follow-up with CalPERS is dependent on outcome of the case.       |
| 4.              | <b>Recommendation:</b>         | In accordance with the appropriate Collective Bargaining Agreement, address the employee violations of District Operations Rules and Procedures.                                                                                  |

| Recommendations |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <b>Implementation Date:</b>    | March 31, 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                 | <b>Corrective Action Plan:</b> | Management is conducting investigations in accordance with the relevant Collective Bargaining Agreement. Decisions regarding discipline/employment status will be based on those investigations.                                                                                                                                                                                                                                                                                    |
| 5.              | <b>Recommendation:</b>         | Implement procedures that require supervisors and managers to use processes that give them reasonable assurance that the time they are approving for employees is accurate.                                                                                                                                                                                                                                                                                                         |
|                 | <b>Implementation Date:</b>    | March 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                 | <b>Corrective Action Plan:</b> | The Maintenance department will issue a Standard Operating Procedure (SOP) to “Align check-in/check-out process with the District’s expectations of accuracy, location validation, documentation and work schedule adherence.” The procedure will include beginning and end of shift check-ins and check-outs that must take place on District property, plus random crew site visits during shifts. Operations will conduct a follow-up to determine the effectiveness of the SOP. |

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510-464-6100

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# Fraud, Waste, & Abuse Investigation Results

Office of the Inspector General



April 18, 2024



# More Time Theft Cases Cause for Concern





Falsifying timecards

Buddy punching



## Investigation Results

- BART OIG substantiated three allegations of time theft.
- Employees claimed to be working 10-hour shifts but were frequently absent from their assigned duty locations.
- Dollar loss from time theft: \$9,004, but evidence suggests higher loss.
- One employee retired after BPD attempted interview; San Mateo DA charges filed on November 3, 2023.
- Other two employees admitted misconduct, referred to BART management.

## Relevant Law & Policy

- Penal Code 532 (a)(1) states no person shall *“knowingly and designedly, by any false or fraudulent representation or pretense, defrauds any other person of money....”*
- The California False Claims Act provides liability against anyone who *“[k]nowingly presents or causes to be presented”* false claims to a public entity.
- District Operations Rules & Procedures
  - § 1303 states, *“Employees shall, while on duty, perform all tasks assigned or directed by proper authority”*
  - § 1703 states, *“No employee shall knowingly enter, or cause to be entered, any inaccurate [or] false...” information on District records*

## Cause for Concern

- Third, fourth, and fifth substantiated instances in the past two years.
- Indicates insufficient supervision and management.
- Impact on District, public, and employees:
  - Diverts funding from critical needs like repairs and maintenance.
  - Increases workload for compliant employees.
  - Damages BART's reputation and public trust.



# Recommendations

To hold employees accountable for their misconduct, BART management should:

- Seek restitution
- Coordinate years-of-service adjustments with CalPERS
- Address the employee misconduct
- Improve timekeeping controls



# Questions?

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## SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT INDEPENDENT OFFICE OF THE INSPECTOR GENERAL

# SUMMARY OF NEPOTISM INVESTIGATIONS

### INVESTIGATION RESULTS



A BART Employee participated in the decision to hire their relative and had management control over the relative's organizational work area. The relative is among the prohibited relationships described in BART's [Employee Code of Conduct](#). The Employee said that their direct manager was aware of the relationship, but the direct manager said they had no knowledge of it. Likewise, there was no documentation showing that the Employee reported the conflict to their direct manager prior to participating in the decision to hire the relative. However, the Employee did disclose the relationship to others who participated in the hire decision.

The evidence we uncovered did not support that the relationship led to theft or misappropriation. However, having management control over the relative's organizational work area would have allowed the Employee to circumvent BART procedures that protect against fraud and abuse.

The above summarizes one of three independent Office of the Inspector General (OIG) investigations into allegations that BART managers hired or supervised relatives. We substantiated the first allegation but found no policy violations with the other two investigations. We are providing this report to comply with California Public Utilities Code [§ 28841](#). Our investigations are based on whistleblower complaints reported to us in good faith.

### RELEVANT DISTRICT POLICY



Section XI of the District's Employee Code of Conduct strictly prohibits nepotism. According to Section XI:

*"District Officers and employees shall not participate in the making of a decision to hire, appoint, employ, promote, or terminate a [relative]... including attempting to persuade another District officer or employee to make a decision or take an action affecting a relative of the officer or employee."*

### WHY THIS INVESTIGATION MATTERS



Nepotism can lead to fraud and corruption, and results in a lack of transparency and accountability. It is also a poor reflection of organizational priorities, working environments, and overall business practices; can damage a public agency's reputation; and provides an unfair advantage to certain applicants. In extreme cases, nepotism can be unlawful discrimination since family members are likely to be from the same race and national origin, meaning other protected classes are unable to meaningfully compete for public employment.

### RECOMMENDATIONS IN BRIEF

To reduce the risk of fraud and abuse, BART management should:

- Remove the relative from the Employee's span of control.
- Address the policy violation in accordance with District rules.
- Require temps and interns to disclose potential conflicts.
- Document familial relationships between BART employees.
- Document mitigating controls addressing familial relationships between BART employees.

See page five for details.

---

## ALLEGATION ONE OF THREE

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The OIG investigated a complaint that a BART Employee hired and supervised a relative. We substantiated the allegation by determining that the Employee participated in the decision to hire the relative, influenced their colleagues in making the final decision, and had management control over their relative's organizational work area.

In 2022, BART hired paid interns to work on a short-term project. Evidence supports that the Employee served on the committee that selected the interns and that their relative was among those hired. Evidence also supports that the Employee introduced their relative to the committee as an intern candidate and that Human Resources processed the employment of the relative through a temporary employment agency (temp-agency). Similarly, evidence confirmed that a direct report to the Employee was responsible for reviewing and approving the relative's time and temp-agency invoices, placing those actions within the Employee's management span of control. Over \$21,000 in wage invoices were approved for the relative, but evidence supports that those payments were for time worked by the relative. We saw no evidence of fraud or misappropriation.

BART's Employee Code of Conduct prohibits participating in a decision to hire a relative, including influencing that decision, and having control over a relative's organizational work area. Relative is defined as "husband, wife, domestic partner, father, mother, grandfather, grandmother, son, daughter, stepson, stepdaughter, granddaughter, grandson, brother, sister, uncle, aunt, nephew, niece, father-in-law, mother-in-law, daughter-in-law, sister-in-law, and brother-in-law." We confirmed that the relative is among the prohibited relationships defined in the Employee Code of Conduct.

According to the Employee, their direct manager and members of the project committee were aware of the familial relationship. We interviewed three members of the committee who corroborated that statement but who could not confirm that the direct manager was specifically told about the relationship. When asked, the direct manager said they did not know about the relationship. In our review of documentation, we found no records supporting that the direct manager was formally notified of the relationship prior to the hiring of or during the relative's employment.

In addition to the policy violation, we determined that BART's process for hiring interns or temp-agency employees lacks a formal step to identify potential conflicts of interest. Unlike BART's process for direct hires, those involved with selecting temp-agency staff or intern candidates are not required to disclose personal, business, or familial relationships during the selection process.



### Critical Information

The OIG substantiated a violation of the Nepotism section of the District's Employee Code of Conduct but did not identify theft or misappropriation resulting from that violation.



## Allegation One Recommendations

1. Ensure the Employee no longer has management control over their relative.
2. Address the policy violation in accordance with the Non-Represented [Employee] Handbook.
3. Require that all employees disclose to Human Resources in writing any business, personal, or familial relationships with any potential temp-agency or intern hire.
4. Require all temp-agency staff and interns to affirmatively disclose any business, personal, or familial relationships with any BART official or employee prior to the application or selection process.
5. Formally document known familial relationships between District employees and provide the information to Human Resources and to the General Manager, Deputy General Manager, or Assistant General Manager as appropriate based on the organizational work area of the involved employees.
6. Implement and document mitigating controls that ensure familial relationships between BART employees will not result in one relative supervising the other or having control over the other's work area.

*Management five with the OIG's recommendations. See page five for their responses.*



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### ALLEGATION TWO OF THREE

---

The OIG received a whistleblower complaint that a former BART manager hired a relative for a paid internship program. We did not substantiate the allegation though there was a distant familial relationship between the former manager and the paid intern.

In 2022, the former manager's department selected seven summer interns to be employed by District contractors to work on BART funded projects. All interns received a welcome letter on BART letterhead that said, "On behalf of Bay Area Rapid Transit (BART), I am pleased to extend to you this offer of temporary employment...." Evidence supports that the former employee was involved in the hiring process for the relative and signed their welcome letter. However, the relative is not one of the prohibited relationships listed in the Employee Code of Conduct. Also, according to the former manager, they did not know that the person hired as an intern was a relative as they have a distant familial relationship. We noted that they have a common surname. The former employee learned of the relationship after the relative was hired. The District paid the former manager's relative \$10,980 for 488 hours of work performed for BART under a District contract. Because there was no policy violation, we did not substantiate the allegation. Likewise, we saw no indications of fraud or misappropriation.



#### Critical Information

The OIG did not identify policy violations in investigations two and three, therefore, did not substantiate either allegation.

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### ALLEGATION THREE OF THREE

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The OIG received a whistleblower complaint that a senior BART manager hired and promoted a sibling for District employment. The complainant further alleged that the sibling hired and promoted another sibling thus creating familial relationships among the BART manager and two employees within their management span of control. We did not substantiate the allegation.

Evidence did not support a relationship among the three BART employees. Official records available to the OIG did not identify a close or distant relationship between the BART manager and either of the two employees, nor did it identify a close or distant relationship between the two BART employees under the manager's span of control. We interviewed the three employees and they said that they had previously worked elsewhere together, but they were not related. We examined recruitment materials and confirmed that the BART manager and the two employees either did not serve on the hiring and promotion selection panels, or properly disclosed in writing to Human Resources their personal associations with each other before serving on those panels.

## MANAGEMENT RESPONSE

| Allegation One Recommendations |                                |                                                                                                                                                                                                         |
|--------------------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.                             | <b>Recommendation:</b>         | Ensure the Employee no longer has management control over their relative.                                                                                                                               |
|                                | <b>Implementation Date:</b>    | 01/17/2024                                                                                                                                                                                              |
|                                | <b>Corrective Action Plan:</b> | The employee at issue no longer works for the District.                                                                                                                                                 |
| 2.                             | <b>Recommendation:</b>         | Address the policy violation in accordance with the Non-Represented [Employee] Handbook.                                                                                                                |
|                                | <b>Implementation Date:</b>    | Dec 2023 – Jan 2024                                                                                                                                                                                     |
|                                | <b>Corrective Action Plan:</b> | An investigation and administrative hearing was conducted to address the underlying policy violation.                                                                                                   |
| 3.                             | <b>Recommendation:</b>         | Require that all employees disclose to Human Resources in writing any business, personal, or familial relationships with any potential temp-agency or intern hire.                                      |
|                                | <b>Implementation Date:</b>    | Dec 2023                                                                                                                                                                                                |
|                                | <b>Corrective Action Plan:</b> | The District's temp-agency hiring processes have been amended to require disclosure of any business, personal and/or familial relationship with an existing BART employee.                              |
| 4.                             | <b>Recommendation:</b>         | Require all temp-agency staff and interns to affirmatively disclose any business, personal, or familial relationships with any BART official or employee prior to the application or selection process. |
|                                | <b>Implementation Date:</b>    | Dec 2023                                                                                                                                                                                                |
|                                | <b>Corrective Action Plan:</b> | The District's temp-agency hiring processes have been amended to require disclosure of any business, personal and/or familial relationship with an existing BART employee.                              |

| Allegation One Recommendations |                                |                                                                                                                                                                                                                                                                                                                         |
|--------------------------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.                             | <b>Recommendation:</b>         | Formally document known familial relationships between District employees and provide the information to Human Resources and to the General Manager, Deputy General Manager, or Assistant General Manager as appropriate based on the organizational work area of the involved employees.                               |
|                                | <b>Implementation Date:</b>    | Spring 2024                                                                                                                                                                                                                                                                                                             |
|                                | <b>Corrective Action Plan:</b> | The District's temp-agency hiring processes have been amended to require disclosure of any business, personal and/or familial relationship with an existing BART employee. In addition, BART is currently engaging Labor in the Meet & Confer process regarding the BART Nepotism Policy which will address this issue. |
| 6.                             | <b>Recommendation:</b>         | Establish and formally document mitigating controls that ensure familial relationships between BART employees will not result in one relative supervising the other or having control over the other's work area.                                                                                                       |
|                                | <b>Implementation Date:</b>    | Spring 2024                                                                                                                                                                                                                                                                                                             |
|                                | <b>Corrective Action Plan:</b> | BART is currently engaging Labor in the Meet & Confer process regarding the BART Nepotism Policy which will address mitigation controls that will prevent one BART employee from having control over the work of another with who they have a familial relationship.                                                    |

.....

