Triennial Performance Audit

of the

San Francisco Municipal Transportation Agency (SFMTA)

Fiscal Years 2012/13, 2013/14 and 2014/15

FINAL AUDIT REPORT

prepared for the

METROPOLITAN TRANSPORTATION COMMISSION

by

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NOTE:

All exhibits in this report are presented at the end of the associated discussion in each section.

EXECUTIVE SUMMARY

This executive summary highlights the findings from the performance audit of the San Francisco Municipal Transportation Agency (SFMTA). In California, a performance audit must be conducted every three years of any transit operator receiving Transportation Development Act (TDA) Article 4 funds, to determine whether the operator is in compliance with certain statutory and regulatory requirements, and to assess the efficiency and effectiveness of the operator's services. SFMTA operates five different transit modes: motor coach, trolley coach, light rail/historic trolley, cable car, and paratransit. The audit period is Fiscal Years 2013 through 2015 (from July 1, 2012 through June 30, 2015).

Performance Audit and Report Organization

The performance audit was conducted for MTC in accordance with its established procedures for performance audits. The final audit report consists of these sections:

- An assessment of data collection and reporting procedures;
- A review of performance trends in TDA-mandated indicators and component costs;
- A review of compliance with selected PUC requirements;
- An evaluation of SFMTA's actions to implement the recommendations from the last performance audit;
- An evaluation of functional performance indicator trends; and
- Findings, conclusions, and recommendations to further improve SFMTA's performance based on the results of the previous sections.

Comments received from SFMTA and MTC staff regarding the draft report have been incorporated into the final report. Highlights from the key activities are presented in this executive summary.

Results and Conclusions

Review of TDA Data Collection and Reporting Methods - The purpose of this review is to determine if SFMTA is in compliance with the TDA requirements for data collection and reporting. The review is limited to the five data items needed to calculate the TDA-mandated performance indicators. This review has determined that SFMTA is in compliance with the data collection and reporting requirements for these performance indicators. In addition, most of the statistics collected over the six-year review period appear to be consistent with the TDA definitions, and indicate general consistency in terms of the direction and magnitude of the year-to-year changes across the statistics. However, certain significant exceptions were identified:

- Reported declines in motor coach and trolley coach ridership from FY2014 to FY2015 appear to reflect measurement errors with the current older-generation automatic passenger counters (APCs). SFMTA reports it is working to ensure that ridership data is accurate, and that both legacy and future APC systems are properly operating. It is also starting to regularly track other indicators of ridership.

- There was a change in data methodology that attempts to more accurately capture missed service through enhanced use of the Central Control Logs and the Automatic Train Control System (ACTS). This resulted in significantly reduced car service hours and miles being reported for light rail starting in FY2014 and cable car in FY2015.

- The paratransit contractor submits reports to SFMTA with its monthly invoices, which contain ridership figures validated by the Broker staff to ensure that SFMTA does not pay for trips not actually provided. But for NTD reporting, the contractor used Trapeze and DCCS software to automatically generate annual paratransit trip data without validation, or

a combination of automatically and manually generated data. Going forward, SFMTA ensures NTD data will be based on validated monthly trip counts, and procedural changes will eliminate the need for an extensive validation process.

Performance Indicators and Trends – SFMTA's performance trends for the five TDA-mandated indicators were analyzed by mode. A six-year analysis period was used for all the indicators. In addition, component operating costs were analyzed.

- Motor Coach – The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2010 through FY2015:

  – There was an average annual increase in the operating cost per hour of 2.9 percent, or just 0.3 percent in inflation adjusted dollars. The largest annual increase (nearly 10 percent) occurred in FY2014.

  – The cost per passenger increased on average by three percent per year, which amounted to an average annual increase of just 0.4 percent in constant FY2010 dollars.

  – Passenger productivity showed small positive trends, with passengers per vehicle service hour overall about constant, and passengers per vehicle service mile increasing by 1.6 percent per year.

  – Employee productivity decreased an average 2.2 percent per year.

  The following is a brief summary of the component operating costs trend highlights for the motor coach service between FY2010 and FY2015:

  – The most significant change was an average annual increase of about 7.5 percent in the materials/supplies area. Overall, operating costs increased by 3.7 percent annually.

  – Labor costs represented the largest portion of the total costs, with a share that generally decreased from 41 percent to 37 percent over the six years.

- Fringe benefits comprised the second largest portion, beginning and ending the review period at 33.1 percent.

- Services costs contributed between 10 and 12 percent, and other cost categories generally contributed less than 10 percent each.

- Trolley Coach – The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2010 through FY2015:

  - There was an average annual increase in the operating cost per hour of 2.7 percent, or 0.1 percent in inflation adjusted dollars. There were annual increases of 7.5 and 10 percent in the last two years.

  - The cost per passenger increased on average by 4.4 percent per year, which amounted to an average annual increase of 1.8 percent in constant FY2010 dollars.

  - Passenger productivity showed relatively steady trends, with passengers per vehicle service hour decreasing by 1.6 percent per year overall, and passengers per vehicle service mile increasing by less than one percent.

  - Employee productivity decreased an average 1.3 percent per year.

  The following is a brief summary of the component operating costs trend highlights for the trolley coach service between FY2010 and FY2015:

  - The most significant changes were average annual increases of about 12 percent in the materials/supplies area, and six percent for utilities. Overall, operating costs increased by 2.3 percent annually.

  - Labor costs represented the largest portion of the total costs, with a share that decreased from about 46 percent in the first three years to 41 percent by the last two years.

  - Fringe benefits comprised the second largest portion, beginning and ending the review period at about 35 percent.

- Services costs generally contributed about 10 percent, and other cost categories each generally contributed seven percent or less.

- Light Rail – The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2010 through FY2015:

  - There was an average annual increase in the operating cost per hour of 4.7 percent, or 2.1 percent in inflation adjusted dollars. A nearly 30 percent annual increase in FY2014 has been attributed to an improved methodology for capturing missed service, rather than the significant decline in service hours reported. This was followed by a 13 percent decrease in the last year.

  - The cost per passenger increased on average by 1.0 percent per year, which amounted to an average annual decrease of 1.6 percent in constant FY2010 dollars.

  - Passengers per car service hour and car service mile both increased -- by 3.7 percent and 4.6 percent on average per year, respectively.

  - Employee productivity decreased an average 2.8 percent per year.

  The following is a brief summary of the component operating costs trend highlights for the light rail service between FY2010 and FY2015:

  - The most significant changes were average annual increases of 10 percent in the materials/supplies area, and 6.2 percent for utilities. Overall, operating costs increased by 3.9 percent annually.

  - Labor costs represented the largest portion of the total costs, with its share ranging from 40 to 46 percent. Fringe benefits were responsible for another 30 to 36 percent.

  - Materials/supplies costs contributed as much as 20 percent midway through the period, but 10 to 13 percent or less otherwise.

  - Services costs contributed about seven percent in most years, while other cost categories each contributed four percent or less.

- Cable Car – The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2010 through FY2015:

  – There was an average annual increase in the operating cost per hour of 2.0 percent, or a decrease of 0.5 percent in inflation adjusted dollars. There was wide variation in several of the years. A 20 percent annual increase in FY2015 has been attributed to an improved methodology for capturing missed service, rather than the significant decline in service hours reported.

  – The cost per passenger increased on average by 4.1 percent per year, which amounted to an average annual increase of 1.5 percent in constant FY2010 dollars.

  – Passenger productivity showed slightly mixed trends, with passengers per car service hour decreasing by 2.0 percent per year overall, and passengers per car service mile increasing by 1.0 percent.

  – Employee productivity decreased an average 0.6 percent per year.

  The following is a brief summary of the component operating costs trend highlights for the cable car service between FY2010 and FY2015:

  – Total operating costs increased by less than one percent annually. The most significant component cost change was an average annual increase of nine percent in the materials/supplies area.

  – There were also average annual increases of 6.7 percent for utilities and 4.7 percent for services, and an average annual decrease of 5.6 percent in the casualty/liability area.

  – Labor costs represented the largest portion of the total costs, with its share at about 50 percent. Fringe benefits were responsible for another 41 to 45 percent.

  – Materials/supplies costs contributed three to six percent, while other cost categories each contributed less than three percent.

- Paratransit – The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2010 through FY2015:

  – Cost efficiency declined overall, with an average annual increase in the operating cost per hour of 5.3 percent (2.6 percent in inflation adjusted dollars).

  – The operating cost per passenger averaged a significant annual increase of ten percent, or 7.3 percent when normalized in FY2010 dollars. Operating costs increased by 3.9 percent per year, while passenger levels decreased by 5.6 percent.

  – Passenger productivity trends were mixed, with passengers per vehicle service hour decreasing by 4.3 percent per year overall, and passengers per vehicle service mile increasing by 1.6 percent.

  The following is a brief summary of the component operating costs trend highlights for the paratransit service between FY2010 and FY2015:

  – Total annual costs increased by 3.9 percent on average, driven by a corresponding increase in purchased transportation costs – by far the largest component cost category.

  – Costs in several other categories showed significant percent changes as well, but they comprised a very small portion of the total hourly costs.

  – Purchased transportation costs continued to be the source of about 98 percent of all costs in all six years.

Compliance with Statutory Requirements – SFMTA is in compliance with the sections of the state PUC that were reviewed as part of this performance audit. The sections reviewed included requirements concerning CHP safety inspections, labor contracts, reduced fares, Welfare-to-Work, revenue sharing, and evaluation of passenger needs.

Status of Prior Audit Recommendations – There were no recommendations made in SFMTA's prior performance audit.

Functional Performance Indicator Trends - To further assess SFMTA's performance over the past three years, a detailed set of systemwide and modal functional area performance indicators was defined and reviewed.

- Systemwide (All Modes) – The following is a brief summary of the systemwide functional trend highlights between FY2013 and FY2015:
  - Management, Administration and Marketing results showed administrative costs rose to 20 percent of total operating costs, and increased to well over $40 per vehicle service hour. Meanwhile, marketing costs decreased compared to total administrative costs and remained relatively steady in terms of passenger trips. The TDA Article 4 operating ratio (including local support) declined from nearly 50 percent to 37 percent, but the FY2013 results reflected one-time increased funding for Central Subway Project activities. Meanwhile, the farebox recovery ratio declined to less than 29 percent, but FY2013 fare revenues included a one-time $10.8 million payment from BART for multi-year feeder services.
  - Operations, Maintenance and Safety results showed complaints decreased slightly, mechanic pay hours increased compared to vehicle service hours, maintenance employee scheduled absences at about 16 percent of total work hours and unscheduled absences at about five percent, overall stability in lost time due to industrial accidents, and a major increase in operator training time.
- Motor Coach – The following is a brief summary of the motor coach functional trend highlights between FY2013 and FY2015:
  - Service Planning results showed an increase in the scheduled operator pay to platform ratio to 142 percent, a 20 percent increase in the cost per passenger mile, and moderate decreases in the portions of vehicle miles and hours in service.

- Operations results showed some reduction in operating costs incurred from vehicle operations, and some increase in vehicle operations costs per hour. Operator scheduled absences were steady at about 11 percent of total work hours, while unscheduled absences went down to 4.8 percent. The actual operator pay to platform ratio climbed to 160 percent. Schedule adherence went down from 63 to 59 percent, while missed trips were down to 2.2 percent in FY2015.

- Maintenance results showed vehicle maintenance costs per mile increasing by 18 percent overall, but the vehicle spare ratio decreasing steadily and substantially, and noticeable improvement in the mechanical failure rates. The increased maintenance costs are directly attributable to improved maintenance practices.

- Safety results showed the preventable accident rate increasing in FY2015, and sharply increasing casualty/liability costs in FY2014 which were followed by some turnaround in FY2015. SFMTA is aware of that it has recently experienced a higher rate of collisions, and has implemented a multi-pronged Collision Reduction Program.

- Trolley Coach – The following is a brief summary of the trolley coach functional trend highlights between FY2013 and FY2015:

  - Service Planning results showed an increase in the scheduled operator pay to platform ratio to 125 percent, a 24 percent increase in the cost per passenger mile, and steady levels of vehicle miles and hours in service.

  - Operations results showed some reduction in operating costs incurred from vehicle operations, and an increase in vehicle operations costs per hour. Operator scheduled absences were steady at about ten percent of total work hours, while unscheduled absences went down from five to 4.4 percent. The actual operator pay to platform ratio climbed to 143 percent. Schedule adherence ranged between 61 and 63 percent, while missed trips were down to 1.4 percent in FY2015.

- Maintenance results showed vehicle maintenance costs per mile increasing by 34 percent overall, while the spare ratio decreased slightly and there was improvement in the mechanical failure rates. The increased maintenance costs are directly attributable to improved maintenance practices.

- Safety results showed the preventable accident rate increasing in FY2015, and sharply increasing casualty/liability costs in FY2014 which were followed by some turnaround in FY2015. SFMTA is aware of that it has recently experienced a higher rate of collisions, and has implemented a multi-pronged Collision Reduction Program.

- Light Rail – The following is a brief summary of the light rail/historic trolley functional trend highlights between FY2013 and FY2015:

  - Service Planning results showed some decrease in the scheduled operator pay to platform ratio (based on car service hours), a 3.7 percent decrease in the cost per passenger mile, and virtually all car miles and hours in service.

  - Operations results showed a moderate increase to 34 percent of operating costs incurred from vehicle operations, and an increase in vehicle operations costs per hour. Operator scheduled absences were down slightly to 10.9 percent of total work hours, while unscheduled absences went down to 4.6 percent. The actual operator pay to platform ratio (based on car service hours) climbed by 12 percent overall. Schedule adherence remained at just under 50 percent. Missed trips were up from two percent to nearly five percent in the last two years, but this has been attributed to an improved methodology for capturing missed service.

  - Maintenance results showed some decrease in the operating costs incurred from maintenance activities (vehicle and non-vehicle), while vehicle maintenance costs per mile increased by 2.3 percent overall and the spare ratio decreased slightly. There was little overall change in the major mechanical failure rate, with a small general increase in all mechanical failures.

- Safety results showed the preventable accident rate relatively stable, but sharply increasing casualty/liability costs in FY2014 which were followed by some turnaround in FY2015.

- Cable Car – The following is a brief summary of the cable car functional trend highlights between FY2013 and FY2015:

  - Service Planning results showed an increase in the scheduled operator pay to platform ratio to 262 percent, a 14 percent overall increase in the cost per passenger mile, and virtually all car miles and hours in service.

  - Operations results showed a relatively steady trend in operating costs incurred from vehicle operations, but a 15 percent increase in vehicle operations costs per hour. Operator scheduled and unscheduled absence rates both went up slightly, and the actual operator pay to platform ratio climbed to 318 percent. Schedule adherence remained at only 13 percent, while missed trips were down to 1.2 percent in FY2015.

  - Maintenance results showed car maintenance costs per mile increasing by almost 30 percent overall, while the spare ratio remained at 32.5 percent. The major mechanical failure rate improved by one-third, while the rate for all mechanical failures was steady. The increased maintenance costs are directly attributable to improved maintenance practices.

  - Safety results showed the preventable accident rate increasing by 60 percent after FY2013, and sharply increasing casualty/liability costs in FY2014 which were followed by some turnaround in FY2015. SFMTA is aware of that it has recently experienced a higher rate of collisions, and has implemented a multi-pronged Collision Reduction Program.

- Paratransit – The following is a brief summary of the paratransit functional trend highlights between FY2013 and FY2015:

  - Service Planning results showed a 19 percent net increase in the cost per passenger mile, and a major increase to more than 80 percent of

vehicle miles in service, but a small decrease in vehicle hours in service to 81 percent, by FY2015.

- Operations results showed schedule adherence improving somewhat to 83.5 percent, but missed trips also increased. However, there were no ADA trip denials, and the trip cancellation and passenger no-show rates remained about steady. The complaint rate increased by nearly 50 percent, but this largely reflected more comprehensive recording of complaints and the short-term impact of transitioning to a new service provider in FY2015.

- Maintenance results showed vehicle maintenance costs increasing by 17 percent overall, the spare ratio at 18 percent at the beginning and end of the period, and worsening of the mechanical failure rates in FY2015. The latter, however, largely reflects changes in reporting of failures concurrent with the transition to the new contracted service provider.