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.....

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# Fraud, Waste, & Abuse Investigation Results

Office of the Inspector General



April 18, 2024

# Summary of Nepotism Investigations





# Nepotism in the Workplace

- Damages a public agency's reputation
- Provides an unfair advantage to certain applicants
- Impact on District, public, and employees:
  - Nepotism can lead to fraud and corruption.
  - Lacks transparency and accountability.
  - Can be unlawful in extreme cases.



## Relevant District Policy

Section XI of the District's Employee Code of Conduct strictly prohibits nepotism. According to Section XI:

*"District Officers and employees shall not participate in the making of a decision to hire, appoint, employ, promote, or terminate a [relative]... including attempting to persuade another District officer or employee to make a decision or take an action affecting a relative of the officer or employee."*

# Nepotism Allegations

## Allegation 1

BART employee participated in the decision to hire their relative and had management control over the relative's organizational work area.



**SUBSTANTIATED**  
Violation of the District's  
Employee Code of  
Conduct



No theft or  
misappropriation  
resulting from the  
violation

# Recommendations

To reduce the risk of fraud and abuse, BART management should:

- Remove relative from employee's span of control
- Address the policy violation
- Disclose potential conflicts
- Document familial relationships
- Document mitigating controls

## Nepotism Allegations

### Allegation 2

Former BART manager hired a relative for a paid internship program.



NOT SUBSTANTIATED  
No policy violation

### Allegation 3

Senior BART manager hired and promoted siblings, creating familial relationships within their management span.



NOT SUBSTANTIATED  
No evidence to support a relationship



# Questions?

**Claudette Biemeret, Inspector General**  
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## SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT INDEPENDENT OFFICE OF THE INSPECTOR GENERAL

# LACK OF PROCEDURAL UNDERSTANDING FUELED ALLEGATIONS AGAINST CONSULTANT

### INVESTIGATION RESULTS



Intellectual property theft, improper billing, falsification of experience, and misrepresentation of work were among the allegations made against a BART Consultant (Consultant A). We did not substantiate those allegations but did determine that the allegations, submitted in good faith, resulted from a lack of procedural clarity. Procedures for contracting and professional engineering work were either not followed, misunderstood, or undocumented leading to three individuals believing that Consultant A performed work that they were not qualified to perform, violated California law, and presented the technical work of a professional engineer (Consultant B) as their own. This raised concerns of a potentially unreliable or unsafe rail system and it highlighted potential inequity, as Consultant B is a woman who routinely faces challenges in the construction and engineering industries, often being discredited for her capabilities and contributions. It also placed Consultant A in a position to defend themselves for work that BART tasked them to complete.

### RELEVANT CALIFORNIA LAW



The California Professional Engineers Act (CPEA) states, “no person shall practice civil, electrical, or mechanical engineering unless appropriately licensed or specifically exempted from licensure....” Collectively, civil, electrical, or mechanical engineers are Professional Engineers, which the CPEA defines as, “person[s] engaged in the professional practice of rendering service or creative work requiring education, training and experience in engineering sciences and the application of special knowledge of the mathematical, physical and engineering sciences....”

### WHY THIS INVESTIGATION MATTERS



To protect life, health, safety, and public welfare, only licensed professional engineers should be identified as having prepared technical work requiring such licensure.

Supporting equity reduces fraud, waste, and abuse by improving business performance, increasing innovation, ensuring procurement competitiveness, and enhancing resilience to crises and economic shocks.

Procedures assist in the achievement of organizational objectives by reducing errors, improving consistency, and communicating expectations.

### RECOMMENDATIONS IN BRIEF

To support equity goals and uniform processes, BART management should:

- Develop procedures for tech memos.
- Record the technical designs to BART’s official records.

See page 11 for details.

### SPECIAL NOTE

Consultant B confirmed her pronouns and consented to the OIG using them in this report.



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## ALLEGATIONS

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The independent Office of the Inspector General (OIG) received whistleblower complainants from three separate complainants concerning Consultant A and their firm. Each complainant made more than one allegation of fraud, waste, or abuse for a total of seven allegations. We did not substantiate five allegations, substantiated one, and found one to be inconclusive. The complainants' alleged that Consultant A or their firm:

1. Claimed to prepare a technical memo and designs developed by a professional engineer, obtained the documents illegally, and billed the District for the services already rendered by the actual preparer of the documents. Allegation not substantiated.
2. Misrepresented their qualifications, experience, and education to obtain contract work, which resulted in Consultant A performing critical traction power work without having the required qualifications or licensure. Allegation not substantiated.
3. Violated conflict-of-interest rules by hiring a BART employee's relative. Allegation not substantiated.
4. Billed the District for excessive and unnecessary overtime. Allegation not substantiated.
5. Received favoritism by a BART employee who bypassed contracting rules to award workplans to Consultant A's firm. Allegation substantiated, but practice previously addressed by the OIG.
6. Violated the California Professional Engineers Act by offering professional engineering services on their firm's behalf. Allegation inconclusive but there does not appear to be a violation of law.
7. Claimed credit for work awarded to and performed by a different firm. Allegation not substantiated.

We received two additional complaints that did not fall under our purview. We forwarded those complaints to the appropriate authorities for investigation. Information regarding those complaints is confidential.



### Evidence Sufficiency

The OIG reviewed over 100 documents, including contracts, workplans, invoices, and emails; conducted 20 interviews; conferred with an external engineering subject-matter expert and District officials; conducted reference checks; reviewed relevant laws; and sought guidance from the Board of Professional Engineers, Land Surveyors, and Geologist. Collectively, this evidence provides assurance that the investigation results are complete and accurate.

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## ALLEGATION ONE OF SEVEN

---

In January 2019, the District contracted for professional engineering services for the development of a technical (tech) memo and designs for undertrack ductbank construction. Ductbank construction is a horizontal directional drilling designed to protect and group or consolidate electrical cables. The cables are laid in polyvinyl chloride or vinyl (PVC) pipes and bundled together and protected with either steel or reinforced concrete casings. Consultant B, who is a licensed professional engineer in the field of electrical engineering, provided those services to BART under an on-call contract awarded to her employer. The complainant alleged that Consultant A, who is not a professional engineer, stole Consultant B's work, presented it as their own, and then billed for the services already paid for by BART. We did not substantiate the allegations. However, we did confirm that Consultant B's signature was replaced by Consultant A's signature in the "prepared by" section of the revised tech memo, and that Consultant A added their name as "checked by" on the revised technical drawings. This was accepted by the BART professional engineer (Employee A) who was in responsible charge of the project in accordance with the [California Professional Engineers Act CPEA](#).

Evidence supports that in the fall of 2019, BART required revisions to the tech memo and that Consultant B was tasked with making those revisions, but not asked to sign as preparer or to check the drawings. Employee A told the OIG that they believed Consultant B was no longer providing services to BART and was unavailable when the tech memo and drawings were routed for review and signatures. Unknown to Employee A was that Consultant B was still providing services to the District under her employer's contract with BART on another project that did not involve Employee A at the time the revision was routed.

Evidence showed that in September 2020, BART obtained Consultant A's services to "support and coordinate the submission" of the tech-memo revision. This supported that Consultant A was authorized to have the tech memo and drawings. Evidence supported that the firm billed BART in accordance with their on-call agreement with the District and did not double bill for the services already rendered by Consultant B. Consultant A said that they were instructed by Employee A to sign the tech memo as "prepared by" and add their name as "checked by" on technical drawings. Employee A said they found it acceptable for Consultant A to have done so though could not recall giving those directions.





There were no procedures describing BART’s process for tech memos. Therefore, we asked what “prepared by” and “checked by” meant in the context of the tech memo and drawings, and most of those we spoke to were uncertain or could not say. However, a BART executive official said that “prepared by” means to prepare the tech-memo package, not develop the technical guidelines or drawings. The executive also said that Consultant A checked the drawings as part of preparing the package. We noted that the tech memo and drawings went through multiple checks and approvals, with most involved being licensed professional engineers. Further, the drawings were signed and sealed by a professional engineer in accordance with CPEA.

## Approvals, Checks, & Seal

### *Tech Memo*

- ✓ 10 professional engineer approvals
- ✓ 3 traction power management approvals
- ✓ 2 professional engineer checks

### *Drawings*

- ✓ Sealed by a professional engineer
- ✓ Approved by a professional engineer
- ✓ Checked by a professional engineer
- ✓ Drawn by an engineer in training

The approvals, checks, & seal support that the professional engineering work complied with CPEA requirements.

We consulted with an independent subject-matter expert (SME) in professional engineering to understand the implications of Consultant A signing the tech memo as “prepared by” and adding their name as “checked by” on the technical drawings. We also asked the SME to opine on whether any improprieties took place. The SME is a third-party unaffiliated with our office or BART. The SME saw no legal violation by Consultant A signing and initialing the documents. The SME stated it was appropriate to remove Consultant B’s name from the revision because Employee A believed Consultant B was “vacant” from the project at the time the revision was finalized and signed. Additionally, the BART contract governing the project says that design plans must be sealed by a California registered professional engineer. That responsibility went to Employee A who is registered with the State of California as a professional engineer.

During our investigation, BART employees charged with maintaining official records of BART’s technical designs informed us that the designs associated with this investigation are not on record for the District. According to those employees, the project team did not use the “BART Engineering Change Order” process to record the technical designs as required.

We saw no laws, regulations, or other legal restrictions indicating who may add their name and signature on tech memos and drawings. However, the lack of standard operating procedures that clarify the District’s requirements for tech memos and drawings gave the appearance of gender inequity and intellectual property theft. It also raised the concern that a contractor knowingly double billed for services and that Consultant A falsely presented themselves as a professional engineer. These allegations could have been avoided with clear procedural guidelines.

## Allegation One Recommendations

1. Develop standard operating procedures that clarify the District's requirements for tech memos and drawings, including the meaning of prepared and checked by as discussed in this investigatory report, and that require the completion of a BART Engineering Change Order to ensure drawings are recorded to BART's official records.
2. Record the technical drawings associated with this investigation to BART's official records.

*Management agreed with the OIG's recommendations. See page 11 for their responses.*

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## ALLEGATION TWO OF SEVEN

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The complainants to this investigation alleged that Consultant A misrepresented their qualifications, experience, and education to obtain contracts with BART, and that Consultant A and their firm performed critical traction power work without having the required qualifications or professional engineer licensure to do so.<sup>1</sup> A traction power system is a network designed to supply ongoing electrical power to an electrified rail network. The complainants further alleged that a safety incident occurred because of these misrepresentations. We did not substantiate the allegations.

We reviewed Consultant A's and their business partner's statements of qualifications, federal regulation [49 CFR 213.7](#), and the workplans awarded to Consultant A's firm; interviewed BART employees who worked with Consultant A; and consulted again with our subject-matter expert in professional engineering. We also conducted reference checks on Consultant A. The evidence supported that Consultant A was awarded contract work that they were qualified to perform and that their firm has the necessary qualifications for traction power projects, including having a licensed professional engineer as a business partner.

As for the safety matter, BART's official report on the incident stated that BART employees failed to follow standard operating procedures. Those procedures required field checks that the employees did not perform resulting in equipment contact with a live electric third rail. Consultant A was not implicated in the matter.

Finally, we confirmed that Consultant A did not state that they have a college degree on their statement of qualifications submitted with official contract proposals to BART. We did note that Consultant A's statement of qualifications shows that they attended college overseas. Foreign education systems differ and should not be equated with colleges in the United States.



### 49 Code of Federal Regulations (CFR) 213.7 - Federal Track & Safety Standards

CFR 213.7 requires the person designated to supervise track renewals and inspect tracks to have:

- At least 1 year of experience in railroad track maintenance under traffic conditions; or a combination of experience in track maintenance and college education or course training in track maintenance.
- Demonstrated to the track owner that they know and understand the requirements of the track restoration and renewal they are responsible for; can detect deviations from the requirements; and can prescribe appropriate remedial action to correct or safely compensate for deviations.
- Authorization from the track owner to prescribe remedial actions to correct or safely compensate for deviations from the requirements.

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<sup>1</sup> Consultant A left the services of the firm they worked for in our discussion of Allegation One to start their own business.

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### ALLEGATION THREE OF SEVEN

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In 2022, Consultant A hired a relative of a BART employee to provide services under a BART on-call contract. The OIG received a complaint alleging that Consultant A violated BART's conflict-of-interest rules by doing so. We did not substantiate the allegation.