- Safety results showed a 70 percent improvement in the FTA reportable accident rate.

Recommendations

1. CONTINUE EFFORTS TOWARD OBTAINING ACCURATE RESULTS FROM SFMTA'S AUTOMATIC PASSENGER COUNTERS.
[Reference Section: II. Review of TDA Data Collection and Reporting Methods]

This review has determined that SFMTA is in compliance with the data collection and reporting requirements for the TDA performance indicators and that most of the statistics collected over the audit period appear to be consistent with the TDA definitions. However, reported declines in motor coach and trolley coach ridership from FY2014 to FY2015 appear to reflect measurement errors with the current older-generation automatic passenger counters (APCs). SFMTA reports it is working to ensure that ridership data is accurate, and that both legacy and

future APC systems are properly operating. It is also starting to regularly track other indicators of ridership.

SFMTA should continue its activities related to validating its legacy APCs and improving business processes around the APCs to ensure that ridership data is accurate. Further, as new vehicles with the latest generation technology APCs are phased in, SFMTA should ensure the future APC systems are properly validated, maintained, and integrated with other in-vehicle systems.

2. ENSURE THAT PARATRANSIT PASSENGER TRIP DATA IS CONSISTENT AND ACCURATE ACROSS ALL REPORTING SYSTEMS.
[Reference Section: II. Review of TDA Data Collection and Reporting Methods]

SFMTA's paratransit passenger trip data reported to the NTD has not been validated as was the passenger trip data reported with the monthly Paratransit Contractor invoices. Audit period NTD data shows declines in ridership, while the more carefully validated monthly report data shows relatively flat ridership. According to SFMTA staff, the paratransit contractor submits reports to SFMTA with its monthly invoices, which contain ridership figures that are validated by the Broker staff to ensure that SFMTA does not pay for any trips not actually provided. Meanwhile, the contractor was using Trapeze and DCCS software to automatically generate the annual trip counts, and reported those figures directly to NTD without validation. In FY2013, a combination of automatically generated trip numbers and manually generated data were used but not validated prior to NTD reporting.

SFMTA staff has indicated that going forward, the contractor will no longer be using any manually generated data, nor automatically generated end-of-year trip

counts for the reports to the NTD. The contractor will be summing the monthly trip counts that have gone through the validation process, and will be implementing procedural changes so that the automatically generated reports do not require an extensive validation process. SFMTA should monitor this situation to ensure that these reporting changes occur as planned.

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I. INTRODUCTION

Public Utilities Code (PUC) Section 99246 requires that a performance audit be conducted every three years of each public transit operator in California. The audit requirement pertains to recipients of Transportation Development Act (TDA) funds, and is intended to assure that the funds are being used efficiently. The substance and process of the performance audit is defined by the Regional Transportation Planning Agency (RTPA).

In the San Francisco Bay Area, the Metropolitan Transportation Commission (MTC) has been designated the RTPA and has this responsibility. By statute, the audit must be conducted in accordance with the U.S. Comptroller General's "Standards for Audit of Governmental Organizations, Programs, Activities, and Functions" (the "yellow book"). The performance audit is a systematic review to determine the extent to which a transit operator has complied with pertinent laws and regulations, and conducted operations in an efficient and economical manner. Relative to system compliance testing, all findings are reported regardless of materiality.

This report has been prepared as part of the performance audit of the San Francisco Municipal Transportation Agency (SFMTA). SFMTA is part of the government of the City and County of San Francisco. SFMTA operates five different transit modes: motor coach, trolley coach, light rail/historic trolley, cable car, and paratransit. All of these modes are included in this performance audit. The audit period is Fiscal Years 2013 through 2015 (from July 1, 2012 through June 30, 2015).

An overview of SFMTA is provided in Exhibit 1. This is followed by an agency organization chart in Exhibit 2, which includes significant changes that occurred between

December and February 2016. SFMTA's organization chart is a live document and changes on a frequent basis.

Performance Audit and Report Organization

This performance audit of SFMTA was conducted for MTC in accordance with its established procedures for performance audits. The audit consisted of two discrete steps:

1. Compliance Audit – Activities in this phase included:
   - An overview of data collection and reporting procedures for the five TDA performance indicators;
   - Analysis of the TDA indicators; and
   - A review of compliance with selected state Public Utilities Code (PUC) requirements.

2. Functional Review – Activities in this phase included:
   - A review of actions to implement the recommendations from the prior performance audit;
   - Calculation and evaluation of functional performance indicator trends; and
   - Findings, conclusions, and the formulation of recommendations.

This report presents the findings from both phases. Comments received from SFMTA and MTC staff regarding the draft report have been incorporated into this final report.

Exhibit 1: System Overview

Location

Headquarters: 1 South Van Ness Avenue, 7th Floor, San Francisco, CA 94103

Establishment

In 1999, San Francisco voters approved Proposition E, which amended the City Charter to merge the Municipal Railway (Muni) with the city's Department of Parking and Traffic (DPT). Integration of the two organizations into the San Francisco Municipal Transportation Agency (SFMTA) took place in 2002, creating a multimodal transportation agency to operate transit service, manage city streets, and advance the city's Transit First Policy. SFMTA has continued to evolve by merging with the Taxi Commission in March 2009.

Board

SFMTA is governed by a seven-member Board of Directors, four of whom must be regular riders of public transit. SFMTA's Board is appointed by the mayor and confirmed by the County Board of Supervisors. The Board has the authority to appoint the Executive Director, approve the budget, and set agency policy.

Facilities

SFMTA owns and leases a wide variety of facilities and infrastructure that enables the operation, maintenance, planning, engineering, enforcement, and administration of the complex transportation system in San Francisco. The majority of the 29 facilities are dedicated to the maintenance, fueling, storage, and staging of the transit and traffic enforcement vehicles. Separate operational facilities are maintained for light rail, motor coach, trolley coach and cable car services. Support and administrative functions are housed in a number of locations within the system. Also under SFMTA control are 19 public parking garages and 19 metered parking lots.

Service Data

Muni transit service is operated 24 hours a day, seven days a week, and in FY2015, SFMTA operated 77 lines. SFMTA directly operates four modes of service: motor coach, trolley coach, light rail (Muni Metro and historic streetcars) and cable cars. All residential neighborhoods in San Francisco are within a quarter of a mile of a Muni bus or rail line stop.

The adult daily cash fare and Paratransit Van Service fare rose from $2.00 to $2.25 on September 1, 2014. Transfers are free and can be used for 90 minutes in any direction. Cable car fares are $7.00 per trip. Multi-ride time-based media, such as daily, weekly, and monthly passes, are available as well. SFMTA also has ongoing transfer arrangements with connecting transit systems.

In FY2015, SFMTA's motor coach revenue fleet included 477 vehicles, which included a mix of small, standard and articulated coaches. The trolley coach fleet consisted of 272 vehicles. The rail fleet consisted of 149 modern light rail vehicles, as well as 50 operational historic streetcars. The cable car fleet included a total of 40 cars. Since July 2015, SFMTA has ordered and begun accepting delivery of new vehicles, some to replace

older vehicles being taken out of service, and others intended to increase the size of the fleet.

SFMTA operates four programs that provide paratransit services to seniors and persons with disabilities who are unable to independently ride the Muni fixed route system. In FY2014 SFMTA worked with various contractors to operate eighty-two 22-foot vans, five 25-foot vans, and five wheelchair accessible minivans, and completed approximately 500,000 trips for more than 8,500 active riders. In addition to these contracted services, all taxi companies in San Francisco are required to participate in the SF Paratransit program by City ordinance. A user-side subsidy is provided to Paratransit clients, who are issued a debit card to pay for their paratransit taxi trips.

Recent Changes

During the prior audit period, the SFMTA developed its five-year Strategic Plan: SFMTA Strategic Plan, Fiscal Year 2013 – Fiscal Year 2018. In effect during this audit period, the Strategic Plan identifies the agency's core values, vision, mission and strategic goals for the near future. Furthermore, the four strategic goals that were adopted in the plan are supported by a set of objectives, key indicators, and targets.

SFMTA recently concluded an extensive evaluation of its system under the Transit Effectiveness Project (TEP). The TEP was an in-depth planning process supported by data, engagement with the community at various levels, and critical lessons learned through the implementation of pilot projects. Informed by this study, SFMTA developed a program of projects called Muni Forward – route changes, service improvements, and comfort and safety enhancements.

Starting in FY2013, SFMTA ran a program to provide free Muni service for low income youth (ages 5-17), and the program received a grant to continue through FY2016. In January 2015, the SFMTA Board voted to expand this program to provide free service for low and moderate income 18-year-olds, 19 - 22-year-olds enrolled in San Francisco Unified School District programs, seniors, and disabled riders who use a Clipper® card.

In January 2015, the Board of Directors approved a three percent increase in transit service in FY2015 and a seven percent increase in FY2016.

Planned Changes

The Central Subway Project, currently under construction, will continue the T-Third light rail service from 4th and King Street to Chinatown.

Through the Muni Forward program, SFMTA is in the planning and design phases for several bus rapid transit way projects (including Van Ness Corridor Transit Improvement Project and the Geary Bus Rapid Transit project), and has identified approximately 40 additional miles of transit priority streets in San Francisco.

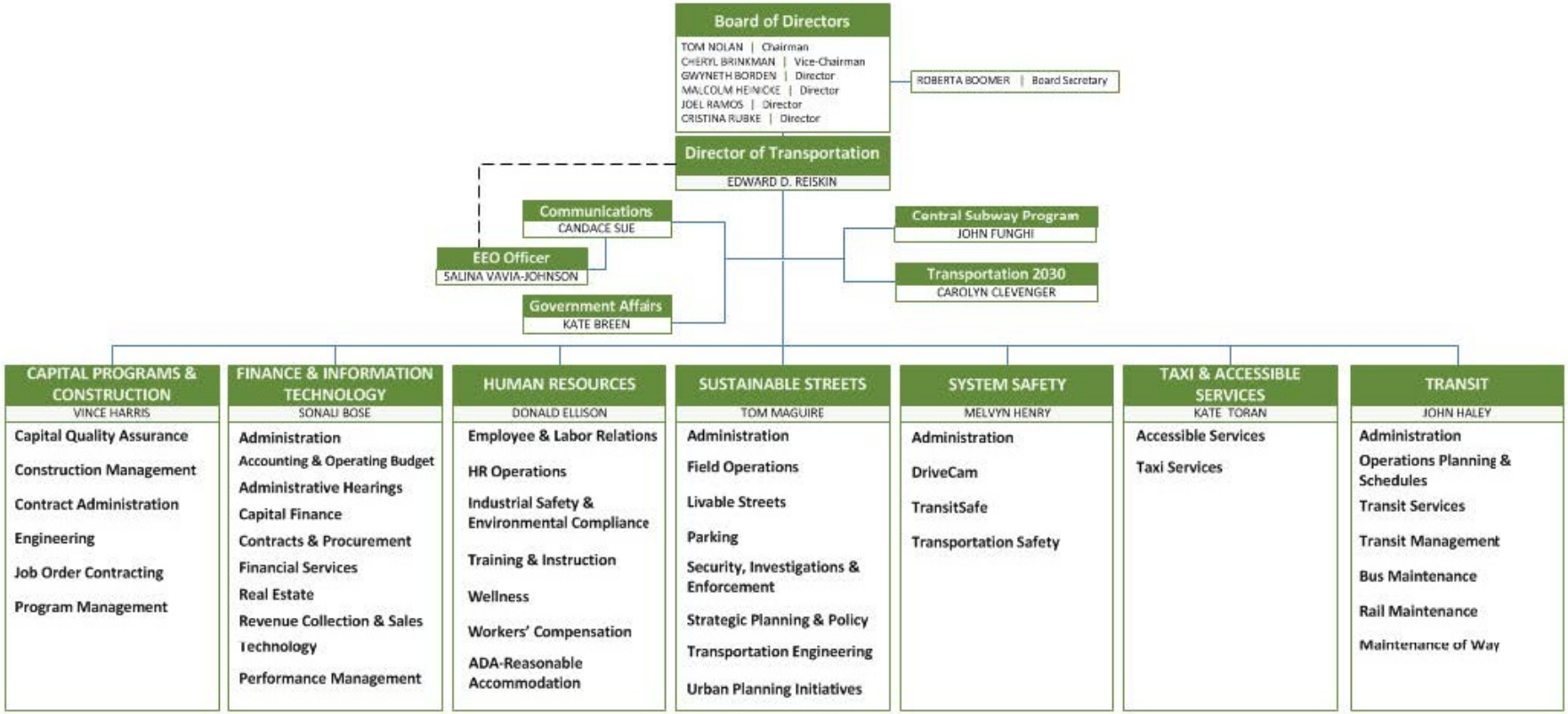
SFMTA has started to replace its entire bus and light rail fleet – the bus fleet is anticipated to be completely turned over by 2019 and the first light rail vehicles should begin to arrive in 2017.

Staff

SFMTA's employees are divided among a number of divisions. FY2015 budgeted staffing (FTEs, including transit-specific and other positions) by division is summarized below:

Agency-wide	48.68
Board of Directors	4.00
Capital Programs and Construction	156.40
Communications	23.45
Executive Director	6.70
Finance & Information Technology	358.44
Government Affairs	4.50
Human Resources	75.83
System Safety	110.63
Sustainable Streets	686.74
Taxis & Accessible Services	27.12
Transit Services Division	3,553.94
Total	5,056.43

Exhibit 2: SFMTA Organization Chart



II. REVIEW OF TDA DATA COLLECTION AND REPORTING METHODS

This section focuses on the five performance indicators required by TDA law. These indicators have been defined by the state PUC to evaluate the transit operator's efficiency, effectiveness and economy. The purpose of this review is to determine if SFMTA is compliance with the data collection and reporting requirements necessary to calculate the TDA performance indicators. The review is limited to the data items needed to calculate the indicators:

- Operating costs
- Vehicle service hours
- Vehicle service miles
- Unlinked passengers
- Employees (full-time equivalents)

The TDA indicator analysis is based on these operating and financial statistics in the National Transit Database (NTD) reports submitted annually to the Federal Transit Administration (FTA). The information reported by SFMTA covering the audit period has been reviewed. SFMTA's NTD reports include its directly operated fixed-route and fixed-guideway services as well as its brokered and contracted paratransit service. However, consistent with FTA reporting requirements, SFMTA does not submit employee hour information for purchased transportation service to the NTD.

Compliance with Requirements

To support this review, SFMTA also provided information to confirm and/or update its data collection and reporting procedures, using the descriptions in the prior

performance audit as a reference. The staff indicated that the definitions and procedures used to derive the TDA indicator statistics generally are consistent with those used for the NTD reporting system.

Based on the information provided, as shown in Exhibit 3.1, SFMTA is in compliance with the data collection and reporting requirements for all five TDA statistics.

Consistency of the Reported Statistics

The resulting TDA statistics for SFMTA's services are shown by mode in Exhibits 3.2 through 3.6. Included are statistics covering each fiscal year of the three-year audit period, plus the immediately preceding three fiscal years, resulting in a six-year trend. The following is a brief summary of the results:

- Most of the statistics collected over the period appear to be consistent with the TDA definitions.

- There is general consistency in terms of the direction and magnitude of the year-to-year changes across the statistics. For example, increases or decreases in annual operating costs tend to be relatively proportional to increases or decreases in annual vehicle service hours and miles.

- SFMTA does not believe that reported declines in motor coach and trolley coach ridership from FY2014 to FY2015 (shown in Exhibits 3.2 and 3.3) reflect actual ridership trends. While SFMTA has been consistent in utilizing FTA-approved methods for collecting these ridership data, there appear to be measurement errors with the automatic passenger counters (APCs). The sensors are nearly ten years old, are older generation technology, and may be nearing the end of their useful lives. SFMTA reports it is in the process of validating these legacy APCs and improving business processes around APCs to ensure that ridership data is accurate. Further, all new vehicles will be equipped with the latest generation of

APC technology, which offers higher levels of precision and accuracy. SFMTA is working to ensure that both legacy and future APC systems are properly validated, maintained, and integrated with other in-vehicle systems. It is also starting to regularly track other indicators of ridership such as Clipper tags and fare revenue to understand and verify trends.

- There was a change in data methodology that attempts to more accurately capture missed service through enhanced use of the Central Control Logs and the Automatic Train Control System (ACTS). This resulted in significantly reduced car service hours and miles being reported for light rail starting in FY2014 and cable car in FY2015, as shown in Exhibits 3.4 and 3.5.

- Paratransit passenger trip data reported to the NTD was not validated as was the passenger trip data reported with the monthly Paratransit Contractor invoices. The NTD data shows declines in ridership, while the more carefully validated monthly report data (Exhibit 3.6) shows relatively flat ridership. The paratransit contractor submits reports to SFMTA with its monthly invoices, which contain ridership figures that are validated by the Broker staff to ensure that SFMTA does not pay for any trips not actually provided. Conversely, the contractor used Trapeze and DCCS software to automatically generate the annual trip counts, and reported those figures directly to the NTD without validation. In FY2013, a combination of automatically generated trip numbers and manually generated data were used but not validated prior to NTD reporting. Going forward, the contractor will no longer be using any manually generated data, nor automatically generated end-of-year trip counts for the reports to NTD. The contractor will be summing the monthly trip counts that have gone through the validation process, and will be implementing procedural changes so that the automatically generated reports do not require an extensive validation process. SFMTA staff will be monitoring these procedural changes.

Exhibit 3.1: Compliance with TDA Data Collection and Reporting Requirements

TDA Statistic	TDA Definition	Compliance Finding	Verification Information
Operating Cost	"Operating cost" means all costs in the operating expense object classes exclusive of the costs in the depreciation and amortization expense object class of the uniform system of accounts and records adopted by the Controller pursuant to Section 99243, and exclusive of all subsidies for commuter rail services operated under the jurisdiction of the Interstate Commerce Commission and of all direct costs for providing charter services, and exclusive of all vehicle lease costs.	In Compliance	• For all modes: operating costs are extracted from the citywide FAMIS system through EIS (Executive Information System) using a file command reporting mechanism. • The data is downloaded to spreadsheets by function and mode. Undistributed costs for each function are allocated to specific modes using an agreed upon allocation methodology.
Vehicle Service Hours	"Vehicle service hours" means the total number of hours that each transit vehicle is in revenue service, including layover time.	In Compliance	• Bus and Rail: Trapeze scheduling software provides block summaries of scheduled hours and miles for each mode. SFMTA uses data from Trapeze, Central Control logs, and Automatic Train Control System logs to calculate total missed service. Missed service is subtracted from scheduled hours and miles to provide actual hours and miles. Cable Car mileage is based on GPS data, which is downloaded daily and entered in SHOPS software system. • Paratransit: Mobile Data Computers (MDCs) and GPS linked with geographical scheduling software (Trapeze PASS) record and report the mileage and hours data. This is supplemented with direct entry for vehicles without or with faulty devices. For Demand Taxi, Debit Card Central System (DDCS) and geographical software is used to track, report, process and validate all taxi trips and related transactions to provide an array of data including vehicle service hours.

TDA Statistic	TDA Definition	Compliance Finding	Verification Information
Vehicle Service Miles	"Vehicle service miles" means the total number of miles that each transit vehicle is in revenue service.	In Compliance	• Bus and Rail: Trapeze scheduling software provides block summaries of scheduled hours and miles for each mode. SFMTA uses data from Trapeze, Central Control logs, and Automatic Train Control System logs to calculate total missed service. Missed service is subtracted from scheduled hours and miles to provide actual hours and miles. Cable Car mileage is based on GPS data, which is downloaded daily and entered in SHOPS software system. • Paratransit: Mobile Data Computers (MDCs) and GPS linked with geographical scheduling software (Trapeze PASS) record and report the mileage and hours data. This is supplemented with direct entry for vehicles without or with faulty devices. For Demand Taxi, Debit Card Central System (DDCS) and geographical software is used to track, report, process and validate all taxi trips and related transactions to provide an array of data including vehicle service miles.
Unlinked Passengers	"Unlinked passengers" means the number of boarding passengers, whether revenue producing or not, carried by the public transportation system.	In Compliance with Follow-up	• Bus: SFMTA uses an Automatic Passenger Counter (APC) system to measure unlinked passengers on its buses. About 30 percent of the bus fleet is equipped with APCs. SFMTA deploys APC-equipped vehicles across all bus routes according to a sampling plan. The APC reporting system uses the data gathered from the APC-equipped buses to calculate total unlinked passengers. However, SFMTA reports apparent measurement errors with the APCs, which are older generation technology and may be nearing the end of their useful lives. SFMTA is working to

TDA Statistic	TDA Definition	Compliance Finding	Verification Information
			ensure that its APC systems are properly functioning. • Rail: A two-pronged approach that is approved by an independent consultant and accepted by the Federal Transit Administration is used for estimating ridership: - Baseline - First, a baseline is developed approximately every seven years. To develop a baseline, Traffic Checkers ride the vehicles and count passengers getting on and off at each stop to determine the boardings for the entire line and a maximum load point. The baseline also provides a ratio of boardings to passenger miles. - Yearly Monitoring - The conversion factors for boardings and passenger miles are set at the completion of the baseline. An update of each line is conducted every year to determine changes in ridership at the maximum load point. The ridership data generates changes in the estimated boardings and passenger miles. • Paratransit: The contractor submits reports to SFMTA with its monthly invoices, which contain ridership figures validated by the Broker staff to ensure that SFMTA does not pay for trips not actually provided. But for NTD reporting, the contractor used Trapeze and DCCS software to automatically generate annual trip data without validation, or a combination of automatically and manually generated data. Going forward, SFMTA ensures NTD data will be based on validated monthly trip counts, and procedural changes will eliminate the need for an extensive validation process.

TDA Statistic	TDA Definition	Compliance Finding	Verification Information
Employee Full-Time Equivalents	2,000 person-hours of work in one year constitute one employee.	In Compliance	• For all modes: statistical data for labor hours is extracted from the citywide payroll system (Labor Distribution System - a subsystem of FAMIS) using a file command reporting mechanism. • The total hours from the report are entered into spreadsheets by function and mode. Undistributed hours for each function are allocated to specific modes. • Resulting labor hours are divided by 2000 to arrive at FTEs for TDA reporting.

Exhibit 3.2: TDA Statistics – Motor Coach

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
Operating Cost (Actual $)	$243,149,950	$248,914,924	$255,492,351	$257,977,594	$282,652,719	$292,229,715
Annual Change	- -	*2.4%*	*2.6%*	*1.0%*	*9.6%*	*3.4%*
Vehicle Service Hours	1,434,253	1,410,633	1,452,262	1,461,447	1,464,828	1,491,118
Annual Change	- -	*-1.6%*	*3.0%*	*0.6%*	*0.2%*	*1.8%*
Vehicle Service Miles	12,350,886	11,759,059	12,066,127	12,043,494	11,870,110	11,806,194
Annual Change	- -	*-4.8%*	*2.6%*	*-0.2%*	*-1.4%*	*-0.5%*
Unlinked Passengers	91,609,190	89,450,656	95,625,357	97,180,861	98,365,557	95,005,347
Annual Change	- -	*-2.4%*	*6.9%*	*1.6%*	*1.2%*	*-3.4%*
Employee Full-Time Equivalents	1,445.3	1,398.3	1,390.2	1,397.5	1,506.2	1,682.5
Annual Change	- -	*-3.3%*	*-0.6%*	*0.5%*	*7.8%*	*11.7%*

Sources: FY2010 through FY2012 - Prior Performance Audit Report
FY2013 through FY2015 - NTD Reports

Exhibit 3.3: TDA Statistics – Trolley Coach

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
Operating Cost (Actual $)	$147,949,471	$141,617,107	$145,871,376	$141,409,025	$152,561,728	$165,914,706
Annual Change	- -	*-4.3%*	*3.0%*	*-3.1%*	*7.9%*	*8.8%*
Vehicle Service Hours	956,286	918,195	945,565	947,295	950,442	939,313
Annual Change	- -	*-4.0%*	*3.0%*	*0.2%*	*0.3%*	*-1.2%*
Vehicle Service Miles	6,343,847	5,969,703	6,116,230	6,044,020	6,014,207	5,690,212
Annual Change	- -	*-5.9%*	*2.5%*	*-1.2%*	*-0.5%*	*-5.4%*
Unlinked Passengers	66,967,743	66,233,613	67,544,432	65,247,637	65,328,431	60,553,936
Annual Change	- -	*-1.1%*	*2.0%*	*-3.4%*	*0.1%*	*-7.3%*
Employee Full-Time Equivalents	943.0	908.3	892.8	878.3	880.3	986.9
Annual Change	- -	*-3.7%*	*-1.7%*	*-1.6%*	*0.2%*	*12.1%*

Sources: FY2010 through FY2012 - Prior Performance Audit Report
FY2013 through FY2015 - NTD Reports, except FY2014 FTEs - SFMTA Staff (corrected)

Exhibit 3.4: TDA Statistics – Light Rail

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
Operating Cost (Actual $)	$169,225,292	$168,844,305	$190,913,158	$198,475,301	$207,882,197	$204,634,990
Annual Change	- -	*-0.2%*	*13.1%*	*4.0%*	*4.7%*	*-1.6%*
Car Service Hours	627,638	632,003	649,073	655,262	532,901	602,031
Annual Change	- -	*0.7%*	*2.7%*	*1.0%*	*-18.7%*	*13.0%*
Car Service Miles	5,766,581	5,838,027	5,819,856	5,859,656	5,264,532	5,317,677
Annual Change	- -	*1.2%*	*-0.3%*	*0.7%*	*-10.2%*	*1.0%*
Unlinked Passengers	49,396,925	51,021,623	51,685,694	53,749,159	56,951,602	56,932,671
Annual Change	- -	*3.3%*	*1.3%*	*4.0%*	*6.0%*	*0.0%*
Employee Full-Time Equivalents	979.7	932.5	930.5	936.1	1,026.2	1,080.5
Annual Change	- -	*-4.8%*	*-0.2%*	*0.6%*	*9.6%*	*5.3%*

Sources: FY2010 through FY2012 - Prior Performance Audit Report
FY2013 through FY2015 - NTD Reports (LR and SR Modes)

Exhibit 3.5: TDA Statistics – Cable Car

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
Operating Cost (Actual $)	$57,049,318	$55,663,240	$59,468,021	$51,868,243	$52,143,335	$59,576,217
Annual Change	- -	*-2.4%*	*6.8%*	*-12.8%*	*0.5%*	*14.3%*
Car Service Hours	145,285	145,949	135,674	141,863	143,383	137,085
Annual Change	- -	*0.5%*	*-7.0%*	*4.6%*	*1.1%*	*-4.4%*
Car Service Miles	342,314	286,712	302,690	299,841	291,853	278,454
Annual Change	- -	*-16.2%*	*5.6%*	*-0.9%*	*-2.7%*	*-4.6%*
Unlinked Passengers	8,008,382	7,042,503	7,270,191	6,813,349	7,331,777	6,834,184
Annual Change	- -	*-12.1%*	*3.2%*	*-6.3%*	*7.6%*	*-6.8%*
Employee Full-Time Equivalents	440.4	409.6	415.0	366.3	378.7	427.2
Annual Change	- -	*-7.0%*	*1.3%*	*-11.7%*	*3.4%*	*12.8%*

Sources: FY2010 through FY2012 - Prior Performance Audit Report
FY2013 through FY2015 - NTD Reports

Exhibit 3.6: TDA Statistics – Paratransit

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
Operating Cost (Actual $)	$18,932,867	$17,302,130	$18,492,388	$18,236,243	$19,596,029	$22,929,331
Annual Change	*- -*	*-8.6%*	*6.9%*	*-1.4%*	*7.5%*	*17.0%*
Vehicle Service Hours	305,879	266,507	243,771	252,265	291,172	286,169
Annual Change	*- -*	*-12.9%*	*-8.5%*	*3.5%*	*15.4%*	*-1.7%*
Vehicle Service Miles	3,605,214	2,922,706	2,373,640	2,381,435	2,651,131	2,505,643
Annual Change	*- -*	*-18.9%*	*-18.8%*	*0.3%*	*11.3%*	*-5.5%*
Unlinked Passengers	1,038,770	904,598	810,663	777,324	771,175	780,048
Annual Change	*- -*	*-12.9%*	*-10.4%*	*-4.1%*	*-0.8%*	*1.2%*

Sources: FY2010 through FY2012 - Prior Performance Audit Report
FY2013 through FY2015 - NTD Reports (DR and DT Modes); except Passengers - SFMTA Staff, and FY2015 Hours and Miles - SFMTA Staff (NTD Revisions)

III. TDA PERFORMANCE INDICATORS AND TRENDS

The performance trends for the five SFMTA service modes (motor coach, trolley coach, light rail/historic trolley, cable car, and paratransit) are presented in this section. Performance is discussed for each of the five TDA-mandated performance indicators:

- operating cost per vehicle service hour
- passengers per vehicle service hour
- passengers per vehicle service mile
- operating cost per passenger
- vehicle service hours per full-time equivalent employee (FTE)

The performance results in these indicators were generally developed from the information in the NTD reports filed with the FTA for the three years of the audit period by SFMTA. The NTD reports were the primary source of all operating and financial statistics except for paratransit contractor FTEs. Contractor employee FTE data is unavailable for this audit due to the nature of these contracted services.

In addition to presenting performance for the three years of the audit period (FY2013 through FY2015), this analysis features two enhancements:

- Six-Year Time Period – While the performance audit focuses on the three fiscal years of the audit period, six-year trend lines have been constructed for SFMTA's service to provide a longer perspective on performance and to clearly present the direction and magnitude of the performance trends. In this analysis, the FY2013 to FY2015 trend lines have been combined with those from the prior audit period (FY2010 through FY2012) to define a six-year period of performance.

- Normalized Cost Indicators for Inflation – Two financial performance indicators (cost per hour and cost per passenger) are presented in both constant and current dollars to illustrate the impact of inflation in the Bay

Area. The inflation adjustment relies on the All Urban Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) for the San Francisco Metropolitan Area. The average CPI-W percent change for each fiscal year has been calculated based on the bi-monthly results reported on the U.S. Department of Labor – Bureau of Labor Statistics website. The CPI-W is used since labor is the largest component of operating cost in transit. Since labor costs are typically controlled through labor contracts, changes in normalized costs largely reflect those factors that are within the day-to-day control of the transit system.

The following discussion is organized to present an overview of SFMTA's performance trends in each of the five TDA performance indicators. The discussion is organized by service mode. The motor coach service is discussed first, followed by trolley coach, light rail/historic trolley, cable car, and then paratransit. For all service modes, the analysis is expanded to include a breakdown of the various component costs that contributed to the total and hourly operating costs during the last six years.

It should be noted that for the rail modes, the operating statistics utilized are car service hours and miles, not train service hours and miles.

Motor Coach Performance Trends

This section provides an overview of the performance of SFMTA's motor coach service over the past six years. The trends in the TDA indicators and input statistics are presented in Exhibit 4. The six-year trends are illustrated in Exhibits 4.1 through 4.4.

- Operating Cost per Vehicle Service Hour (Exhibit 4.1)

  - A key indicator of cost efficiency, the cost per hour of motor coach service increased an average of 2.9 percent annually, as service hours increased slightly while operating costs increased at a higher rate.

- The cost per hour ranged from a low of $169.53 in FY2010 to a high of $195.98 in FY2015. There were increases in every year except FY2012; the largest (nearly 10 percent) occurring in FY2014.

- In constant FY2010 dollars, there was an average annual increase in this indicator of just 0.3 percent.

- Passengers per Vehicle Service Hour (Exhibit 4.2)

  - A key indicator of passenger productivity, the lowest level of passengers per hour was in FY2011 (63.4), and the highest in FY2014 (67.2).

  - In the first and last years of the review period, results were almost identical at just below 64 passengers per hour.

- Passengers per Vehicle Service Mile (Exhibit 4.2)

  - The six-year trend in this indicator showed an annual average increase of 1.6 percent. Service miles decreased slightly overall, while passengers carried went up slightly.

  - There were 7.4 passengers per mile in FY2010, compared with more than eight passengers in all three of the most recent years.

- Operating Cost per Passenger (Exhibit 4.3)

  - A key measure of cost effectiveness, motor coach cost per passenger was $2.65 in the first year of the review period, followed by a general increase to $3.08 per passenger in FY2015.