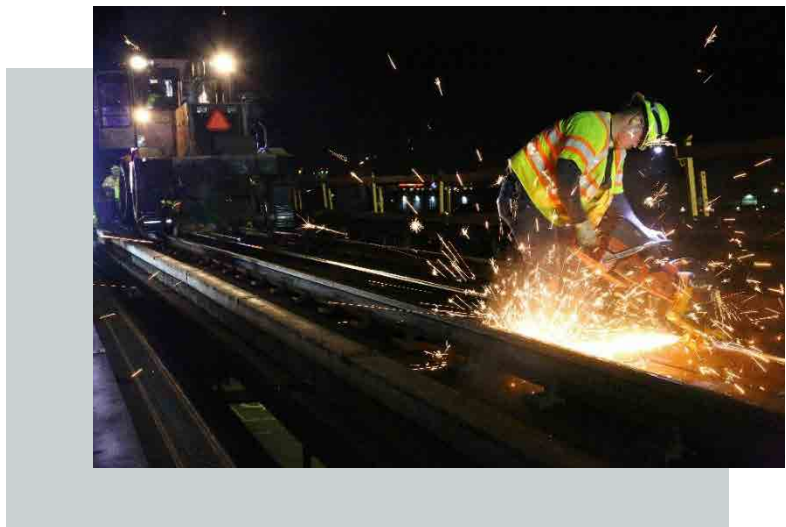
Evidence supported that Consultant A's firm served as a subconsultant to the BART on-call contract in question and that the prime contractor reported the potential conflict of interest to the Office of the General Counsel (General Counsel) and Procurement. General Counsel concluded that Consultant A's employment of the BART employee's relative did not violate District conflict-of-interest policies or state law. General Counsel noted that the BART employee does not provide any services under the contract awarded to Consultant A's firm, and that the relative does not provide any services to BART related to the BART employee's official job duties. Evidence also supported that the BART employee did not have a role in awarding work to Consultant A's firm or the prime contractor. By reporting the potential conflict to Procurement, the prime contractor met its obligations under the District's Contractor Code of Conduct and contract terms.

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### ALLEGATION FOUR OF SEVEN

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The fourth allegation claimed that Consultant A routinely billed BART for unnecessary and excessive overtime. We did not substantiate this allegation. However, we did confirm that Consultant A worked overtime without obtaining prior approval from the BART project manager, as required under the contract. The project manager later approved the overtime and informed Consultant A that they must obtain prior approval for overtime in the future. According to the project manager, they confirmed the work was done and that Consultant A performed overtime to support completing the project. The project manager said that overtime is common for the work Consultant A was performing for the District because it requires system shutdowns that can be minimized with overtime. We considered the matter corrected based on the project manager's actions.



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## ALLEGATION FIVE OF SEVEN

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The fifth complaint alleged that a BART employee awarded Consultant A's firm workplans under on-call contracts despite qualified firms already being subconsultants to those contracts. We substantiated this allegation.

During a 12-month period from February 2022 through January 2023, Consultant A's newly created firm was added as a subconsultant to four of the District's on-call contracts and awarded workplans totaling approximately \$2.2M. For three of the four additions, a BART employee either directed the prime contractor to add Consultant A's firm as a subconsultant or introduced the prime contractor to Consultant A for the purpose of fulfilling workplans. The three workplans accounted for \$1.6M awarded to Consultant A's firm. BART's agreement manager approved all four of the additions. However, BART contract terms state that subconsultants may be added only for "specialized skills" not already available from the prime contractor or its subconsultants. The services to be rendered by Consultant A's firm were not specialized and the prime contractors with active on-call contracts at the time had committed to providing those services using their existing subconsultants.

We addressed subconsultant favoritism and not abiding by the BART subconsultant addition process in a prior investigation. We issued a report on the matter on [February 3, 2023](#).<sup>2</sup> The additions we investigated here took place prior to that report and BART agreed to implement reforms in the subconsultant addition process. Those processes are in development.



### February 2023 Report Recommendation

BART management should implement written workplan selection guidelines that create more transparency and support accountability in how firms are chosen to perform work under their on-call contracts. Some options include a rotational basis that results in firms receiving work in a sequence, or having all firms with on-call contracts submit workplan proposals for evaluation. Regardless of the option chosen, the process should minimize the risk that favoritism is the driver or gives the appearance of being the driver behind the selection. The guidelines should include a requirement to consider overhead rates in the selection decision and to document the rationale for the selection for future reference.

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<sup>2</sup> Workplan Selection Process Gives Appearance that Favored Firms Could Receive an Unfair Advantage (7/8/22)

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## ALLEGATION SIX OF SEVEN

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The sixth allegation claimed that Consultant A is prohibited by the [California Professional Engineers Act \(CPEA\)](#) to offer professional engineering services or to sign contracts for such services on their firm's behalf. Available evidence supports that there was no violation. However, we consider our finding inconclusive because the California Board of Professional Engineers, Land Surveyors, and Geologists (Board) has not responded to our February 2023 request for assistance on the matter. The Board is responsible for enforcing CPEA. Therefore, we acknowledge that they could disagree with our finding and their conclusions would be the leading authority.



[California Professional Engineers Act § 6730-§ 6738](#) and [California Code of Regulations \(CCR\) § 404.1](#) support the OIG's interpretation that Consultant A is not prohibited by law from offering professional engineering services or signing contracts for such services on behalf of their firm.

### *CPEA § 6730-§ 6738*

- ✓ *§ 6730* - Practicing engineer must be licensed in their branch of offered engineering. Consultant A's firm employs licensed professional engineers who offer services in their branch of engineering. This includes a partner to the firm.
- ✓ *§ 6735.3* - Engineering documents must be prepared, signed, and sealed by a professional engineer. Consultant A's firm employs licensed professional engineers who meet this requirement, including a partner to the firm.
- ✓ *§ 6738* - An unlicensed person may be a partner if there is also a partner who is a licensed professional engineer in the branch of offered engineering. Consultant A's business partner is a licensed professional engineer in the branch of offered engineering.

### *CCR § 404.1*

- ✓ *§ 404.1* - A licensed professional engineer must be in responsible charge of projects requiring services in their branch of engineering. Consultant A's firm employees licensed professional engineers who meet this requirement, including a partner to the firm.

We also confirmed that CalTrans, LA Metro, and San Francisco City and County allow for non-licensed administrators to offer and execute contracts for professional engineering services on behalf of their employer. One procurement professional noted that some engineering contracts are for multiple disciplines, and it would be impractical to have them all submit a written proposal and execute the contract for their firm. Likewise, many firms employ multiple professional engineers and their availability under a contract may change, meaning the person who signed the contract could be replaced by a different professional engineer. Such issues support that CPEA differentiates professional engineering services offered and provided by an individual versus a firm. The OIG believes that this evidence supports that it is acceptable for Consultant A to have offered professional engineering services and to sign contracts for those services for their firm.

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**ALLEGATION SEVEN OF SEVEN**

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The seventh allegation claimed that Consultant A's firm took credit for another firm's work on a BART project. We did not substantiate the allegation. We confirmed that BART issued a contract workplan to Consultant A's firm for the project in question.

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**MANAGEMENT RESPONSE**

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**Allegation One Recommendations**

|   |                                |                                                                                                                                                                                                                                                                                                                                        |
|---|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | <b>Recommendation:</b>         | Develop standard operating procedures that clarify the District's requirements for tech memos and drawings, including the meaning of prepared and checked by as discussed in this investigatory report, and that require the completion of a BART Engineering Change Order to ensure drawings are recorded to BART's official records. |
|   | <b>Implementation Date:</b>    | May 1, 2024                                                                                                                                                                                                                                                                                                                            |
|   | <b>Corrective Action Plan:</b> | This action has already begun with a draft template for Tech Memos and a revision to the Design Quality Management Plan expected to be complete in May 2024. The Design Quality Management Plan will include definitions and requirements for BART Engineering Change Orders (BECO).                                                   |
| 2 | <b>Recommendation:</b>         | Record the technical drawings associated with this investigation to BART's official records.                                                                                                                                                                                                                                           |
|   | <b>Implementation Date:</b>    | April 1, 2024                                                                                                                                                                                                                                                                                                                          |
|   | <b>Corrective Action Plan:</b> | Management will ensure that the technical drawings associated with this investigation are included in the official project files.                                                                                                                                                                                                      |



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## Providing Independent Oversight of the District's Use of Revenue

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Stop Fraud, Waste, & Abuse  
Report What You See  
to the OIG



24/7 Fraud, Waste, & Abuse  
Whistleblower Hotline



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



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# Fraud, Waste, & Abuse Investigation Results

Office of the Inspector General



April 18, 2024

# Lack of Procedural Understanding Fueled Allegations Against Consultant



# Allegations

- We received complaints from three separate complainants with a total of seven, separate allegations
- Allegations
  - Intellectual property theft
  - Improper billing
  - Falsification of experience
  - Conflict of interest
  - Favoritism
  - Professional Engineer's Act Violation
  - Misrepresentation of work
- Raised concerns of a potentially unreliable or unsafe rail system and inequity toward women in the construction and engineering industries

## Relevant California Law

The California Professional Engineers Act (CPEA) states,  
“no person shall practice civil, electrical, or  
mechanical engineering unless appropriately licensed  
or specifically exempted from licensure...”

Professional Engineers defined as,

“person[s] engaged in the professional practice of  
rendering service or creative work requiring  
education, training and experience in engineering  
sciences and the application of special knowledge of  
the mathematical, physical and engineering  
sciences...”



# Investigation Overview

- We did not substantiate five allegations, substantiated one, and considered one inconclusive
  - Primary allegation: intellectual property theft – not substantiated
    - Appearance that woman engineer intentionally removed as preparer of technical memo
    - BART tasked different consultant to coordinate submission of revised technical memo
    - Uncertainty as to what “prepared by” and “checked by” meant on tech memo and drawings
    - BART executive official said “prepared by” meant prepare the tech-memo package and consultant checked drawings as part of package preparation
    - No violation of law or standard

## *Tech memo*

- 10 professional engineer approvals
- 3 traction power management approvals
- 2 professional engineer checks

## *Drawings*

- Sealed by professional engineer
- Approved by professional engineer
- Checked by a professional engineer
- Drawn by professional engineer in training



# Investigation Overview

- Improper billing – not substantiated: consultant did work overtime without preapproval but did not bill for unworked / unnecessary overtime
- Falsification of experience – not substantiated: consultant qualified for contracted work and did not misstate education on statement of qualifications for BART
- Conflict of interest – not substantiated: consultant did hire relative of BART employee but there was no financial conflict of interest
- Misrepresentation of work – not substantiated: consultant did not take credit for another firm's work as consultant was tasked to perform work under BART workplan



# Investigation Overview

- Favoritism – substantiated: instances occurred prior to our previous investigation and recommendation on matter.
- Professional Engineer's Act Violation – inconclusive: does not appear to be a violation but CA Board of Professional Engineers, Land Surveyors, and Geologists final authority
  - Confirmed that CalTrans, LA Metro, and San Francisco City and County allow for non-licensed administrators to offer and execute contracts for professional engineering services on behalf of their employer
  - Some engineering contracts are for multiple disciplines, and it would be impractical to have them all submit a written proposal and execute the contract for their firm
  - Availability of professionals may change and person who signed the contract may need to be replaced by a different professional engineer

- Reviewed over 100 documents, including contracts, workplans, invoices, and emails
- Conducted 20 interviews
- Conferred with external engineering subject-matter expert and District officials
- Conducted reference checks
- Reviewed relevant laws
- Sought guidance from the Board of Professional Engineers, Land Surveyors, and Geologist



## Conclusion & Recommendations

- Procedures for contracting and professional engineering work were either not followed, misunderstood, or not documented.
- To support equity goals and uniform processes, BART management should:
  - Develop procedures for tech memos.
  - Record the technical designs to BART's official records.
- Management agreed to recommendations.



## Importance of Investigation

- Protecting life, health, safety, and public welfare by ensuring only licensed professional engineers perform technical work.
- Supporting equity reduces fraud, waste, and abuse, and enhances business performance and innovation.
- Procedures assist in achieving organizational objectives by reducing errors and improving consistency.



# Questions?

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## SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT INDEPENDENT OFFICE OF THE INSPECTOR GENERAL

# BART IMPROPERLY EMBEDDED A BEST-VALUE PROCUREMENT INTO A FIXED-PRICE CONSTRUCTION CONTRACT

### INVESTIGATION RESULTS



BART incorporated a best-value procurement process into its fixed-price, sealed-bid procurement for the M-Line Tunnel lighting construction project for a light fixture that was not available in the open market. The contract specifications included numerous requirements, including performance and safety requirements, that the light fixture was expected to meet. BART staff evaluated and approved a fixture that did not meet all the performance requirements and had not undergone the required testing for safety certification. Evaluation and approval of such products are incompatible with a sealed bid procurement and should be done through a separate procurement process.

The light fixture BART approved did not meet several contract specifications that were significant variations from the specifications, including required safety requirements. However, BART did not issue an amendment to the Request for Proposals (RFP) to allow such deviations, which gave the approved manufacturer an unfair advantage over another manufacturer that was also competing to provide the light fixtures for the M-Line Tunnel lighting project.

### RELEVANT CALIFORNIA LAW



Under California's [Public Contract Code](#), products that require evaluation must be procured under a process other than a fixed-price, sealed bid procurement, including 1) one that specifically allows items to be added or deducted from the scope of work; 2) a competitive negotiation process for introducing new technologies; 3) a best-value process that considers quality, price, and other elements; or 4) a process that allows for evaluating prototype equipment.

### WHY THIS INVESTIGATION MATTERS



Proper procurement practices allow contractors and vendors to have a fair opportunity in the bidding process and they stimulate competition in a manner that allows for the District to receive the best product or service at the best value.

Proper procurement practices also ensure compliance with laws, grants, and safety requirements, and allow for the inclusion of contractors who can bring new ideas and perspectives to the District.

### RECOMMENDATIONS IN BRIEF

To support fair competition and compliance with laws and standards, BART management should:

- Establish procedures for evaluating UL or ETL safety certification.
- Do two separate solicitations when construction projects require products not available on the open market.
- Provide a timeline and updated costs for the M-Line Tunnel lighting project.

See page 15 for details.

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## INVESTIGATION RESULTS CONTINUED

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BART agreed to our recommendation to terminate its approval of the light fixture but instead terminated the construction contract with the prime contractor “in Whole” (BART’s emphasis). BART staff later directed the prime contractor to tell the light manufacturer to complete production of the light fixtures the contractor had ordered under a noncancelable, nonrefundable purchase order. Because BART’s Board of Directors approved the original contract, it also should have approved the contract termination, but BART staff did not bring it to the Board to approve the termination. BART paid the prime contractor \$2.4M in contract settlement fees, which included the light fixtures purchase and mobilization costs, and incurred an additional \$12,060 to obtain a field approval from Underwriters Laboratories (UL, now UL Solutions) to confirm that the wire harnesses the manufacturer provided, which were not UL listed, were safe to use in the project.<sup>1</sup>

When BART terminated the contract in December 2019, they planned to complete the work in-house, but the project has not yet been done. BART management did not present a cost analysis at the time but did one in early 2022 that showed BART expected it to cost \$7.9M to complete the work. Since then, wage increases for BART staff and inflation on items yet to be procured have caused the cost estimate to increase to at least \$8.5M, and they will continue to increase until the work is completed. Combined with what BART has already paid in settlement fees and other costs for the project, as well as lost time on the light-fixture warranty, it likely would have been more cost effective to complete the work under the original contract.



### Follow Up Investigation

This investigative report is a follow up the independent Office of the Inspector General’s (OIG) October 2019 report addressing unmet specifications for light fixtures for the M-Line tunnel lighting project. Our enabling statute requires us to identify operating practices that result in waste and to identify best practices that BART can adopt in its delivery of capital projects. Accordingly, this follow-up investigation also identifies the effects of terminating the contract in its entirety and makes recommendations to prevent similar occurrences in the future.

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<sup>1</sup> This report was updated since its release on March 26, 2024, to clarify \$2.4M includes \$1M in mobilization fees. This has no impact on the findings, conclusions, or recommendations.

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## BACKGROUND

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The OIG received a complaint in August 2019 alleging that BART should not have approved the light fixture it did for use in the M-Line Tunnel lighting project because the fixture did not meet several contract specifications. BART used a competitive sealed bid process that included detailed specifications for both the light fixtures and tunnel construction requirements. Because no light fixture was available in the open market that met BART's specifications, the contract required the prime contractor to submit light fixture specifications, performance and safety testing results, and sample fixtures for BART to review and approve for compliance with the contract specifications. Our investigation confirmed that the light fixture BART approved did not meet several contract specifications.<sup>2</sup> We issued a detailed draft report to the General Manager and subsequently published a summary report in [October 2019](#), which included recommendations that BART:

- rescind its approval of the light fixture.
- ask the contractor to provide new fixture submittals, based on the contract specifications, for BART to review and approve.
- provide modifications, if any, to the specifications prior to requesting the new submittals.
- provide appropriate extensions of time to the contractor, without penalty, to complete the contract work based on the need for BART to review and approve a new light fixture and to provide sufficient lead time for the approved fixture to be manufactured and shipped.

In response to a recommendation in our October 2019 report, BART management agreed to rescind its approval of the light fixture. Instead, BART terminated the contract for convenience, "in whole" (BART's emphasis), with the prime contractor in December 2019. BART management said at a Board meeting that terminating the entire contract was in BART's best interest, BART staff would perform the work, and BART was looking at available options with the goal of moving away from the selected fixture. However, two months later, BART directed the contractor to complete the purchase of 2,182 light fixtures, 100 spare lights, and 50 spare LED drivers under the terminated contract, without issuing a new contract for the purchase. The cost was \$819,567.28 (7 percent) of the terminated [\\$11.6 million contract](#).<sup>3</sup> BART management said it bought the fixtures because the contractor had issued a noncancelable, nonrefundable purchase order to the distributor.<sup>4</sup> BART also thought it would cost more to rescind the order than the price quoted in the order.

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<sup>2</sup> In October 2020, the former inspector general toured the M-Line Tunnel and rode a train through another tunnel where BART temporarily installed some of the lights. The former inspector general confirmed that two of the issues raised regarding the fixture, glare, and galvanization, were not an issue. However, several other features of the fixtures still did not meet the contract specifications.

<sup>3</sup> The purchase order cost was \$813,941 (7 percent) of the \$11.6M contract. The increased cost of \$5,626.32 was because the purchase order underestimated the sales tax by one percent.

<sup>4</sup> Graybar was the authorized distributor for the manufacturer's lights.



Our original investigation focused on the allegations of unmet specifications. This follow-up report focuses on the root causes that led to BART selecting a light fixture that did not fully meet those specifications and allegations in a second complaint we received after completing our original investigation that BART did not achieve the benefits it claimed it would by terminating the contract. The second complaint alleged that the termination resulted in:

- additional and unnecessary costs to BART.
- unnecessary delays in project implementation.
- damage to the contractor, including excessive delays and extra work.
- disadvantages to other suppliers.
- erroneously convincing the Board and the public that self-performing the contract was both possible, advantageous, practical, and feasible, though it had not been technically and economically vetted.

In June 2020, BART staff provided a follow-up response to our original investigation. It focused on showing that the light fixture BART approved was suitable for use in the M-Line Tunnel. Regardless, the fixture did not meet all contract specifications, which was the focus of our investigation findings and a requirement for fixed-price construction contracts.

The contractor had two years to complete the project, including providing and installing light fixtures and doing related construction work. However, because no fixture was available in the open market that met all of BART's specifications, the contractor had to identify a manufacturer that could design a fixture, obtain performance testing and safety certification to demonstrate that the fixture met the contract specifications, and manufacture the newly designed fixture within a timeframe that would provide the contractor sufficient time to complete the work. By terminating the contract, a Measure RR project that was scheduled to be completed in January 2021 has not yet been performed.



#### Contract Termination Resulted in BART:

- Incurring \$2.4M in costs to the contractor, which included \$1M for mobilization & the light fixtures & \$1.4M in contract settlement fees.
- Incurring \$12K in fees to obtain a field approval from UL to use the wire harnesses (i.e., cord and connector) that were not UL listed.
- Losing \$2.4 million in potential contract savings due to the contractor's bid being 17 percent below the engineer's estimate.
- Giving up \$5.1 million of work that would have been allocated to a local small business and \$1.6 million that would have been allocated to a woman-owned business.

The above costs do not include \$1.0M in fees to a consulting firm for contract resident engineer services; inventory holding costs, which are typically 20 to 30 percent per year of the inventory value, or \$164K to \$246K annually, for the light fixtures that BART purchased but has not yet installed; or BART staff costs associated with initiating and administering the contract or negotiating the settlement agreement. Further, because the light fixtures have not yet been installed, BART has lost more than half of the seven-year warranty that became effective on the purchase date of March 19, 2020.

The contract specifications were not inherently inappropriate. Rather, the process used to procure light fixtures that addressed BART's needs did not comply with public contracting requirements and best practices. The actions taken on this contract exposed several issues related to the contracting process, which are discussed in the findings below.

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## KEY FINDINGS

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### *Inaccurate Calculation Led to Decision to Purchase Fixtures After Canceling the Contract*

BART management said they directed the contractor to purchase the light fixtures because 1) the contractor had issued a noncancelable, nonrefundable purchase order for the fixtures, and 2) it would have cost \$889,704 for the contractor to cancel its \$813,941 purchase order with the distributor for the fixtures.

After receiving BART's approval of the light fixture, the contractor issued a noncancelable, nonrefundable purchase order to ensure the manufacturer would complete the order in a timely manner but put the order on hold in September 2019 pending the results of our original investigation. BART management met with the contractor in October 2019 to discuss our investigation results and BART's plan to rescind its approval of the light fixture. BART asked the contractor to provide a detailed estimate of the manufacturer's actual hard costs incurred up to the order hold date. The manufacturer sent a letter documenting incurred costs of \$491,857 for "development, testing, and sourcing" the light fixtures. This included \$386,982 for on-site inventory (i.e., sourcing) of 150 completed fixtures and all components for the purchase order quantities for the remaining fixtures, which were not yet assembled. The quoted costs did not include a distributor markup or sales tax. The contractor's representative said it was likely they could have negotiated the manufacturer's quoted costs down significantly due to its misrepresentation of the safety certification (see discussion below), but BART did not ask the contractor to do so.



The manufacturer’s letter said the total on-site inventory was in support of the purchase order. However, BART staff believed the manufacturer needed to purchase additional inventory (parts) based on a statement from the contractor that the inventory material costs “appear to represent about 52.9% of the order or 1268 finished fixtures at \$305 cost.” However, only 100 fixtures – those without brackets – were priced at \$305 each; 2,182 were priced at \$328 each. This statement also led BART staff to believe the total cost to rescind the order would be substantially more, and they recalculated that BART would have to pay \$889,704 for the contractor to rescind the purchase order, which was \$75,763 more than the purchase order total and \$397,847 more than the manufacturer’s submitted costs. However, because the manufacturer had purchased the parts needed for all the fixtures, the difference between their claimed costs and the purchase order price was only to assemble the remaining fixtures in the order.

***Decision to Cancel the Contract May Not Have Been Cost Effective***

As previously mentioned, BART incurred costs of \$3.4M for the terminated contract, including resident engineer services. The contract price, which did not include the resident engineer services because those were provided by a different contractor, would have been \$11.6M. BART staff estimated it would cost \$7.9M to complete the project in-house.

We identified some errors in BART’s calculation and made the following adjustments to BART’s estimated cost to complete the project in house:

|                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                         |                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b><u>Inventory Holding Costs</u></b></p> <p>At least \$164K in expenses for storage, transportation, labor, handling, insurance, taxes, item replacement, shrinkage, and depreciation from keeping the lights in storage.</p>                                                | <p><b><u>Labor Costs</u></b></p> <p>Adjusted BART’s estimated labor costs to reflect wage increases that BART employees received since the contract was terminated, which was 3.5 percent in FY23 and will be 3.0 percent in FY 24.</p> | <p><b><u>Sales Tax</u></b></p> <p>Added 10.25 percent for sales tax to the amounts in BART’s estimate for small tools and supplies and for other procurement costs.</p>                                    |
| <p><b><u>Inflation Factor</u></b></p> <p>Added an inflation factor of 4.9 percent to BART’s estimate for small tools and supplies and other procurement costs. The factor used is the 12-month San Francisco-Oakland-Hayward Consumer Price Index for January-December 2022.</p> | <p><b><u>Contingency</u></b></p> <p>Recalculated the contingency amount after revising the small tools and supplies costs to include the inflation factor and sales tax.</p>                                                            | <p><b><u>Sunk Costs</u></b></p> <p>Included costs already allocated to the project (i.e., “sunk costs”) for contract settlement fees, the Underwriters Laboratories fees, and inventory holding costs.</p> |

The table in Appendix I shows BART’s estimated costs to complete the project in house, as well as our adjustments to those costs. Because BART has not yet initiated implementation of this project in house, the costs to complete it continue to increase and are likely to be more than if BART had allowed the contractor to complete the project as scheduled.