  - The overall increase averaged three percent annually, as total operating costs increased at a higher rate than passengers.

  - With the impact of inflation removed from the cost side (normalization), the result was an average annual increase of just 0.4 percent in the cost per passenger.

- Vehicle Service Hours per Employee (FTE) (Exhibit 4.4)

  - A measure of employee productivity, this indicator decreased an average 2.2 percent per year over the six years.

  - Hours per FTE decreased overall from 992 in FY2010 to 886 in FY2015, despite higher levels reached in most of the interim years.

  - Vehicle service hours and FTEs both increased overall during the period, but the increase in hours was less pronounced.

* * * * *

The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2010 through FY2015:

- There was an average annual increase in the operating cost per hour of 2.9 percent, or just 0.3 percent in inflation adjusted dollars. The largest annual increase (nearly 10 percent) occurred in FY2014.

- The cost per passenger increased on average by three percent per year, which amounted to an average annual increase of just 0.4 percent in constant FY2010 dollars.

- Passenger productivity showed small positive trends, with passengers per vehicle service hour overall about constant, and passengers per vehicle service mile increasing by 1.6 percent per year.

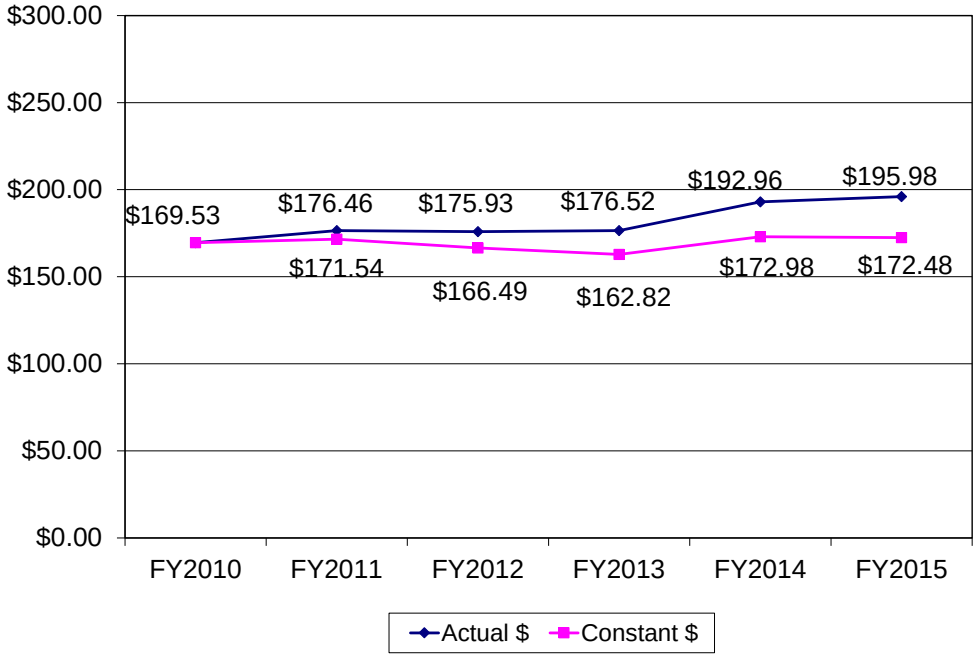
- Employee productivity decreased an average 2.2 percent per year.

Exhibit 4: TDA Indicator Performance – Motor Coach

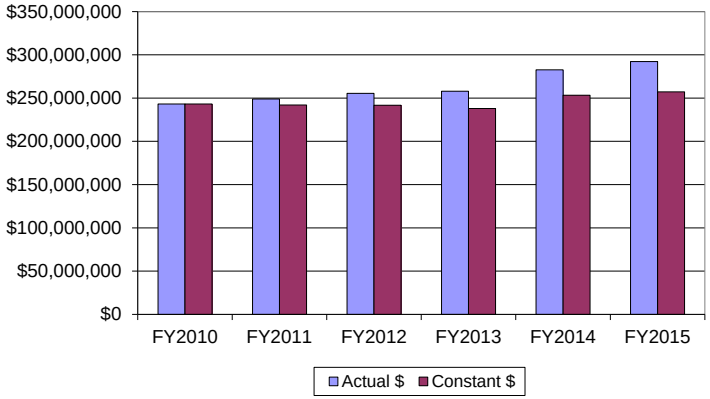
	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	*Av. Ann. Chg.*
Performance Indicators							
Op. Cost per Vehicle Svc. Hour (Actual $)	$169.53	$176.46	$175.93	$176.52	$192.96	$195.98	- -
Annual Change	- -	*4.1%*	*-0.3%*	*0.3%*	*9.3%*	*1.6%*	*2.9%*
Op. Cost per Vehicle Svc. Hour (Constant $)	$169.53	$171.54	$166.49	$162.82	$172.98	$172.48	- -
Annual Change	- -	*1.2%*	*-2.9%*	*-2.2%*	*6.2%*	*-0.3%*	*0.3%*
Passengers per Vehicle Service Hour	63.9	63.4	65.8	66.5	67.2	63.7	- -
Annual Change	- -	*-0.7%*	*3.8%*	*1.0%*	*1.0%*	*-5.1%*	*0.0%*
Passengers per Vehicle Service Mile	7.4	7.6	7.9	8.1	8.3	8.0	- -
Annual Change	- -	*2.6%*	*4.2%*	*1.8%*	*2.7%*	*-2.9%*	*1.6%*
Op. Cost per Passenger (Actual $)	$2.65	$2.78	$2.67	$2.65	$2.87	$3.08	- -
Annual Change	- -	*4.8%*	*-4.0%*	*-0.6%*	*8.2%*	*7.0%*	*3.0%*
Op. Cost per Passenger (Constant $)	$2.65	$2.71	$2.53	$2.45	$2.58	$2.71	- -
Annual Change	- -	*1.9%*	*-6.5%*	*-3.2%*	*5.2%*	*5.1%*	*0.4%*
Vehicle Service Hours per FTE	992.3	1,008.8	1,044.6	1,045.8	972.6	886.3	- -
Annual Change	- -	*1.7%*	*3.5%*	*0.1%*	*-7.0%*	*-8.9%*	*-2.2%*
Input Data							
Operating Cost (Actual $)	$243,149,950	$248,914,924	$255,492,351	$257,977,594	$282,652,719	$292,229,715	- -
Annual Change	- -	*2.4%*	*2.6%*	*1.0%*	*9.6%*	*3.4%*	*3.7%*
Operating Cost (Constant $)	$243,149,950	$241,985,179	$241,789,661	$237,951,989	$253,379,850	$257,182,018	- -
Annual Change	- -	*-0.5%*	*-0.1%*	*-1.6%*	*6.5%*	*1.5%*	*1.1%*
Vehicle Service Hours	1,434,253	1,410,633	1,452,262	1,461,447	1,464,828	1,491,118	- -
Annual Change	- -	*-1.6%*	*3.0%*	*0.6%*	*0.2%*	*1.8%*	*0.8%*
Vehicle Service Miles	12,350,886	11,759,059	12,066,127	12,043,494	11,870,110	11,806,194	- -
Annual Change	- -	*-4.8%*	*2.6%*	*-0.2%*	*-1.4%*	*-0.5%*	*-0.9%*
Unlinked Passengers	91,609,190	89,450,656	95,625,357	97,180,861	98,365,557	95,005,347	- -
Annual Change	- -	*-2.4%*	*6.9%*	*1.6%*	*1.2%*	*-3.4%*	*0.7%*
Employee Full-Time Equivalents	1,445.3	1,398.3	1,390.2	1,397.5	1,506.2	1,682.5	- -
Annual Change	- -	*-3.3%*	*-0.6%*	*0.5%*	*7.8%*	*11.7%*	*3.1%*
Bay Area CPI - Annual Change	- -	2.9%	2.7%	2.6%	2.9%	1.9%	- -
- Cumulative Change	- -	2.9%	5.7%	8.4%	11.6%	13.6%	*2.6%*

Sources: *FY2010 through FY2012 - Prior Performance Audit Report*
FY2013 through FY2015 - NTD Reports
CPI Data - U.S. Department of Labor, Bureau of Labor Statistics

Exhibit 4.1: Operating Cost per Vehicle Service Hour – Motor Coach



Operating Cost



Vehicle Service Hours

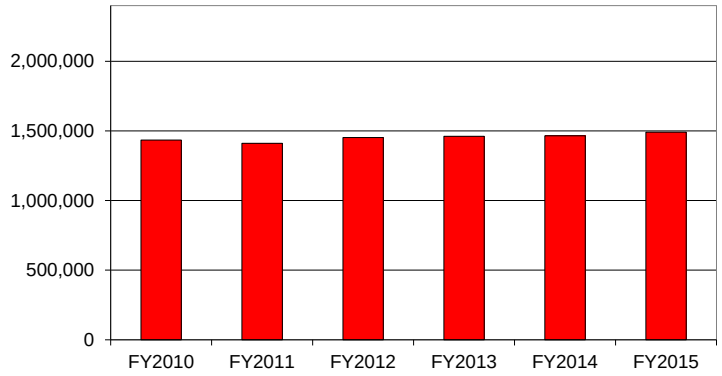
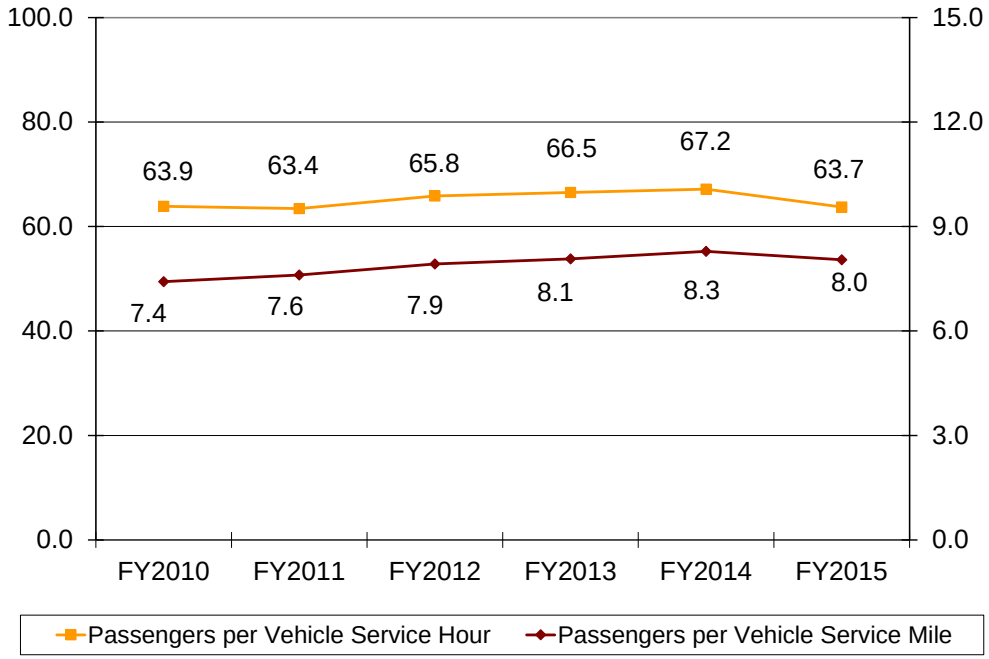
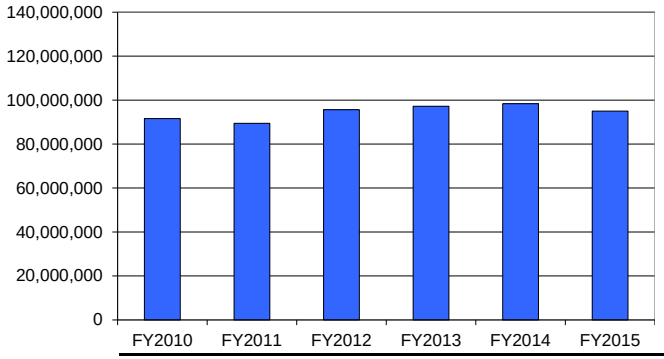


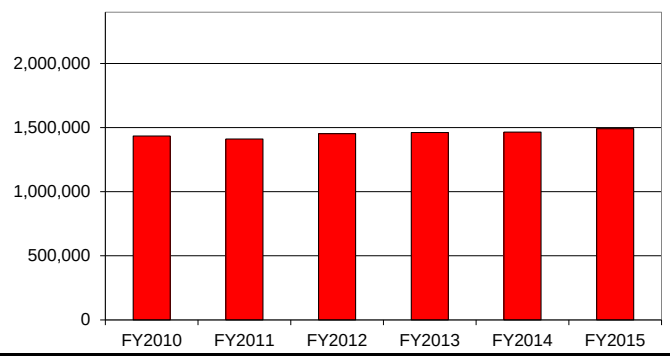
Exhibit 4.2: Passengers per Hour and per Mile – Motor Coach



Unlinked Passengers



Vehicle Service Hours



Vehicle Service Miles

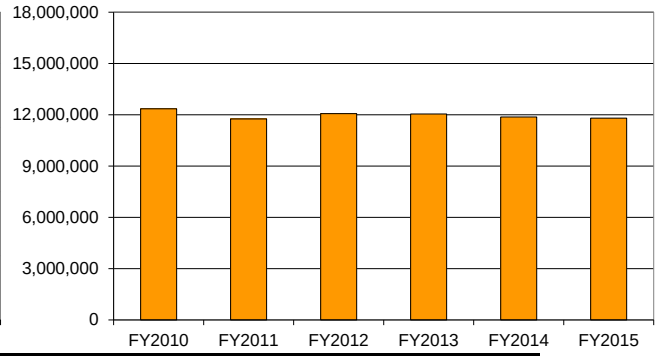
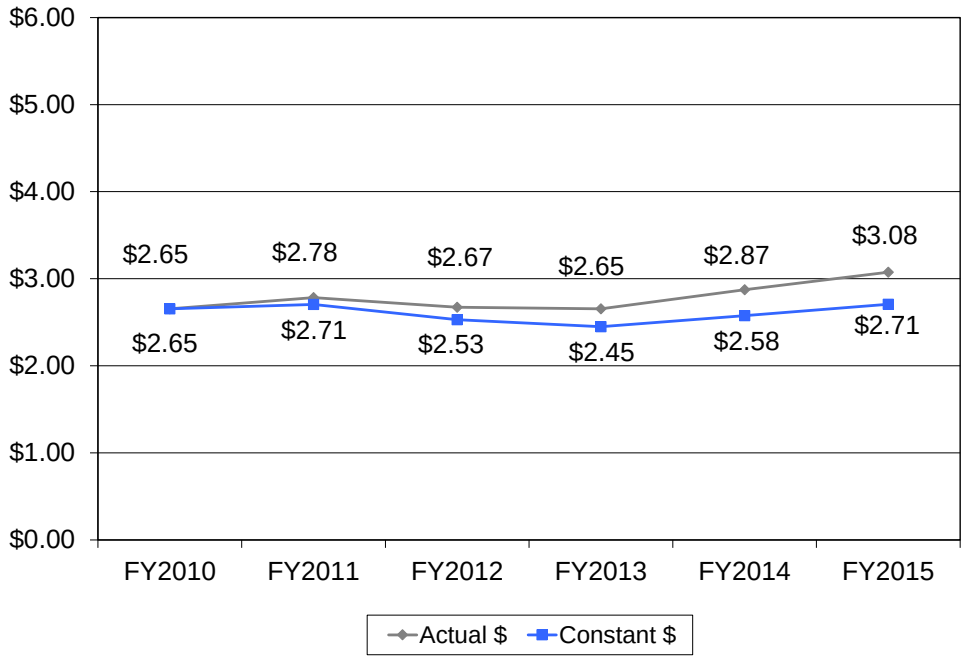
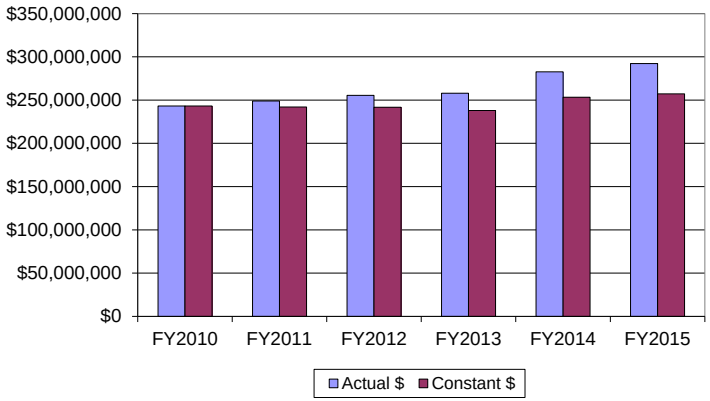