### *Inappropriate Procurement Process*

BART management said they issue specifications to the “highest standard,” may waive or issue variances for some requirements when evaluating proposals, and that this is a common practice for public works procurements. However, it is contrary to California’s Public Contract Code (PCC) for sealed bid procurements, which was the method used for this procurement and requires contracts to be awarded to the lowest, responsible, and responsive bidder. To comply with PCC regulations, BART would have had to issue an RFP amendment to waive certain requirements in the specifications. The PCC requirements are intended to provide all qualified bidders with a fair opportunity in the bidding process and to stimulate competition in a manner conducive to sound fiscal practices. The PCC requirements also help eliminate favoritism, fraud, and corruption when awarding public contracts. Allowing variances from the specifications is also an indicator of a “want” vs. a “need,” as indicated by The Institute for Public Procurement.



#### Maximizing Competition

“Requirements and specifications should maximize competition. Restrictive specifications that unnecessarily limit the number of potential offerors should be avoided and are often, but not always, a sign of a ‘want’ over a ‘need.’”

~ The Institute for Public Procurement

BART awarded the contract to the lowest responsible and responsive bidder. However, the contract required a separate evaluation process for the light fixtures that were to be used in the project, which is inconsistent with the intent of a sealed bid procurement process and the concept of awarding contracts to the lowest responsible and responsive bidder. The PCC provides some alternatives to the sealed bid process for this type of product:

- PCC §20103.8: Allows items to be added or deducted from the scope of work when the solicitation specifies how the lowest bid will be determined, including consideration of the additive and deductive items.
- PCC §20217: Allows transportation agencies to use a competitive negotiation process when a competitive sealed bid process is not feasible for products undergoing rapid technological changes or for introducing new technologies into operations.
- PCC §20221(a): Specifically allows BART to award public works contracts based on a proposal that provides the best value, based on the combination of quality, price, and other elements in a proposal.

- **PCC §20226:** Specifically allows BART to purchase prototype equipment in an amount sufficient to conduct and evaluate operational testing without further observation of any provisions requiring contracts, bids, or notice; requires approval by two-thirds of the BART Board.

The Federal Transit Administration's (FTA) *Best Practices Procurement & Lessons Learned Manual* recommends using a sealed bid procurement process when a complete, adequate, precise, and realistic specification description is available, and the successful bidder can be selected based on price and price-related factors listed in the solicitation. It recommends using a competitive negotiation process when technical performance is important, which was the case with the tunnel light fixtures that BART wanted to procure. The negotiation process allows for tradeoffs between technical performance and price so a selection can be made based on the best overall combination of the two (i.e., best value) and is consistent with PCC requirements for competitive negotiated or best-value contracting methods.

Had BART followed FTA guidance and PCC requirements, there would have been two procurement processes. In the first procurement, BART would have selected a light fixture that met or came closest to meeting its needs. The second process would have been a competitive sealed bid procurement for the construction phase of the project, with a requirement for the contractor to use the light fixture BART selected in the first procurement. Using separate procurements also would have eliminated placing an inappropriate level of risk on a construction contractor to find a fixture that met BART's specifications when no such fixture was available in the open market, which as noted above, the FTA acknowledges should not occur. It also could potentially have prevented BART's decision to terminate the construction contract.



#### Contracting Best Practice

"A properly selected contracting method will work in the interests of the procuring agency to provide a product or service that meets the agency's needs at a reasonable price without undue risks to the contractor and without excessive contract administration costs and contractor claims."

~ Federal Transit Administration  
*Best Practices & Lessons Learned Manual*

BART management provided reasons to support why it accepted the light fixture despite it not meeting every specification. Although some of their reasons may be acceptable based on BART determining after issuing the RFP that a fixture that did not fully meet the published specifications would meet BART's needs, doing so circumvented both the PCC's sealed-bid requirements and public procurement best practices. In this situation, it also put a competing manufacturer that attempted to meet the specifications at an unfair disadvantage because that manufacturer did not know they potentially had the option to propose, and for BART to potentially accept, a product that did not meet the contract specifications. Although minor irregularities can be waived, some of the unmet specifications were not minor irregularities and, to be fair to all potential

manufacturers, would have required BART to issue an amendment to the RFP to indicate a change in the minimum specifications. For example, BART accepted something less than what the following specifications required without issuing amendments to the RFP:

- A coloring rendering index (CRI) of 85. The selected fixture had a lower CRI. In response to our investigation, BART staff said a CRI of 85 was not critical to emergency egress on tunnel walkways, and the contractor said the selected manufacturer could provide a fixture with a CRI of 85, but it would be at a higher cost and have a longer lead time.
- A minimum of 80,000 operating hours before reaching the degradation point. The selected fixture had tested to only 54,000 hours at the time of the contract award.

The higher cost associated with providing the required CRI and the significant deficiency in tested operating hours support that neither of those deficiencies were minor irregularities that BART should not have accepted and gave the selected manufacturer an unfair advantage over other manufacturers.

#### ***BART Allowed Unmet Safety Requirements to Be Met After Approval***

BART approved the light fixture and accepted the accompanying wire harnesses although neither met the UL safety standards required in the contract specifications, which was a significant departure from the specifications. This happened because BART did not have an adequate process for verifying that those standards were met. The process should: 1) require contractors to submit a copy of the UL or ETL certificate that lists the specific safety standards that the product meets, and 2) require BART staff to verify through UL's or Intertek's online database that the product is currently listed. The manufacturer's misrepresentation that its light fixture met the required safety standards would have been sufficient reason for BART to rescind its approval of the fixture. Instead, after learning through our investigation that the fixture BART approved was not safety certified, BART allowed the manufacturer to proceed with the safety certification process.

#### ***Selected Fixture was not UL or ETL Listed***

BART approved the fixture in July 2019 based, in part, on the manufacturer's misrepresentation that the fixture met the UL safety requirements although the manufacturer had not yet submitted the fixture to an authorized laboratory for safety testing. The RFP required the fixtures to meet the UL 8750 safety standard for light emitting diode (LED) equipment but did not require bidders to provide proof of that safety certification. Both UL and Intertek have online databases that can be used to verify if a product is certified and which standards it has met. BART should have checked Intertek's database since the manufacturer did not submit either a listing certificate or an "authorization to mark" letter. Instead, BART relied on performance testing reports and a brochure the manufacturer submitted to BART that included Intertek's ETL mark and a testing table that

showed the fixture met the UL safety requirements (Exhibit 1). The manufacturer's submissions were clear misrepresentations that the fixture met BART's required safety specifications.<sup>5</sup>

### Exhibit 1 – Misrepresentation of Safety Specifications



An Intertek representative confirmed that the performance testing it performed on the manufacturer's fixture was not to certify that the fixture met the safety requirements. To be certified, an Intertek inspector must visit the manufacturing facility and observe the manufacturing process to ensure the product is made in compliance with safety requirements. Intertek does not do this unless and until the manufacturer formally enters its product into Intertek's certification program, which the manufacturer did not do until June 2019, after it had already submitted the documentation to BART that included the ETL certification symbol. After we notified BART management that the fixture was noncompliant, BART notified the contractor who requested and received additional information from the manufacturer in September 2019 indicating that the deficiency had been cured. However, this statement was also a misrepresentation because Intertek did not certify the fixture until November 2019 – four months after BART approved it for use in the M-Line Tunnel and two months after the manufacturer claimed the issue had been corrected. Intertek does not allow its ETL mark to be used in any manner until it has certified the product and issued an "authorization to mark" letter for the product. Intertek's representative confirmed that the manufacturer would have known it was not yet authorized to use the ETL mark because it had undergone the certification process in the past for other products.

BART required the manufacturer to submit a sample light fixture for evaluation, but the fixture did not have a label affixed to show that it was ETL listed. The contractor sent an email to the manufacturer in August 2019 requesting an ETL label to put on the sample fixture if the fixtures "match the specification to a T." The

<sup>5</sup> Intertek conducts its tests based on UL's published safety standards. BART accepts the ETL mark as a UL equivalent.

contractor made that statement because of the allegations that the fixture did not meet all the specifications. The manufacturer sent the label, thereby inferring that the fixture met the UL/ETL safety requirements, although it was still undergoing Intertek's safety evaluation, but did not address if the fixture matched the specification "to a T."

The repeated misuse of the ETL mark indicates that the manufacturer intentionally misrepresented the status of its ETL safety certifications.

#### Wire Harnesses also not UL or ETL Listed

After directing the contractor to purchase the light fixtures, BART had to obtain a separate field approval from UL to use the wire harnesses that the manufacturer shipped with the fixtures because those also were not safety certified. Late in our initial investigation, we received an allegation that the wire harnesses the manufacturer provided to BART with the fixtures were not UL or ETL listed. We did not address this issue at the time because we received it after BART management agreed to rescind its approval of the light fixture, which meant that neither the fixtures nor the wire harnesses would be purchased. However, after learning that BART had purchased the fixtures, we investigated this allegation as part of our follow up.

The UL database did not list the wire harness, but the cable and connector were both individually listed as recognized components. Accordingly, the shipping box for the wire harnesses was labeled with the UL Recognized mark, rather than the wire harnesses being individually labeled with the UL Listed mark. UL uses the recognized mark for components that are intended to be installed in another device, system, or end product at the factory, not in the field. Intertek's representative confirmed that they did not test and certify the wire harness as part of the complete light fixture, which meant the components used in the wire harnesses still needed to be safety tested as a combined unit.





BART had already received the light fixtures and wire harnesses when we confirmed with a UL representative that UL will not certify a product after it has left the factory because UL cannot determine if it was manufactured in compliance with UL's safety requirements. After we notified BART management that the wire harnesses were not UL listed, they held back \$135,000 of the contractor's payment for the light fixtures and contacted UL to get a field evaluation and approval to use the wire harnesses. A UL field approval is not the same as certifying and listing a product but allows a product to be used in the specific application for which it was evaluated. The UL evaluation process consists of documentation review, visual and mechanical inspection, suitability for installation in accordance with the adopted installation codes, applicable testing, and an engineering report. Approved products are labeled with an "Evaluated" mark, rather than a listed mark. BART paid UL \$12,060 to obtain the field evaluation. The following table shows the various types of UL markings and what each means:

| Examples of UL Marks                                                              |                                                                                   |                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |
| <u>UL Recognized Mark</u><br>Used on Product<br>Components                        | <u>UL Listed Mark</u><br>Used for safety-<br>certified products                   | <u>UL Evaluated Mark</u><br>Used for products<br>evaluated in the field             |

### ***BART Required Contractor to Perform Work After Terminating Contract for Convenience "in Whole"***

BART's General Conditions allowed the contract to be terminated for convenience "in whole or in part," and BART's termination for convenience letter to the contractor said the contract "is terminated in Whole" (BART's emphasis). When doing a partial termination, the termination letter must state the portion of work to be completed. When terminating a contract in whole, as BART did, the contract terms and conditions are void for any work not yet performed. BART's letter told the contractor to **terminate all orders** (emphasis added) and subcontracts; **place no further orders** (emphasis added) or subcontracts; assign to the District all of the right, title, and interest of the contractor under any orders and subcontracts; and **transfer title and deliver to the District the fabricated or unfabricated parts** (emphasis added), work in progress, completed work, supplies, and other material produced as a part of, or acquired in performance of the work.

BART cited three reasons for directing the contractor to complete its purchase of the manufacturer's light fixtures:

- The purchase order was nonrefundable and noncancelable.
- BART would still have to pay the full price of the light fixtures if the order were canceled.
- BART could not direct the contractor to not do business with the manufacturer.

These reasons did not acknowledge that:

- The contractor had suspended the order upon learning the manufacturer had misrepresented the fixture as having the required safety certification, and the manufacturer knew that the order might be canceled for those reasons.
- The manufacturer submitted a buy-out cost estimate that was substantially less than the full price of the purchase order (see previous discussion), which was an indication that it did not expect reimbursement of the full purchase order value.
- The purchase order for the light fixtures was between the contractor and the distributor, not between BART and the distributor. Thus, its terms and conditions, including the provisions that it was nonrefundable and noncancelable, were also between the contractor and distributor. BART could have requested that the contractor transfer its interest in the purchase order to BART under the termination letter directive to assign all of the right, title, and interest of the contractor under any orders and subcontracts to the District.
- Our recommendations for BART to rescind its approval of the light fixtures and obtain new submittals did not mean the contractor could not do business with the manufacturer. The contractor could have asked the manufacturer to provide a new submittal for a fixture that met the contract specifications.
- BART could have rescinded its approval of the fixture based on the manufacturer's misrepresentation of its safety certification. Doing this likely would have resulted in the buy-out cost being substantially less than what the manufacturer submitted, or even nothing at all due to the manufacturer submission of false statements. Rescinding approval of the fixture also would have allowed the contractor to submit a different light fixture for approval and complete the project instead of being terminated for convenience.