Exhibit 4.3: Operating Cost per Passenger – Motor Coach



Operating Cost



Unlinked Passengers

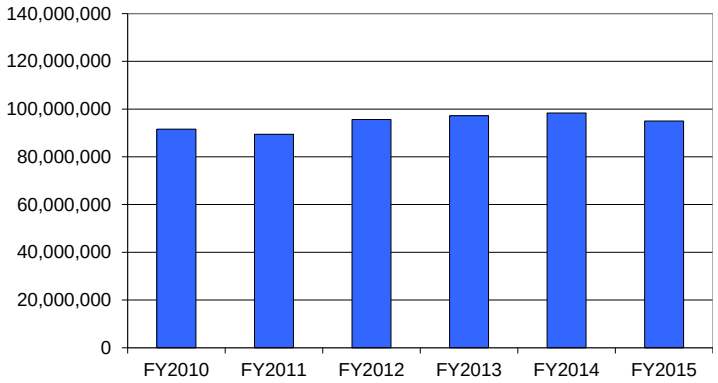
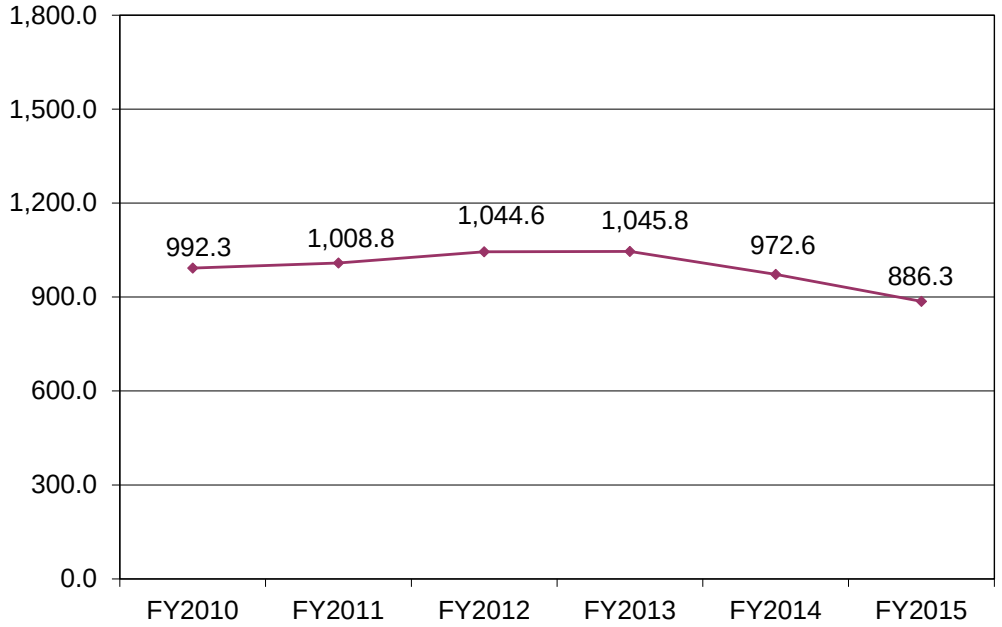
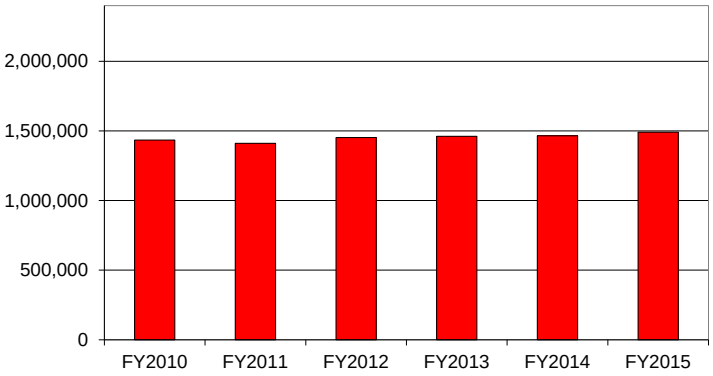


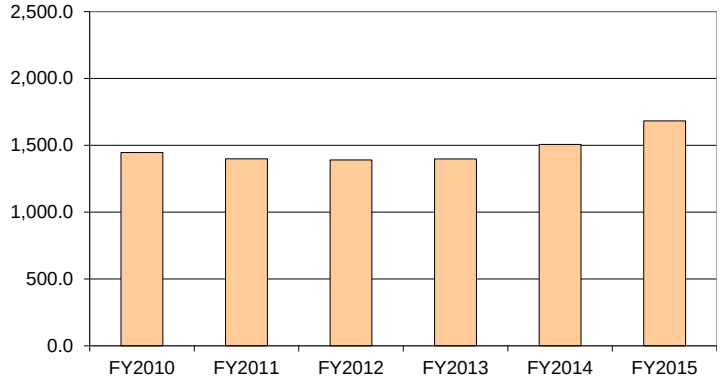
Exhibit 4.4: Vehicle Service Hours per FTE – Motor Coach



Vehicle Service Hours



Full-time Equivalents



Motor Coach Component Costs

Year-to-year changes in selected operating cost categories over the past six years are presented in Exhibit 4.5. Examining components of operating costs (e.g., labor, fringes, fuel, and casualty/liability) may determine what particular components had the most significant impacts on the operating costs. Exhibit 4.5 also shows the concurrent changes in vehicle service hours and Exhibit 4.6 illustrates the portion of the cost per motor coach service hour that can be attributed to each included cost component.

- Between FY2010 and FY2015, total operating costs increased by 3.7 percent annually. There were only modest changes in most component cost categories.

- The most significant change was an average annual increase of 7.5 percent in the materials/supplies area. (This excludes the other costs category, which reflected certain expense transfers as well in the first three years.)

- Labor costs represented the largest portion of the total costs, with a share that decreased overall from 41 percent in FY2010 to 37 percent in FY2015.

- Fringe benefits comprised the second largest portion, beginning and ending the review period at 33.1 percent, with some fluctuation between 31 and 38 percent in the intervening years.

- Services costs contributed between 10 and 12 percent, and other cost categories generally contributed less than 10 percent each.

- Negative costs showing in the "other costs" category for the prior audit years resulted from inclusion of an expense transfers object class in NTD reporting for those years. Following NTD guidelines, SFMTA had reclassified some of its operating costs to other functions or as capital costs. This practice was eliminated from NTD reporting in 2013.

* * * * *

The following is a brief summary of the component operating costs trend highlights between FY2010 and FY2015:

- The most significant change was an average annual increase of about 7.5 percent in the materials/supplies area. Overall, operating costs increased by 3.7 percent annually.

- Labor costs represented the largest portion of the total costs, with a share that generally decreased from 41 percent to 37 percent over the six years.

- Fringe benefits comprised the second largest portion, beginning and ending the review period at 33.1 percent.

- Services costs contributed between 10 and 12 percent, and other cost categories generally contributed less than 10 percent each.

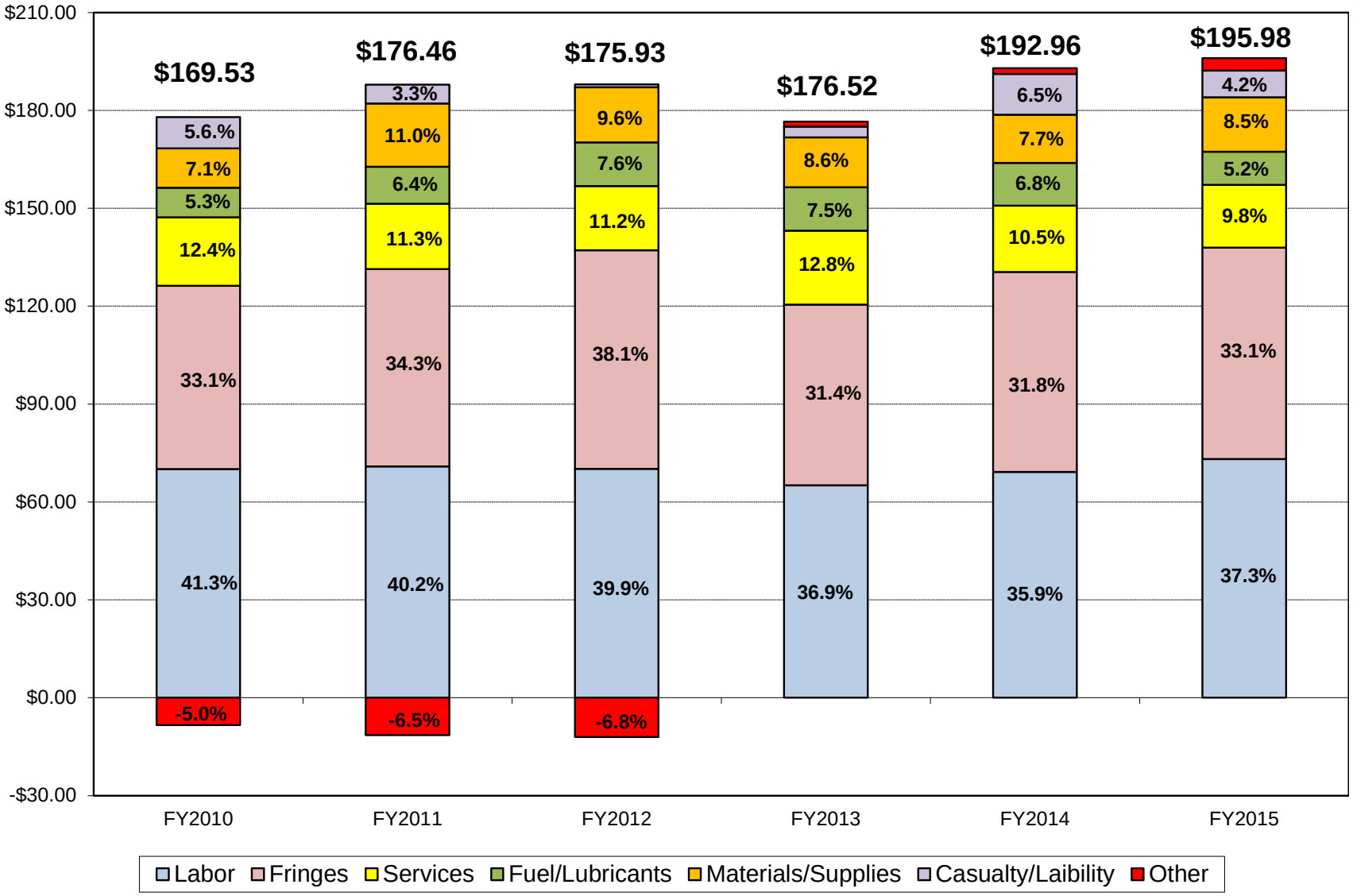
Exhibit 4.5: Component Cost Trends – Motor Coach

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	*Av. Ann. Chg.*
COST CATEGORIES							
Labor - (Salaries, Wages)	$100,535,301	$99,995,237	$101,832,415	$95,097,302	$101,335,101	$109,092,611	- -
Annual Change	- -	*-0.5%*	*1.8%*	*-6.6%*	*6.6%*	*7.7%*	*1.6%*
Fringe Benefits	$80,488,511	$85,338,132	$97,295,033	$80,992,710	$89,752,641	$96,614,378	- -
Annual Change	- -	*6.0%*	*14.0%*	*-16.8%*	*10.8%*	*7.6%*	*3.7%*
Services	$30,183,679	$28,234,146	$28,589,026	$33,094,179	$29,801,119	$28,657,367	- -
Annual Change	- -	*-6.5%*	*1.3%*	*15.8%*	*-10.0%*	*-3.8%*	*-1.0%*
Fuel/Lubricants	$12,952,064	$16,020,416	$19,484,014	$19,473,875	$19,217,259	$15,169,177	- -
Annual Change	- -	*23.7%*	*21.6%*	*-0.1%*	*-1.3%*	*-21.1%*	*3.2%*
Materials & Supplies	$17,317,105	$27,303,484	$24,482,444	$22,282,381	$21,649,286	$24,827,347	- -
Annual Change	- -	*57.7%*	*-10.3%*	*-9.0%*	*-2.8%*	*14.7%*	*7.5%*
Casualty/Liability	$13,720,494	$8,159,795	$1,269,154	$4,847,050	$18,285,570	$12,194,227	- -
Annual Change	- -	*-40.5%*	*-84.4%*	*281.9%*	*277.3%*	*-33.3%*	*-2.3%*
Other Costs *(incl. expense transfers)*	-$12,047,204	-$16,136,286	-$17,459,735	$2,190,097	$2,611,743	$5,674,608	- -
Annual Change	- -	*33.9%*	*8.2%*	*-112.5%*	*19.3%*	*117.3%*	*-186.0%*
Total	$243,149,950	$248,914,924	$255,492,351	$257,977,594	$282,652,719	$292,229,715	- -
Annual Change	- -	*2.4%*	*2.6%*	*1.0%*	*9.6%*	*3.4%*	*3.7%*
OPERATING STATISTICS							
Vehicle Service Hours	1,434,253	1,410,633	1,452,262	1,461,447	1,464,828	1,491,118	- -
Annual Change	- -	*-1.6%*	*3.0%*	*0.6%*	*0.2%*	*1.8%*	*0.8%*

Sources: FY2010 through FY2012 – Prior Performance Audit Report; FY2013 through FY2015 - NTD Reports

Exhibit 4.6: Distribution of Component Costs – Motor Coach

Operating Cost per Vehicle Service Hour



Trolley Coach Performance Trends

This section provides an overview of the performance of SFMTA's trolley coach service over the past six years. The trends in the TDA indicators and input statistics are presented in Exhibit 5. The six-year trends are illustrated in Exhibits 5.1 through 5.4.

- Operating Cost per Vehicle Service Hour (Exhibit 5.1)
  - SFMTA's trolley coach cost per hour increased an average of 2.7 percent per year from FY2010 ($154.71 per hour) to FY2015 ($176.63 per hour).
  - The cost per hour stayed relatively stable through FY2013, and then increased in the last two years, by 7.5 percent and 10 percent, respectively.
  - Inflation-adjusted results exhibit an average annual increase of only 0.1 percent per year in constant FY2010 dollars.
- Passengers per Vehicle Service Hour (Exhibit 5.2)
  - Passengers per vehicle service hour decreased an average of 1.6 percent annually, reflecting an overall decrease in passengers combined with a smaller decrease in service hours.
  - Passengers per hour decreased overall from 70.0 in FY2010 to 64.5 in FY2015, with decreases occurring in almost every year.
- Passengers per Vehicle Service Mile (Exhibit 5.2)
  - The six-year trend in this indicator showed minor fluctuation from year to year, and an overall increase of 0.2 percent annually on average.
  - There were about 10.6 passengers per mile in both FY2010 and FY2015.

- Operating Cost per Passenger (Exhibit 5.3)

  - The trolley coach cost per passenger was $2.21 in the first year of the review period. This was followed by increases in each year except FY2011, to $2.74 per passenger in FY2015, or 4.4 percent annually.

  - The largest annual increase was 17.3 percent in the last year, as total operating costs increased by 8.8 percent but passengers fell by 7.3 percent.

  - With the impact of inflation removed, the result was an average annual increase of 1.8 percent in the cost per passenger.

- Vehicle Service Hours per FTE (Exhibit 5.4)

  - Employee productivity decreased an average 1.3 percent per year over the six years.

  - Hours per FTE decreased overall from 1,104 in FY2010 to 952 in FY2015, despite higher levels reached in most of the interim years.

  - Vehicle service hours decreased slightly overall during the period, but FTEs increased.

* * * * *

The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2010 through FY2015:

- There was an average annual increase in the operating cost per hour of 2.7 percent, or 0.1 percent in inflation adjusted dollars. There were annual increases of 7.5 and 10 percent in the last two years.

- The cost per passenger increased on average by 4.4 percent per year, which amounted to an average annual increase of 1.8 percent in constant FY2010 dollars.

- Passenger productivity showed relatively steady trends, with passengers per vehicle service hour decreasing by 1.6 percent per year overall, and passengers per vehicle service mile increasing by less than one percent.

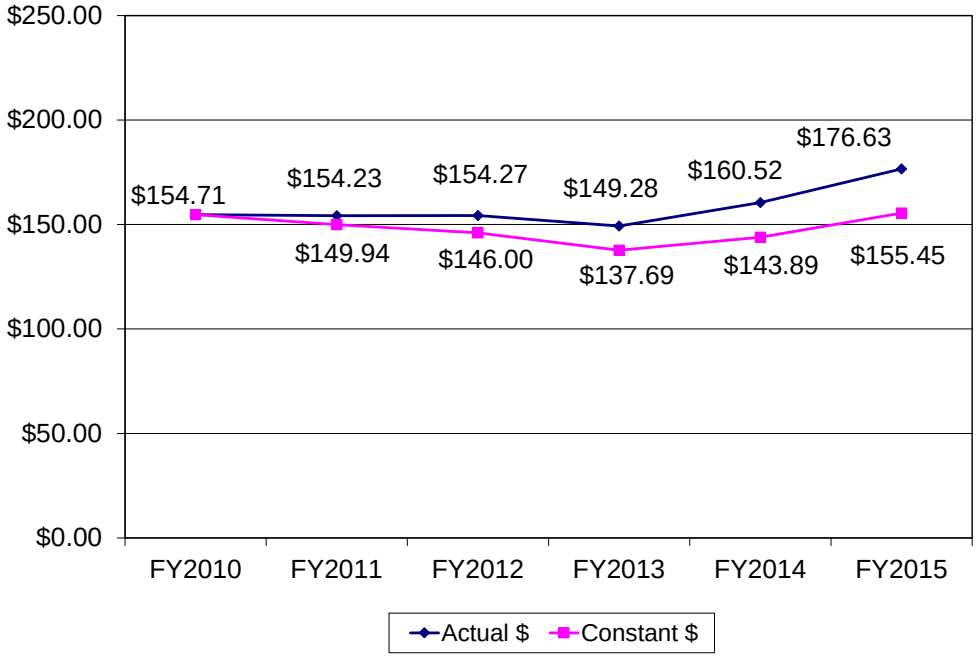
- Employee productivity decreased an average 1.3 percent per year.

Exhibit 5: TDA Indicator Performance – Trolley Coach

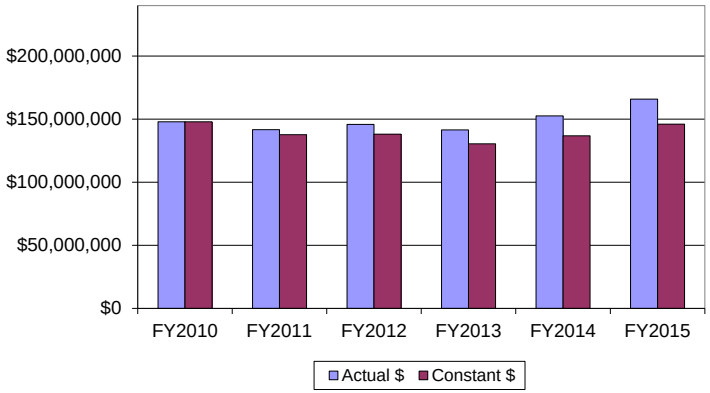
	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	*Av. Ann. Chg.*
Performance Indicators							
Op. Cost per Vehicle Svc. Hour (Actual $)	$154.71	$154.23	$154.27	$149.28	$160.52	$176.63	- -
Annual Change	- -	*-0.3%*	*0.0%*	*-3.2%*	*7.5%*	*10.0%*	*2.7%*
Op. Cost per Vehicle Svc. Hour (Constant $)	$154.71	$149.94	$146.00	$137.69	$143.89	$155.45	- -
Annual Change	- -	*-3.1%*	*-2.6%*	*-5.7%*	*4.5%*	*8.0%*	*0.1%*
Passengers per Vehicle Service Hour	70.0	72.1	71.4	68.9	68.7	64.5	- -
Annual Change	- -	*3.0%*	*-1.0%*	*-3.6%*	*-0.2%*	*-6.2%*	*-1.6%*
Passengers per Vehicle Service Mile	10.6	11.1	11.0	10.8	10.9	10.6	- -
Annual Change	- -	*5.1%*	*-0.5%*	*-2.2%*	*0.6%*	*-2.0%*	*0.2%*
Op. Cost per Passenger (Actual $)	$2.21	$2.14	$2.16	$2.17	$2.34	$2.74	- -
Annual Change	- -	*-3.2%*	*1.0%*	*0.4%*	*7.8%*	*17.3%*	*4.4%*
Op. Cost per Passenger (Constant $)	$2.21	$2.08	$2.04	$2.00	$2.09	$2.41	- -
Annual Change	- -	*-5.9%*	*-1.7%*	*-2.2%*	*4.7%*	*15.2%*	*1.8%*
Vehicle Service Hours per FTE	1,014.1	1,010.9	1,059.1	1,078.6	1,079.6	951.8	- -
Annual Change	- -	*-0.3%*	*4.8%*	*1.8%*	*0.1%*	*-11.8%*	*-1.3%*
Input Data							
Operating Cost (Actual $)	$147,949,471	$141,617,107	$145,871,376	$141,409,025	$152,561,728	$165,914,706	- -
Annual Change	- -	*-4.3%*	*3.0%*	*-3.1%*	*7.9%*	*8.8%*	*2.3%*
Operating Cost (Constant $)	$147,949,471	$137,674,513	$138,047,931	$130,432,098	$136,761,705	$146,016,222	- -
Annual Change	- -	*-6.9%*	*0.3%*	*-5.5%*	*4.9%*	*6.8%*	*-0.3%*
Vehicle Service Hours	956,286	918,195	945,565	947,295	950,442	939,313	- -
Annual Change	- -	*-4.0%*	*3.0%*	*0.2%*	*0.3%*	*-1.2%*	*-0.4%*
Vehicle Service Miles	6,343,847	5,969,703	6,116,230	6,044,020	6,014,207	5,690,212	- -
Annual Change	- -	*-5.9%*	*2.5%*	*-1.2%*	*-0.5%*	*-5.4%*	*-2.2%*
Unlinked Passengers	66,967,743	66,233,613	67,544,432	65,247,637	65,328,431	60,553,936	- -
Annual Change	- -	*-1.1%*	*2.0%*	*-3.4%*	*0.1%*	*-7.3%*	*-2.0%*
Employee Full-Time Equivalents	943.0	908.3	892.8	878.3	880.3	986.9	- -
Annual Change	- -	*-3.7%*	*-1.7%*	*-1.6%*	*0.2%*	*12.1%*	*0.9%*
Bay Area CPI - Annual Change	- -	2.9%	2.7%	2.6%	2.9%	1.9%	- -
- Cumulative Change	- -	2.9%	5.7%	8.4%	11.6%	13.6%	*2.6%*

Sources: *FY2010 through FY2012 - Prior Performance Audit Report*
FY2013 through FY2015 - NTD Reports, except FY2014 FTEs - SFMTA Staff (corrected)
CPI Data - U.S. Department of Labor, Bureau of Labor Statistics

Exhibit 5.1: Operating Cost per Vehicle Service Hour – Trolley Coach



Operating Cost



Vehicle Service Hours

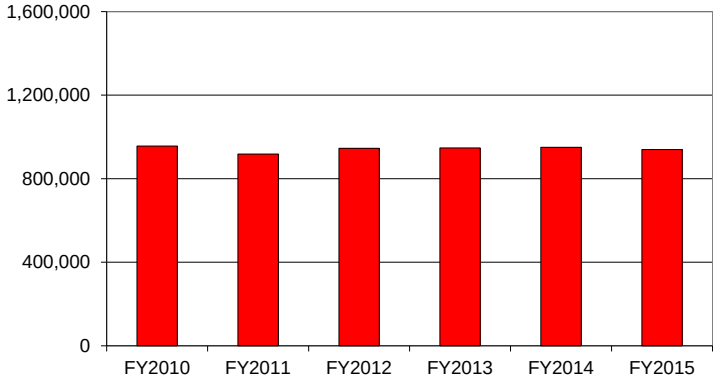
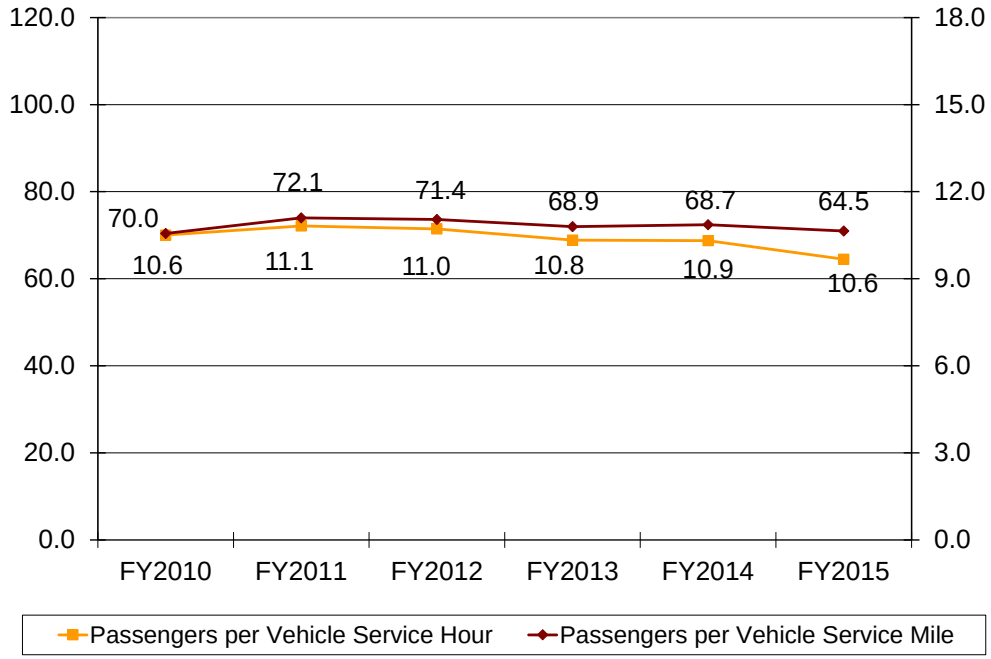
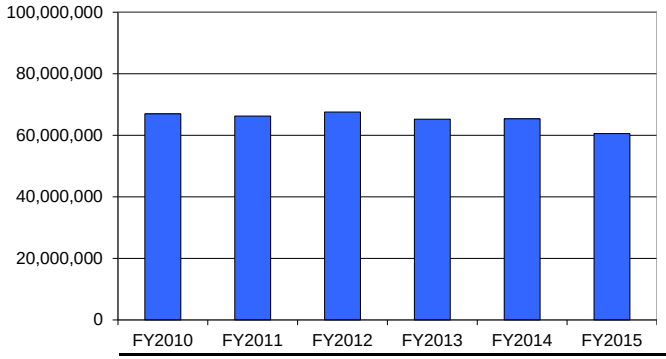


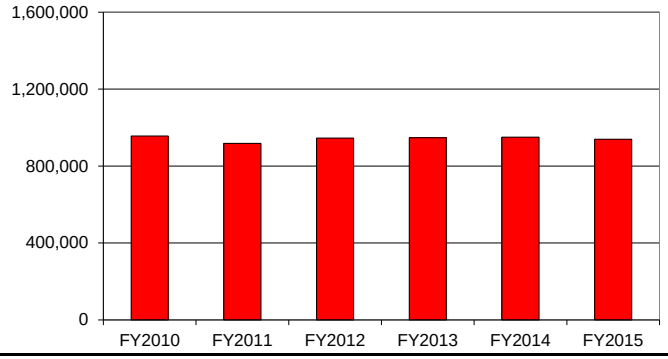
Exhibit 5.2: Passengers per Hour and per Mile – Trolley Coach



Unlinked Passengers



Vehicle Service Hours



Vehicle Service Miles

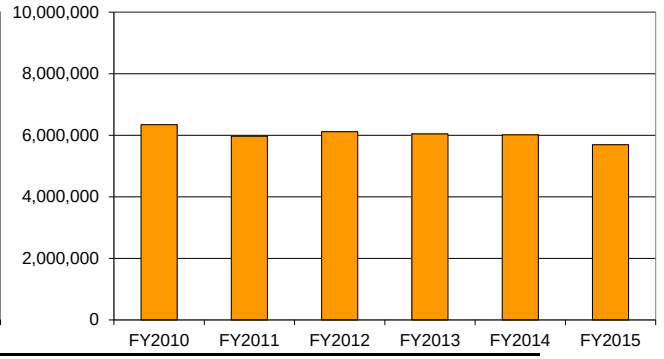
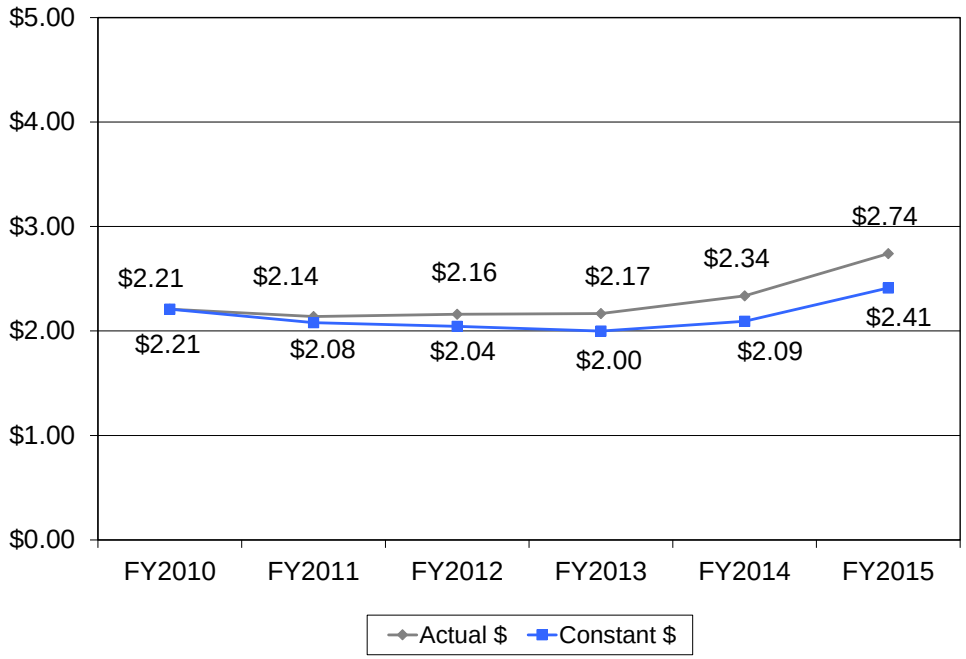
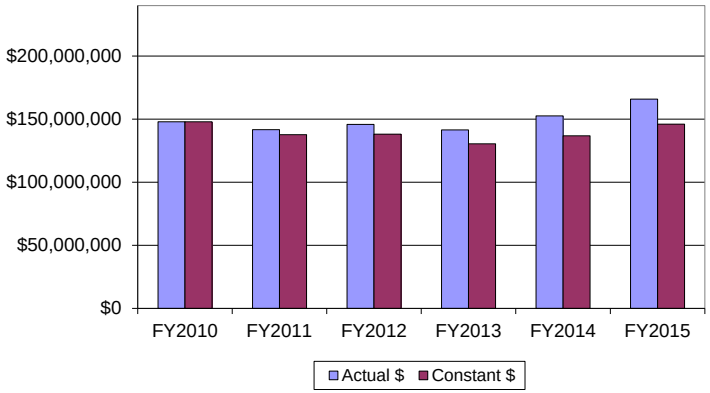