Regardless, BART could have avoided the decision to terminate the contract, and the associated costs, altogether by following the PCC requirements for competitively negotiated and sealed bid contracts rather than approving a product that did not meet the contract specifications. Because BART did not do that and the contract was terminated, BART should have issued a new contract to complete the purchase of the light fixtures.

## MANAGEMENT RESPONSE

| Recommendations |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.              | <b>Recommendation:</b>         | Establish procedures to verify during the product evaluation process that a product has a current UL or ETL safety certification when contract specifications require a product to meet certain safety requirements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                 | <b>Implementation Date:</b>    | July 31, 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                 | <b>Corrective Action Plan:</b> | Applicable procedures will be reviewed, and revisions/enhancements will be made to verify the submitted / proposed products have the current UL or ETL safety certification as per the contract specifications and requirements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2.              | <b>Recommendation:</b>         | When soliciting for a construction that includes installing a product that is not currently available on the open market, do two separate solicitations. The first solicitation should be to design and obtain BART's approval of the product based on the contract specifications using a negotiated procurement method allowed under the Public Contract Code. BART should purchase the approved product directly to avoid incurring additional mark-up costs by the contractor who will install the product. The second solicitation should be for the project construction with a requirement to use the product approved by BART in the first solicitation.                                         |
|                 | <b>Implementation Date:</b>    | September 30, 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                 | <b>Corrective Action Plan:</b> | Existing procedures and processes will be reviewed for further improvement opportunities, accounting for best practices and lessons learned. BART will ensure we are using the appropriate contracting method for future purchases. BART will either use two separate solicitations as recommended or use a contracting mechanism such as Design/Build, which would allow for these types of efforts. Alternative contracting methods such as Design/build or Progressive Design/Build contracts identify the methodology to be used to evaluate proposals and include a competitive negotiation process for products not on the open market or design improvements to products available on the market. |

| Recommendations |                                |                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |                                | BART has paid closer attention since the original OIG recommendations and continues to work with the Procurement department and General Counsel's Office to validate the appropriate contracting mechanism.                                                                                                                                                                                         |
| 3.              | <b>Recommendation:</b>         | Provide a timeline to the BART Board of Directors for when the work will be performed and how, i.e., BART staff or contract, along with updated estimated costs that correspond to that timeline.                                                                                                                                                                                                   |
|                 | <b>Implementation Date:</b>    | August 2025                                                                                                                                                                                                                                                                                                                                                                                         |
|                 | <b>Corrective Action Plan:</b> | The existing inventory will be installed by BART personnel as a compliment to regularly performed maintenance. This work has begun and personnel are expected to finish the existing light installs in the next 18-24 months. In the event BART purchases additional lights or would like a contractor to do further upgrades in the future, staff would go to the Board of Directors at that time. |

**APPENDIX I – OIG ADJUSTMENTS TO BART’S ESTIMATED PROJECT COMPLETION COSTS**

| Description                                                                                                                       | BART’s Estimated Cost | OIG’s Adjusted Costs, Including Labor Increase of 3.5% for FY23 | OIG’s Adjusted Costs, Including Labor Increases of 3.5% for FY23 & 3% for FY24 |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------|--------------------------------------------------------------------------------|
| Demolition and construction                                                                                                       | \$6,192,931.76        | \$6,192,931.85 <sup>1</sup>                                     | \$6,192,931.85 <sup>1</sup>                                                    |
| Adjustment for increased labor costs                                                                                              |                       | <u>\$172,835.94</u>                                             | <u>\$326,166.12</u>                                                            |
| Revised demolition and construction                                                                                               |                       | \$6,365,767.79                                                  | \$6,519,097.97                                                                 |
| 5% for small tools and supplies                                                                                                   | \$309,646.59          | \$318,288.39                                                    | \$325,954.89                                                                   |
| <b>Subtotal: Revised Demolition/Construction &amp; Tools &amp; Supply Costs</b>                                                   |                       | <b>\$6,684,056.18</b>                                           | <b>\$6,845,052.86</b>                                                          |
| Procurement costs (e.g., lights, wiring, conduit)                                                                                 | \$753,306.21          | \$753,306.21                                                    | \$753,306.21                                                                   |
| Inflation for procurement costs <sup>2</sup>                                                                                      |                       | <u>\$36,912.00</u>                                              | <u>\$36,912.00</u>                                                             |
| Revised procurement costs                                                                                                         |                       | \$790,218.21                                                    | \$790,218.21                                                                   |
| Sales tax @ 10.25%                                                                                                                |                       | <u>\$80,997.37</u>                                              | <u>\$80,997.37</u>                                                             |
| <b>Subtotal: Revised Procurement Costs</b>                                                                                        | <b>\$753,306.21</b>   | <b>\$871,215.58</b>                                             | <b>\$871,215.58</b>                                                            |
| Equipment Costs (also included in Demolition and Construction Costs Above)                                                        |                       | \$282,379.05                                                    | \$282,379.05                                                                   |
| Inflation for equipment costs <sup>2</sup>                                                                                        |                       | <u>\$13,836.57</u>                                              | <u>\$13,836.57</u>                                                             |
| <b>Revised Subtotal Based on All Above Adjustments</b>                                                                            |                       | <b>\$7,569,109.34</b>                                           | <b>\$7,730,105.02</b>                                                          |
| 10% Contingency                                                                                                                   | \$650,257.84          | \$756,910.83                                                    | \$773,010.50                                                                   |
| <b>Revised Costs to Perform Work In House</b>                                                                                     | <b>\$7,906,142.40</b> | <b>\$8,312,182.60</b>                                           | <b>\$8,489,278.95</b>                                                          |
| Sunk costs not included in BART estimate (e.g., contract settlement fees, UL Solutions fee, inventory holding costs) <sup>3</sup> |                       | \$2,564,925.46                                                  | \$2,564,925.46                                                                 |
| <b>OIG’s Revised Project Total <sup>4</sup></b>                                                                                   |                       | <b>\$10,877,108.06</b>                                          | <b>\$11,054,204.41</b>                                                         |
| <b>Savings (Excess Cost) to Perform Work In-house</b>                                                                             |                       | <b>\$743,460.01</b>                                             | <b>\$566,363.66</b>                                                            |

<sup>1</sup> BART’s estimated cost plus the OIG’s correction for several minor differences of one or two cents each, likely due to rounding.

<sup>2</sup> Based on the 12-month Consumer Price Index factor of 4.9 percent for January-December 2022

<sup>3</sup> To provide an equal comparison with BART’s estimated costs of the terminated contract, the sunk costs listed do not include the resident engineer costs previously cited.

<sup>4</sup> This revised estimate would increase to \$11,297,417 to account for increased labor costs if the work is not completed before the end of FY 25, thereby reducing the estimated savings to perform the work in house to \$323,151. However, the costs would likely be higher, thereby negating any savings, due to additional inflation increases on the procurement and equipment costs for calendar years 2023 and 2024.

.....

## Providing Independent Oversight of the District's Use of Revenue

.....

Stop Fraud, Waste, & Abuse  
Report What You See  
to the OIG



24/7 Fraud, Waste, & Abuse  
Whistleblower Hotline



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



510-464-6100

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# Fraud, Waste, & Abuse Investigation Results

Office of the Inspector General



April 18, 2024



# BART Improperly Embedded a Best-Value Procurement Into a Fixed-Price Construction Contract





## Relevant California Law

**California's Public Contract Code:** Products requiring evaluation must be procured under a process that allows:

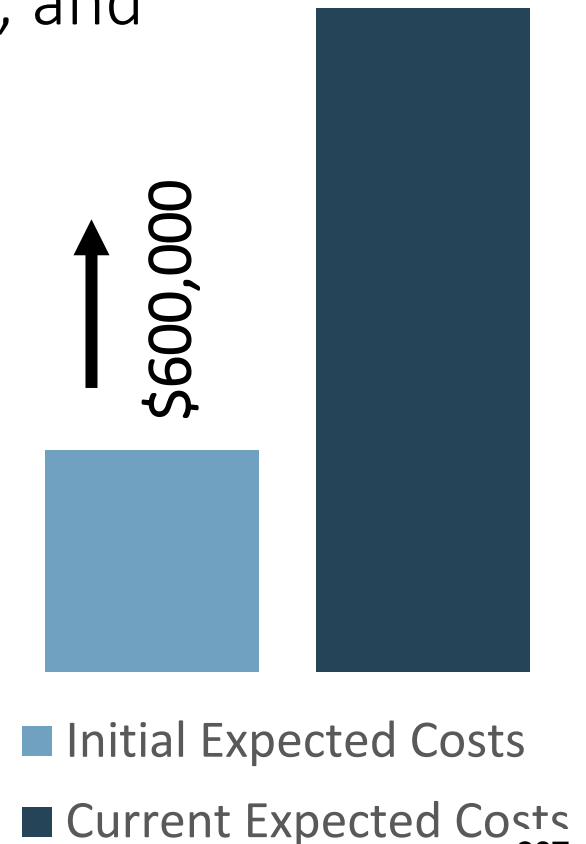
- Flexibility for adjusting scope of work
- Competitive negotiation for new technologies
- Best-value process that considers quality, price, and so on
- Evaluation of prototype equipment

## M-Line Tunnel Lighting Project

- Used fixed-price construction contract
- Approved light fixture did not meet contract specifications
- Select performance & safety requirements waived
- RFP not amended to reflect adjustments to requirements
- Gave approved manufacturer unfair advantage

## Contract Termination

- Terminated contract in December 2019
- Plans to complete work in-house
- \$2.4M settlement, mobilization, and light fixture costs
- Project not yet complete
- Initial expected costs: \$7.9M
- Current costs: \$8.5M



## Importance of Proper Procurement Practices

- Fair bidding process for contractors and vendors
- Ensures legal, grant, and safety compliance
- Stimulates competition
- Brings new ideas and perspectives
- Best product at best price

# Recommendations

- Establish procedures
- Do separate solicitations
- Provide a timeline and updated costs

## Contracting Best Practice

“A properly selected contracting method will work in the interests of the procuring agency to provide a product or service that meets the agency’s needs at a reasonable price without undue risks to the contractor and without excessive contract administration costs and contractor claims.”

~ Federal Transit Administration



# Questions?

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**(She/Her/Hers)**

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# BART Fuel Vendor Cost Controls Audit Report

Internal Audit Division

PERFORMANCE & AUDIT DEPARTMENT – April 2024

# Agenda

- Background
- Audit Objective & Scope
- Summary of Key Findings
- Audit Report Findings & Recommendations
- Detailed Findings & Recommendations
- Summary of Management Responses
- Corrective Management Actions
- Next Steps





# Background

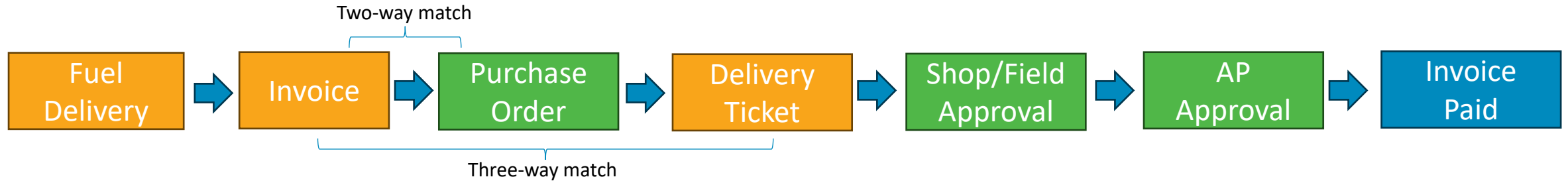
## How much did BART spend on bulk Fuel?