Exhibit 5.3: Operating Cost per Passenger – Trolley Coach



Operating Cost



Unlinked Passengers

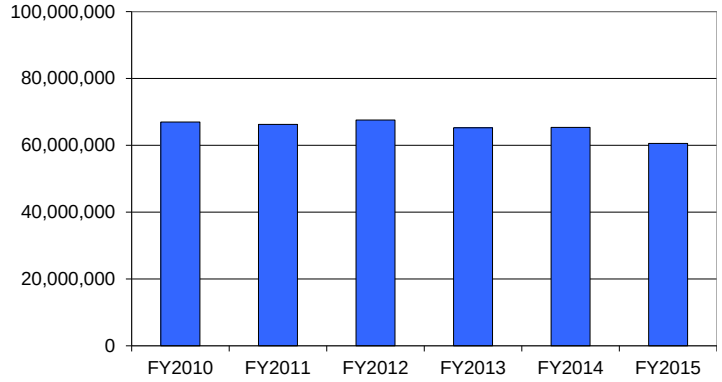
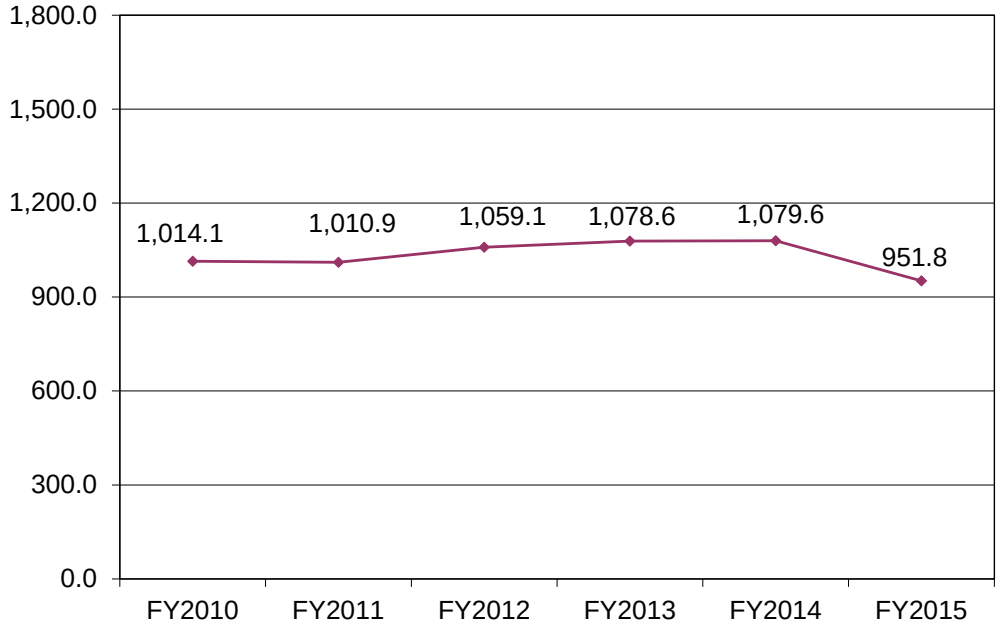
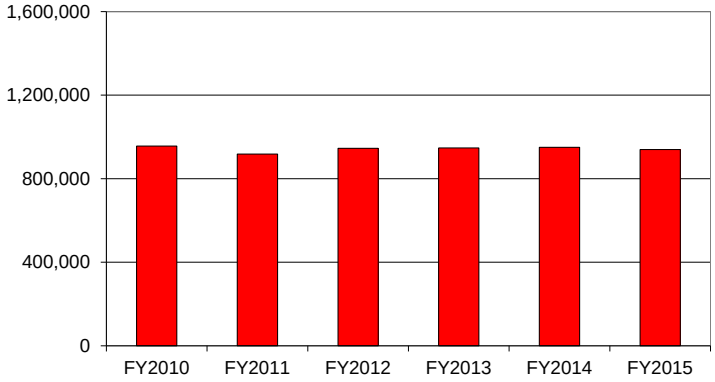


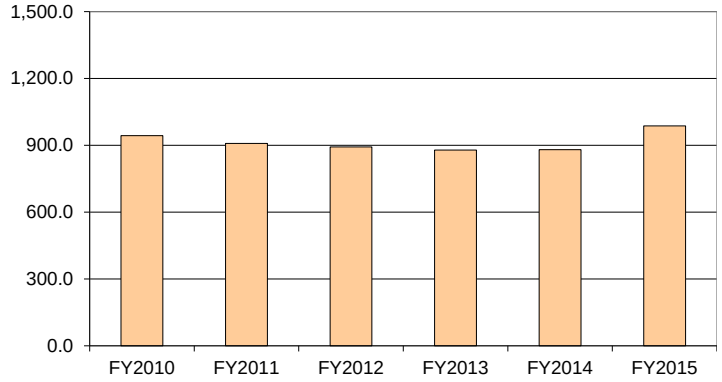
Exhibit 5.4: Vehicle Service Hours per FTE – Trolley Coach



Vehicle Service Hours



Full-time Equivalents



Trolley Coach Component Costs

The year-to-year changes in selected operating cost categories are presented in Exhibit 5.5, along with the concurrent changes in vehicle service hours. The portions of the cost per vehicle service hour that can be attributed to each included cost component are shown in Exhibit 5.6.

- Between FY2010 and FY2015, there were only modest changes in most component cost categories. The most significant changes were average annual increases of about 12 percent in the materials/supplies area, and six percent for utilities.

- Overall, operating costs increased by 2.3 percent annually.

- Labor costs represented the largest portion of the total costs, with a share that decreased from about 46 percent in the first three years to 41 percent by the last two years.

- Fringe benefits comprised the second largest portion, beginning and ending the review period at about 35 percent, though reaching as high as 41.5 percent in the intervening years.

- Services costs contributed about 10 percent (reduced to 8.5 percent in FY2015), and other cost categories each generally contributed seven percent or less, though materials/supplies increased to 9.8 percent in FY2015.

- Negative costs showing in the "other costs" category for the prior audit years resulted from inclusion of an expense transfers object class in NTD reporting for those years. Following NTD guidelines, SFMTA had reclassified some of its operating costs to other functions or as capital costs. This practice was eliminated from NTD reporting in 2013.

* * * * *

The following is a brief summary of the component operating costs trend highlights between FY2010 and FY2015:

- The most significant changes were average annual increases of about 12 percent in the materials/supplies area, and six percent for utilities. Overall, operating costs increased by 2.3 percent annually.

- Labor costs represented the largest portion of the total costs, with a share that decreased from about 46 percent in the first three years to 41 percent by the last two years.

- Fringe benefits comprised the second largest portion, beginning and ending the review period at about 35 percent.

- Services costs generally contributed about 10 percent, and other cost categories each generally contributed seven percent or less.

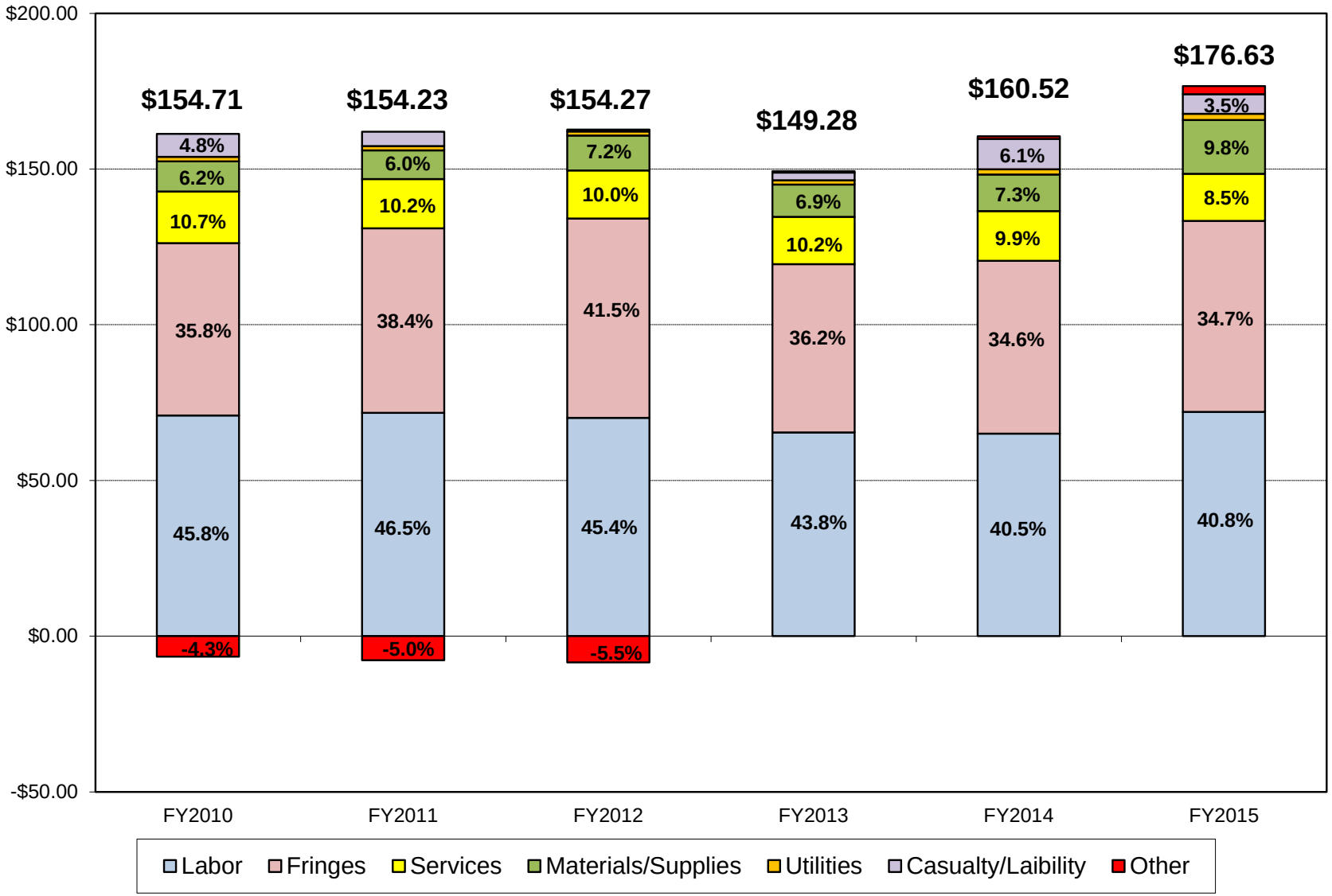
Exhibit 5.5: Component Cost Trends – Trolley Coach

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	*Av. Ann. Chg.*
COST CATEGORIES							
Labor - (Salaries, Wages)	$67,759,523	$65,832,619	$66,291,159	$61,985,861	$61,814,916	$67,627,166	- -
Annual Change	- -	*-2.8%*	*0.7%*	*-6.5%*	*-0.3%*	*9.4%*	*0.0%*
Fringe Benefits	$52,953,683	$54,437,990	$60,482,534	$51,196,925	$52,735,126	$57,639,122	- -
Annual Change	- -	*2.8%*	*11.1%*	*-15.4%*	*3.0%*	*9.3%*	*1.7%*
Services	$15,844,886	$14,476,904	$14,646,108	$14,355,502	$15,145,857	$14,148,142	- -
Annual Change	- -	*-8.6%*	*1.2%*	*-2.0%*	*5.5%*	*-6.6%*	*-2.2%*
Materials & Supplies	$9,211,486	$8,471,206	$10,568,702	$9,799,732	$11,181,039	$16,282,552	- -
Annual Change	- -	*-8.0%*	*24.8%*	*-7.3%*	*14.1%*	*45.6%*	*12.1%*
Utilities	$1,387,501	$1,279,657	$1,202,434	$1,319,169	$1,576,377	$1,881,282	- -
Annual Change	- -	*-7.8%*	*-6.0%*	*9.7%*	*19.5%*	*19.3%*	*6.3%*
Casualty/Liability	$7,091,830	$4,217,624	$643,325	$2,372,847	$9,264,717	$5,877,231	- -
Annual Change	- -	*-40.5%*	*-84.7%*	*268.8%*	*290.4%*	*-36.6%*	*-3.7%*
Other Costs *(incl. expense transfers)*	-$6,299,438	-$7,098,893	-$7,962,886	$378,989	$843,696	$2,459,211	- -
Annual Change	- -	*12.7%*	*12.2%*	*-104.8%*	*122.6%*	*191.5%*	*-182.9%*
Total	$147,949,471	$141,617,107	$145,871,376	$141,409,025	$152,561,728	$165,914,706	- -
Annual Change	- -	*-4.3%*	*3.0%*	*-3.1%*	*7.9%*	*8.8%*	*2.3%*
OPERATING STATISTICS							
Vehicle Service Hours	956,286	918,195	945,565	947,295	950,442	939,313	- -
Annual Change	- -	*-4.0%*	*3.0%*	*0.2%*	*0.3%*	*-1.2%*	*-0.4%*

Sources: FY2010 through FY2012 – Prior Performance Audit Report; FY2013 through FY2015 - NTD Reports

Exhibit 5.6: Distribution of Component Costs – Trolley Coach

Operating Cost per Vehicle Service Hour



Light Rail Performance Trends

This section provides an overview of the performance of SFMTA's light rail service over the past six years. Performance of the historic trolley service ("F" Line) is included as well as the Muni Metro light rail lines in operation during the audit period. The trends in the TDA indicators and input statistics are presented in Exhibit 6. The six-year trends are illustrated in Exhibits 6.1 through 6.4.

- Operating Cost per Car Service Hour (Exhibit 6.1)

  - Light rail cost efficiency declined an average of 4.7 percent per year from FY2010 ($269.62 per hour) to FY2015 ($339.91 per hour).

  - The cost per hour increased steadily in most years through FY2014. The steepest annual increase was nearly 30 percent, between FY2013 and FY2014. SFMTA attributes the latter increase largely to a change in data methodology that attempts to more accurately capture missed service through enhanced use of the Central Control Logs and the Automatic Train Control System (ACTS). This resulted in a significant reduction in service hours being reported. The cost per hour trend showed a 13 percent decrease in the last year.

  - Inflation-adjusted results exhibit an average annual increase of 2.1 percent per year in constant FY2010 dollars.

- Passengers per Car Service Hour (Exhibit 6.2)

  - Passengers per car service hour decreased an average of 3.7 percent annually, reflecting an overall increase in passengers combined with a smaller decrease in service hours.

  - Passengers per hour increased overall from 78.7 in FY2010 to 94.6 in FY2015. A period high of 106.9 passengers was attained in FY2014.

- Passengers per Car Service Mile (Exhibit 6.2)

  - The six-year trend in this indicator was similar to passengers per hour, increasing by 4.6 percent annually on average.

  - There were 8.6 passengers per mile in FY2010, compared with 10.7 in FY2015, and a period high of 10.8 in FY2014.

- Operating Cost per Passenger (Exhibit 6.3)

  - The cost per passenger was $3.43 in the first year of the review period, followed by a decrease to $3.31 in FY2011 and then results above $3.60 per passenger through FY2014.

  - In FY2015, the cost per passenger went down again to $3.59, resulting in an average annual increase of 1.0 percent over the six years.

  - With the impact of inflation removed, the result was an average annual decrease of 1.6 percent in the cost per passenger

- Car Service Hours per FTE (Exhibit 6.4)

  - Employee productivity decreased by an average 2.8 percent per year over the six years.

  - Hours per FTE decreased overall from 640 in FY2010 to 557 in FY2015, with levels as high as 700 hours and as low as 519 hours reached in the interim years.

  - Vehicle service hours decreased slightly overall during the period, but FTEs increased.

* * * * *

The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2010 through FY2015:

- There was an average annual increase in the operating cost per hour of 4.7 percent, or 2.1 percent in inflation adjusted dollars. A nearly 30 percent annual increase in FY2014 has been attributed to an improved methodology for capturing missed service, rather than the significant decline in service hours reported. This was followed by a 13 percent decrease in the last year.

- The cost per passenger increased on average by 1.0 percent per year, which amounted to an average annual decrease of 1.6 percent in constant FY2010 dollars.

- Passengers per car service hour and car service mile both increased -- by 3.7 percent and 4.6 percent on average per year, respectively.