**Table 1 – BART Bulk Fuel Expenditures FY17-23**

|                    | <b>FY 2017</b> | <b>FY 2018</b> | <b>FY 2019</b> | <b>FY 2020</b> | <b>FY 2021</b> | <b>FY 2022</b> | <b>FY 2023</b> | <b>Grand Total</b> |
|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------|
| <b>Diesel Fuel</b> | \$478,032      | \$503,869      | \$1,719,156    | \$1,016,874    | \$932,174      | \$1,213,953    | \$1,405,640    | \$7,269,700        |
| <b>Gasoline</b>    | 248,868        | 739,677        | 1,001,756      | 764,266        | 749,904        | 1,146,949      | 1,913,105      | 6,564,525          |
| <b>Grand Total</b> | \$726,901      | \$1,243,545    | \$2,720,912    | \$1,781,141    | \$1,682,078    | \$2,360,902    | \$3,318,746    | \$13,834,225       |

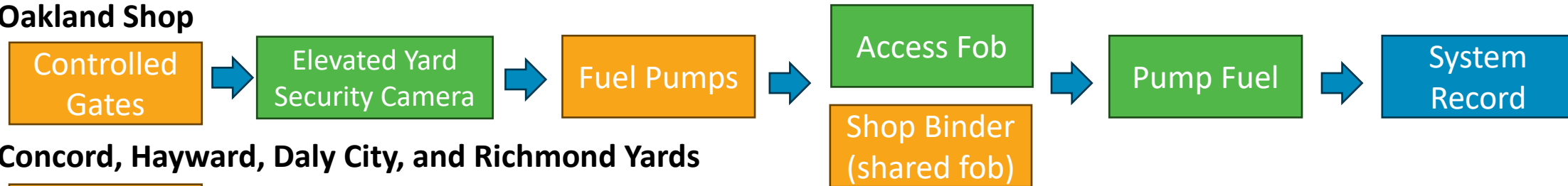
# Background

## How did BART pay for Fuel?



## How did BART access fuel?

### Oakland Shop



### Concord, Hayward, Daly City, and Richmond Yards



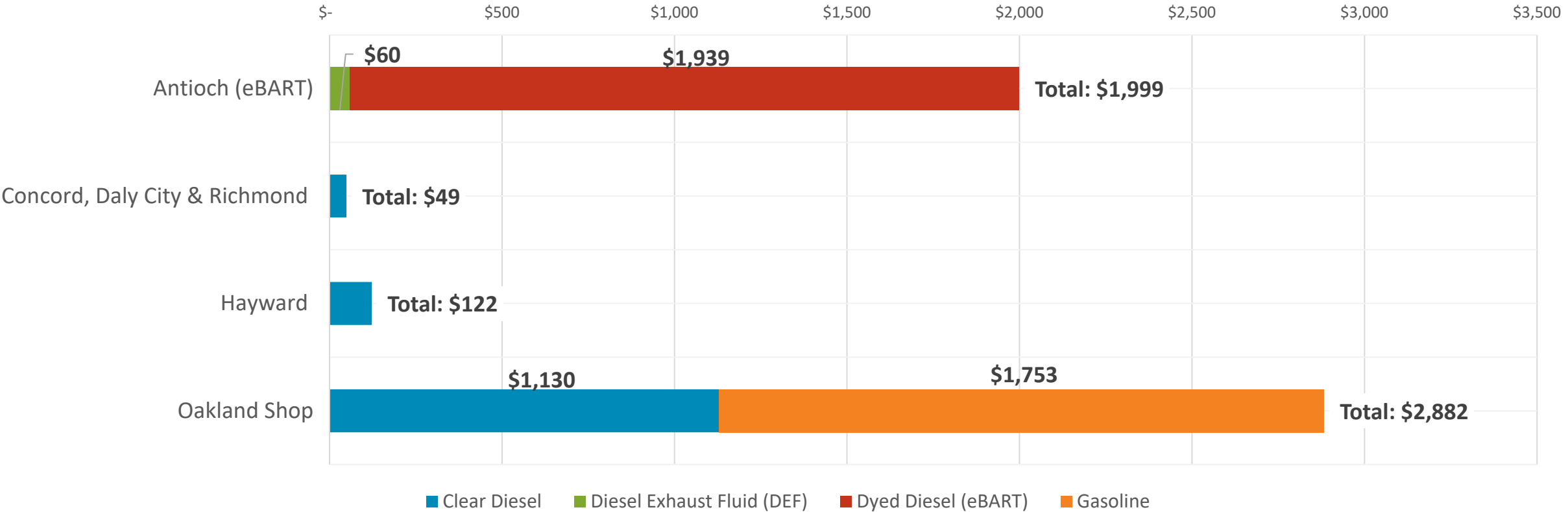
### Antioch (eBART)



# Background

## Where did the Fuel get used?

Figure 1 - Cost of Fuel from Vendor Invoices  
(Amount in thousands) Period: 07/2021-12/2022



# Background

## How does BART get bulk Fuel?

1. BART contracts with a Fuel Delivery Service that delivers fuel via fuel tanker trucks. The prior fuel vendor contract expired in December 2022, and BART contracted with a new vendor in 2023 (outside of the audit period).
2. Biweekly fuel deliveries would be made to both eBART and the Oakland Shop (OKS) with intermittent secondary deliveries for the revenue vehicle yards (Hayward, Concord, Daly City, and Richmond).
3. Each OKS fuel user, either the vehicle or the individual, was issued a key chain-sized electronic access fob called a “Prokee” that would provide electronic access to the fuel island at OKS.
  - a. Pumps operate on a legacy Fuelmaster system that requires a fob to pump and tracks the fob number, fuel type, date, time, and volume pumped.



# Background

## Where does the Fuel go?

1. OKS has 4 automated electric fuel pumps – 2 diesel and 2 gasoline:
  - These fuel pumps provide fuel for Non-Revenue Vehicle Equipment (NRVE), which include BART Police Department Vehicles, Shop and Yard Trucks, Work Trains, Lighting Stands, Generators, etc.
  - Revenue vehicle yards have diesel surface storage tanks (500 GL) for intermittent operational uses.
2. Antioch (eBART)
  - Operates 100% red-dyed diesel-fueled trains through a closed pump system, deliveries are held in large surface storage tanks.
  - No NVRE or secondary fuel access, fueled from a closed fueling system directly from tanks to trains.



# Audit Objective & Scope

To determine whether internal controls over fuel management are effective and whether contractual obligations are being performed and adequately monitored. The audit period was from July 1, 2021, to December 31, 2022 (18 months).

## Summary of Results:

24 internal control issues were identified, many of which can be defined as legacy issues where the findings are based on older and antiquated systems and processes, which may be resolved with updated technology and standardized procedures. A key issue is the fuel monitoring software is a legacy system; management is implementing additional and upgraded technology while finding the right balance between cost and risk mitigation.

- 24 Recommendations made, based on findings, 23 of 24 Accepted by Management
- Recommendation implementation since the report:
  - 5 Partially Implemented
  - 2 Fully Implemented



# Summary of Key Findings

## 1. Fuel System of Record

- a. 58% more fobs issued than non-revenue vehicles in service.
- b. 35% of fobs had no identification details.
- c. 52% of fobs were only used once in the audit period.

## 2. Fuel System Monitoring

- a. Inconsistent procedures for issuing, monitoring, and canceling fuel access fobs.
- b. 27% (141,000 gallons) more fuel purchased than was dispensed.

## 3. Receiving Deliveries of Fuel

- a. 63% of tested vendor's delivery tickets were not available. Invoices approved without delivery tickets.

## 4. Fuel Tax and Invoice Rates Validation

- a. Fuel vendor contract guaranteed OPIS (Oil Price Information Service) and Diesel Exhaust Fluid (DEF) rates not applied and incorrect tax rates applied.
- b. No available Local, State, and Federal fuel tax exemption claims for off-road equipment (est. \$178,000) were made.

## 5. Physical Fuel Security

- a. Inadequate gates, cameras, and systems to prevent, monitor, and limit physical access.

**Details of the recommendations and management responses to follow.**

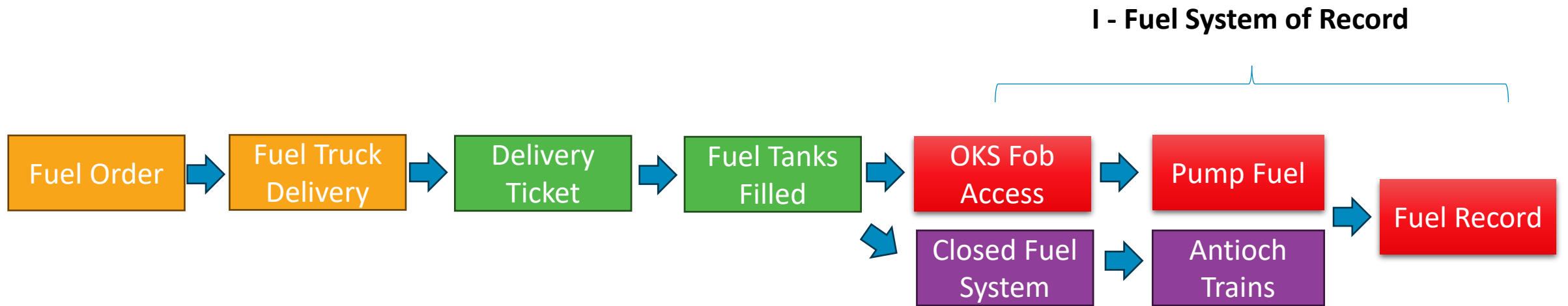
# Audit Report Findings & Recommendations

| <b>Finding</b>                     | <b>Finding Description</b>                                          | <b>Recommendation(s)<br/>Count</b> |
|------------------------------------|---------------------------------------------------------------------|------------------------------------|
| I - Fuel System of Record          | Fueling Procedures and Supporting IT System Need Improvement        | 6                                  |
| II - Fuel System Monitoring        | Significant Fuel Variances Not Consistently Monitored               | 3                                  |
| III - Receiving Deliveries of Fuel | Invoice to Fuel Delivery Ticket Validation Not Performed            | 2                                  |
| IV - Fuel Tax Rates Validation     | Invoice Validation to Contractual Rate and Tax Rate Not Performed   | 6                                  |
| V - Physical Fuel Security         | Fuel Access Monitoring and Fuel Pump Physical Security Insufficient | 7                                  |
|                                    | <b>Total:</b>                                                       | <b>24</b>                          |

**Management has undertaken several corrective actions to the audit report findings, details to follow.**



# I – Fuel System of Record



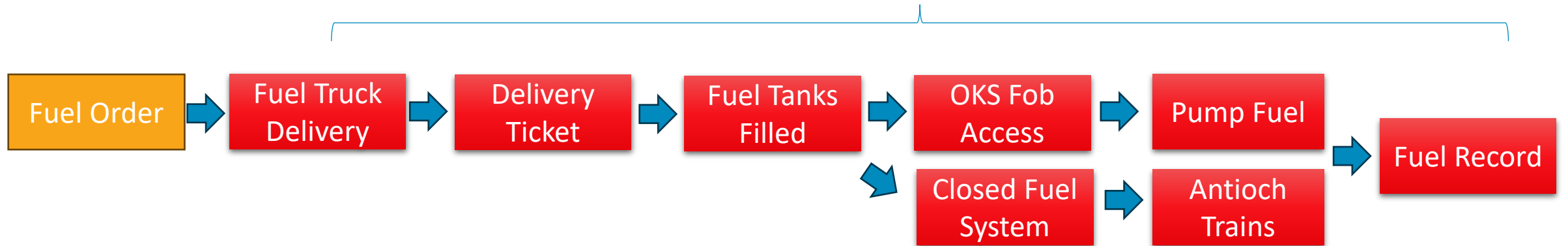
# I – Fuel System of Record

## **Fueling Procedures and Fuel Master System Controls Need Immediate Improvement.**

- a. Address the underutilized and unknown assigned key fobs (1,580 fobs vs. 1,003 Non-Revenue Vehicles).
- b. Establish and document a formal process for issuing, collecting, and transferring fobs (52% of fobs were only used once in 18 months).
- c. Enhance the records for fobs to include additional details (35% had no details).
- d. Perform periodic (e.g., monthly) internal reviews of automated fuel system users and fobs.
- e. Replace the manual log with a more robust recordkeeping system that would allow reconciliation (manual log was responsible for an estimated 31% of OKS fuel use).
- f. Establish, document, and distribute formal policies and procedures for monitoring larger fuel transactions, such as filling the internal BART fuel trucks (approximately 6% of total fuel used).

# II – Fuel System Monitoring

## II - Fuel System Monitoring



## II – Fuel System Monitoring

### **Significant Fuel Variances Not Consistently Monitored.**

- a. Retain vendor delivery tickets (see Finding #3, following) and perform an analysis between delivery tickets and the volume reports from the Fuelmaster system.
- b. Perform further analysis or actions, based on the accuracy of the Fuelmaster system.
- c. Review data to identify fobs used to pump both gas and diesel fuel and confirm that each identified fob is assigned to a single vehicle.



# III – Receiving Deliveries of Fuel

## III – Receiving Deliveries of Fuel



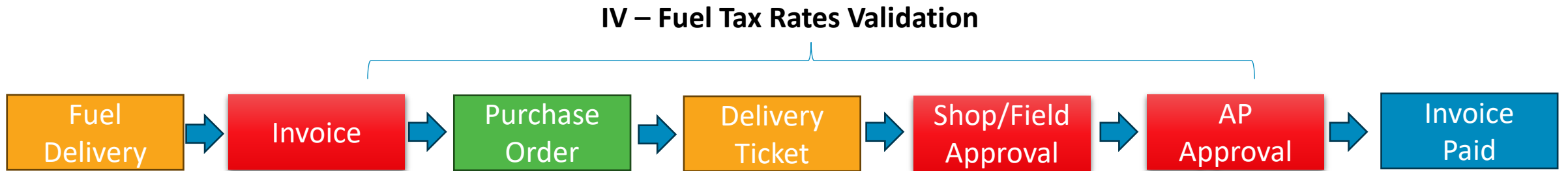
# III – Receiving Deliveries of Fuel

## **Invoices to Fuel Delivery Tickets Validation Not Performed.**

- a. Develop a standard operating procedure for BART staff to validate all fuel deliveries (23 out of the 36 associated delivery tickets were not available).
- b. Support the invoice approval process by entering the delivery ticket details into the revised fuel delivery and invoice monitoring form developed by eBART.



# IV– Fuel Tax Rates Validation



# IV— Fuel Tax Rates Validation

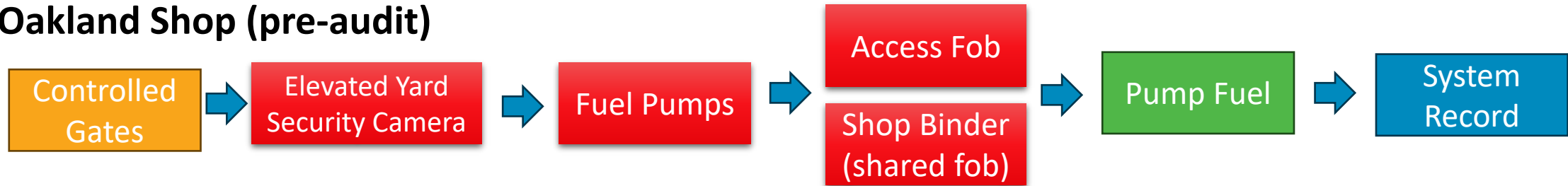
## **Invoice Validation to Contractual Rate and Tax Rates Not Performed.**

- a. Enhance the existing review procedures (three-way match vs. two-way match) for fuel invoices.
- b. Create a fixed unit price Purchase Order (PO) for the DEF product (applicable to eBART).
- c. Enhance the existing “Fuel Tax Guide v3.1” and establish a specific monitoring procedure, with a detailed timeline to track off-road use of fuel.
- d. File a “Diesel Fuel Claim for Refund on Nontaxable Uses” with the State Controller's Office for the last 3 years (est. potential Off-Road refund: up to \$170,000).
- e. Standardize and distribute contract verification procedures and responsibilities through formal documentation.
- f. Conduct recurring meetings among stakeholders in Operations, including shop and yard personnel; Purchasing, and Accounts Payable.



# V – Physical Security of Fuel

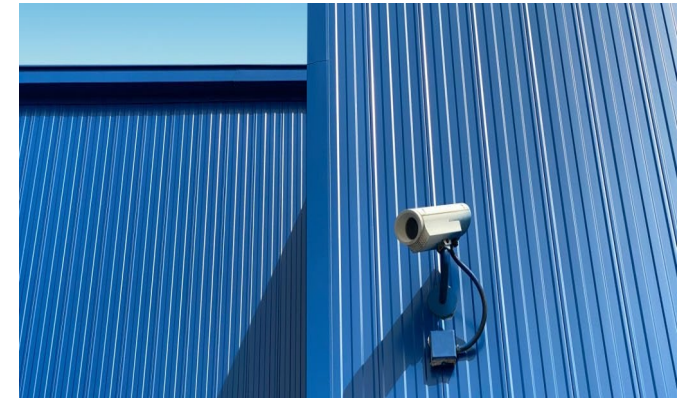
## Oakland Shop (pre-audit)



## Concord, Hayward, Daly City, and Richmond Yards



## Antioch Yard (eBART)



# V – Physical Security of Fuel

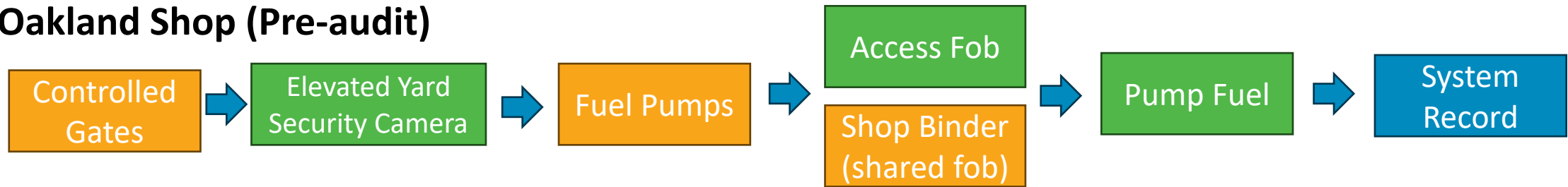
## **Fuel Access Monitoring and Fuel Pump Physical Security Insufficient.**

- a. Install security cameras that can detect vehicle license plate to ensure appropriate access.
- b. Compare the newly installed camera license plate data to District's vehicle inventory records.
- c. Consider additional security measures, such as additional cameras or modifying existing cameras to include surface tanks in profile.
- d. Send periodic reminders to relevant personnel about the proper use of the District's fuel.
- e. Explore existing control measures, such as the employee badge reader.
- f. Periodically review employee badge access to fueling equipment and remove transferred, terminated, or other unauthorized personnel.
- g. Assess and implement measures to secure the Oakland Shop main gate to prevent unauthorized access.

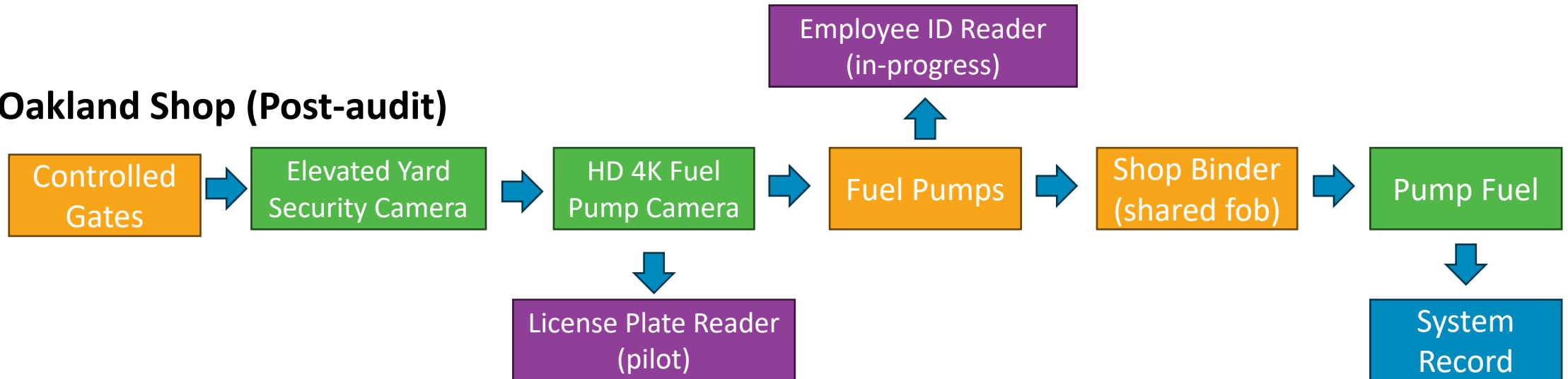
# V – Physical Security of Fuel (Revised)

**Updated: How does BART access fuel?**

## Oakland Shop (Pre-audit)



## Oakland Shop (Post-audit)



# Summary of Management Responses

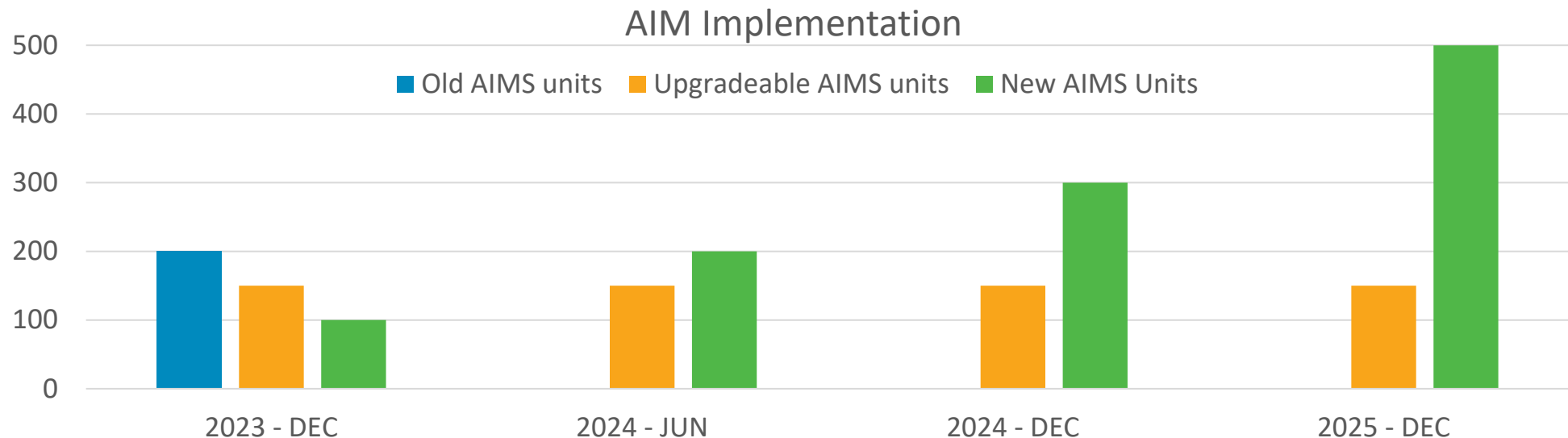
- Management accepted all audit findings and 23 of 24 recommendations.
- Management has responded with detailed action plans to address recommendations and incorporated specific deadlines based on resources and priorities.
- Internal Audit will monitor and maintain contact with the Management until all corrective actions are implemented to the satisfaction of IA.



# Corrective Management Actions

## 1. Fuel System of Record

- Cancelled all legacy and existing fuel access key fobs and moved the entire process to a manual tracking binder with a single access key fob (short-term).
- The existing fuel monitoring system and supporting database have been updated to the vendor's most current release (Fuelmaster Plus). Procuring additional fuel monitoring equipment, moving towards a cloud-based system (starting March 2024) with internal-to-vehicle fuel monitoring components (Automotive Information Module Fuel Management system, or AIM) in lieu of fobs.
- Installing additional internal-to-vehicle units started in January 2024, with estimated full install completion for December 2025.



# Corrective Management Actions (continued)

## 2. Fuel System Monitoring

- New NRVE Administrative Analyst responsible for additional fuel monitoring activities. Fuel pumps Auto/Manual mode reviewed weekly to ensure full-time monitoring and weekly Fuelmaster OKS pump transactions reviewed. A Fleet Manager position is under development.

## 3. Receiving Fuel Deliveries

- Fuel vendor was changed during the audit period; District no longer has any contract with the prior fuel vendor.
- New fuel supplier delivery details are cross-matched for better monitoring, including noted best practices of three-way matching of invoice, volume, and delivery ticket records.

## 4. Fuel Tax Rates Validation

- Daily Oil Price Information Service (OPIS) data sharing, weekly fuel records reviews of deliveries to confirm volumes, and additional tracking on fuel monitoring form to ensure OPIS pricing, contract discounts, and accurate taxes are included in invoices.
- Working with Procurement to establish a contract-set priced Purchase Order for the DEF fuel additive to prevent any overcharges.

## 5. Physical Fuel Security

- Installed a new HD 4K security camera for direct monitoring of fuel pumps. Obtained new laptop to better access and monitor the upgraded fuel system.
- Employee ID card reader technology has been implemented.
- Vehicle license plate reader technology piloted starting February 2024.

# Next Steps

- Internal Audit will continue to monitor the implementation of the recommendations, based on Management's action plans.
  - Internal Audit provides follow-up forms with the noted implementation schedule and last cycle updates to provide better awareness of implementation status (at least every 90 days).
- Due to the shift eliminating fob access, Internal Audit is concerned that it may “drive” more users to BART's Fuel Card Program. The FY25 Audit Plan will include an audit of the fuel card program to validate basic controls and monitor new users.
- BART is currently engaged in a large NRVE program overhaul, which includes upgrades to the legacy fuel monitoring and access system, improved analytics and reporting, and improved inventory management.
- Management has recently taken steps to tie fuel access with driver's license monitoring, beginning the process of requiring an employee keycard to access the fuel pumps and cross-matching with the Driver's Safety Program (DSP) and Driver's License Monitoring Program (DLMP).

# Questions?