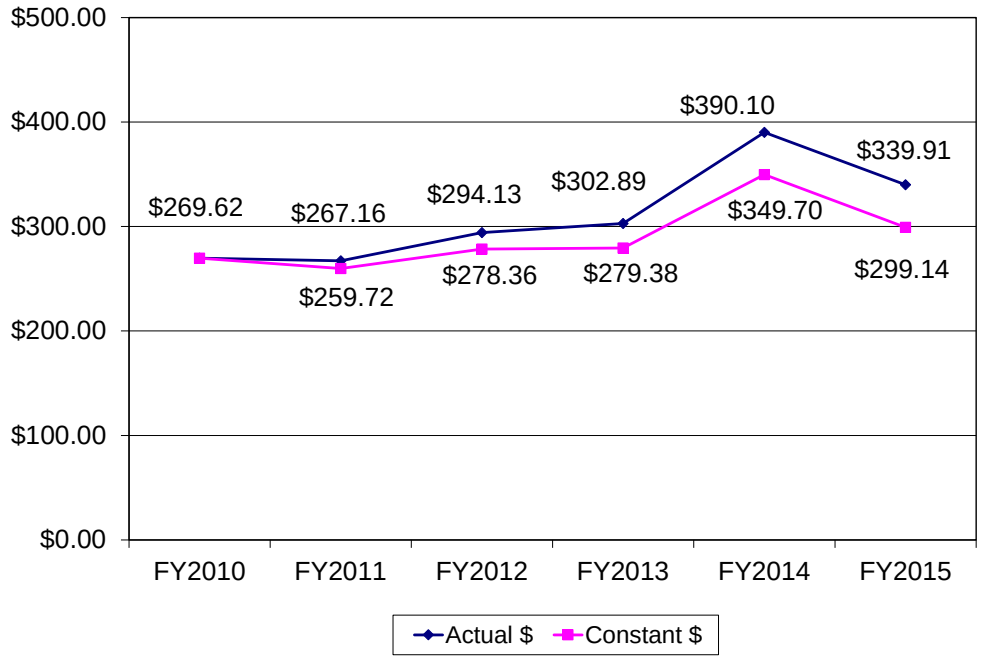
- Employee productivity decreased an average 2.8 percent per year.

Exhibit 6: TDA Indicator Performance – Light Rail

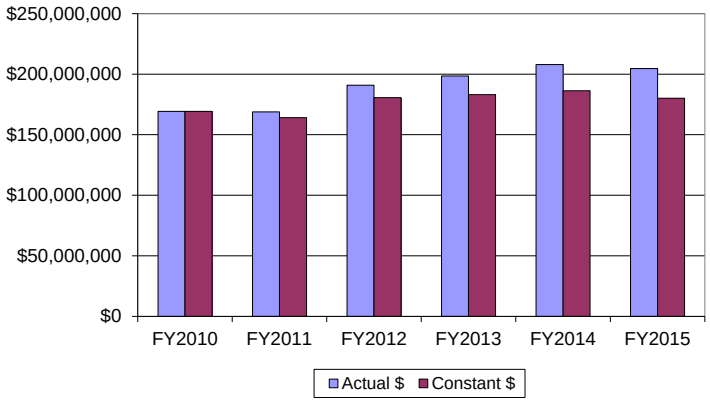
	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	*Av. Ann. Chg.*
Performance Indicators							
Op. Cost per Car Svc. Hour (Actual $)	$269.62	$267.16	$294.13	$302.89	$390.10	$339.91	- -
Annual Change	- -	*-0.9%*	*10.1%*	*3.0%*	*28.8%*	*-12.9%*	*4.7%*
Op. Cost per Car Svc. Hour (Constant $)	$269.62	$259.72	$278.36	$279.38	$349.70	$299.14	- -
Annual Change	- -	*-3.7%*	*7.2%*	*0.4%*	*25.2%*	*-14.5%*	*2.1%*
Passengers per Car Service Hour	78.7	80.7	79.6	82.0	106.9	94.6	- -
Annual Change	- -	*2.6%*	*-1.4%*	*3.0%*	*30.3%*	*-11.5%*	*3.7%*
Passengers per Car Service Mile	8.6	8.7	8.9	9.2	10.8	10.7	- -
Annual Change	- -	*2.0%*	*1.6%*	*3.3%*	*17.9%*	*-1.0%*	*4.6%*
Op. Cost per Passenger (Actual $)	$3.43	$3.31	$3.69	$3.69	$3.65	$3.59	- -
Annual Change	- -	*-3.4%*	*11.6%*	*0.0%*	*-1.2%*	*-1.5%*	*1.0%*
Op. Cost per Passenger (Constant $)	$3.43	$3.22	$3.50	$3.41	$3.27	$3.16	- -
Annual Change	- -	*-6.1%*	*8.7%*	*-2.6%*	*-3.9%*	*-3.3%*	*-1.6%*
Car Service Hours per FTE	640.7	677.7	697.5	700.0	519.3	557.2	- -
Annual Change	- -	*5.8%*	*2.9%*	*0.4%*	*-25.8%*	*7.3%*	*-2.8%*
Input Data							
Operating Cost (Actual $)	$169,225,292	$168,844,305	$190,913,158	$198,475,301	$207,882,197	$204,634,990	- -
Annual Change	- -	*-0.2%*	*13.1%*	*4.0%*	*4.7%*	*-1.6%*	*3.9%*
Operating Cost (Constant $)	$169,225,292	$164,143,711	$180,674,010	$183,068,583	$186,352,921	$180,092,705	- -
Annual Change	- -	*-3.0%*	*10.1%*	*1.3%*	*1.8%*	*-3.4%*	*1.3%*
Car Service Hours	627,638	632,003	649,073	655,262	532,901	602,031	- -
Annual Change	- -	*0.7%*	*2.7%*	*1.0%*	*-18.7%*	*13.0%*	*-0.8%*
Car Service Miles	5,766,581	5,838,027	5,819,856	5,859,656	5,264,532	5,317,677	- -
Annual Change	- -	*1.2%*	*-0.3%*	*0.7%*	*-10.2%*	*1.0%*	*-1.6%*
Unlinked Passengers	49,396,925	51,021,623	51,685,694	53,749,159	56,951,602	56,932,671	- -
Annual Change	- -	*3.3%*	*1.3%*	*4.0%*	*6.0%*	*0.0%*	*2.9%*
Employee Full-Time Equivalents	979.7	932.5	930.5	936.1	1,026.2	1,080.5	- -
Annual Change	- -	*-4.8%*	*-0.2%*	*0.6%*	*9.6%*	*5.3%*	*2.0%*
Bay Area CPI - Annual Change	- -	2.9%	2.7%	2.6%	2.9%	1.9%	- -
- Cumulative Change	- -	2.9%	5.7%	8.4%	11.6%	13.6%	*2.6%*

Sources: *FY2010 through FY2012 - Prior Performance Audit Report*
FY2013 through FY2015 - NTD Reports (LR and SR Modes)
CPI Data - U.S. Department of Labor, Bureau of Labor Statistics

Exhibit 6.1: Operating Cost per Car Service Hour – Light Rail



Operating Cost



Car Service Hours

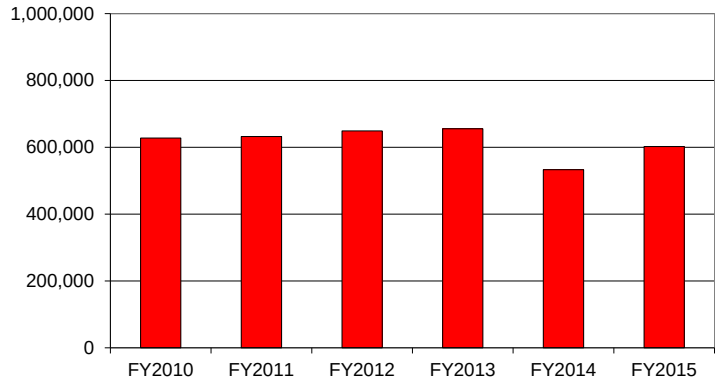
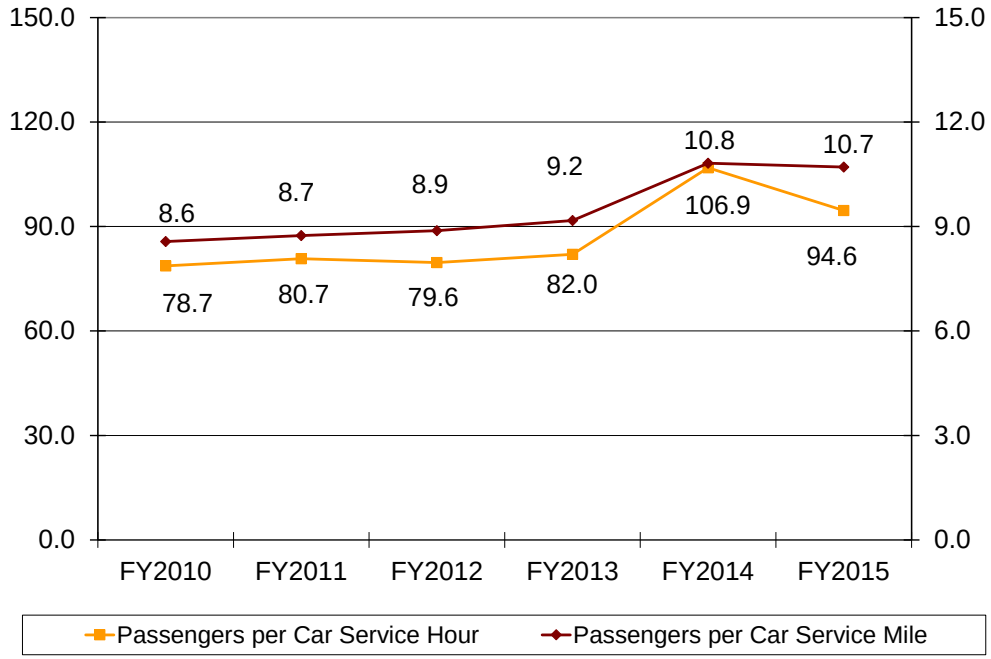
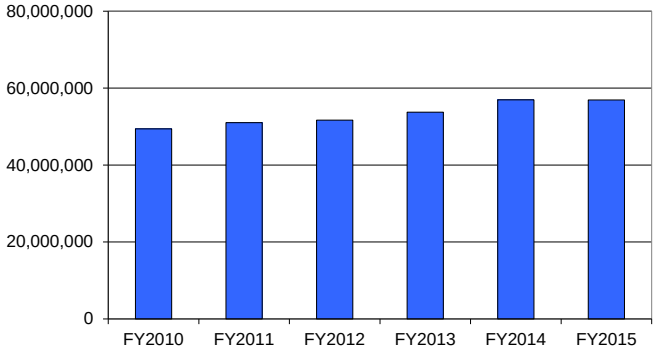


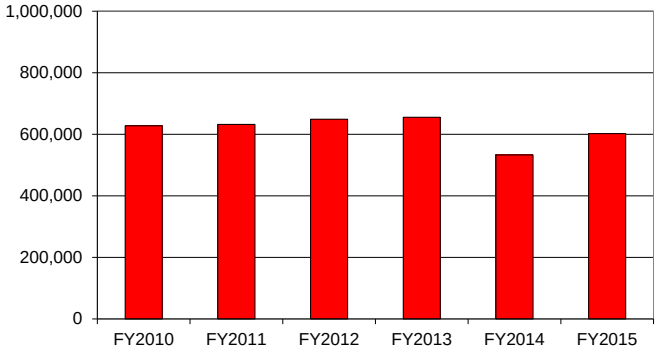
Exhibit 6.2: Passengers per Hour and per Mile – Light Rail



Unlinked Passengers



Car Service Hours



Car Service Miles

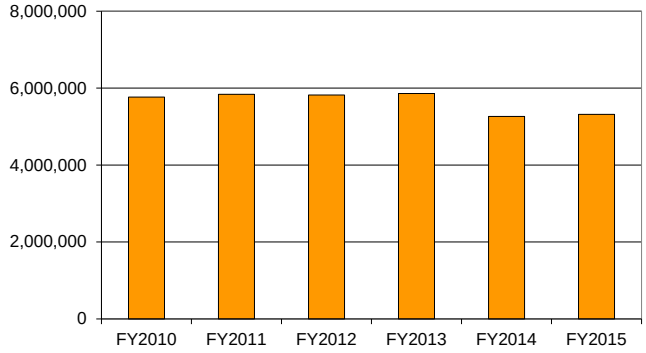
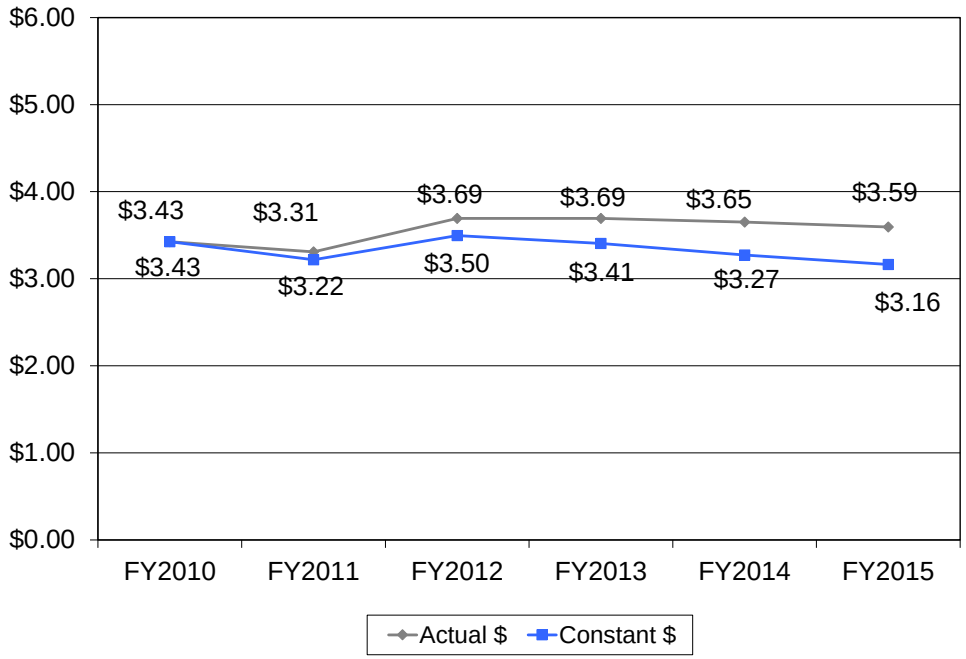
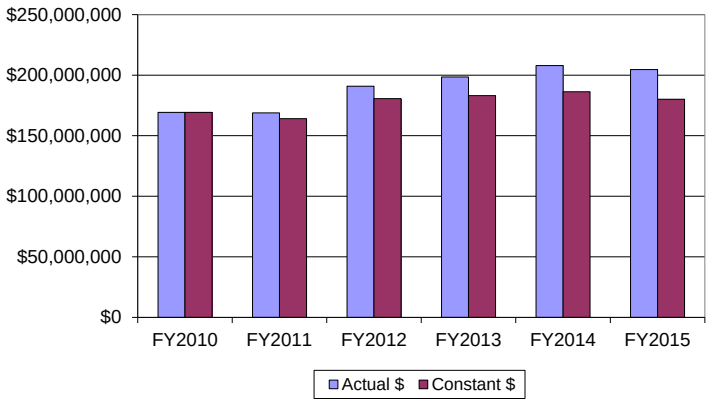


Exhibit 6.3: Operating Cost per Passenger – Light Rail



Operating Cost



Unlinked Passengers

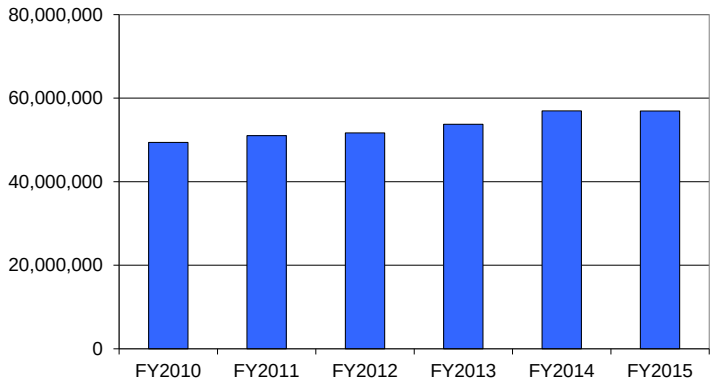
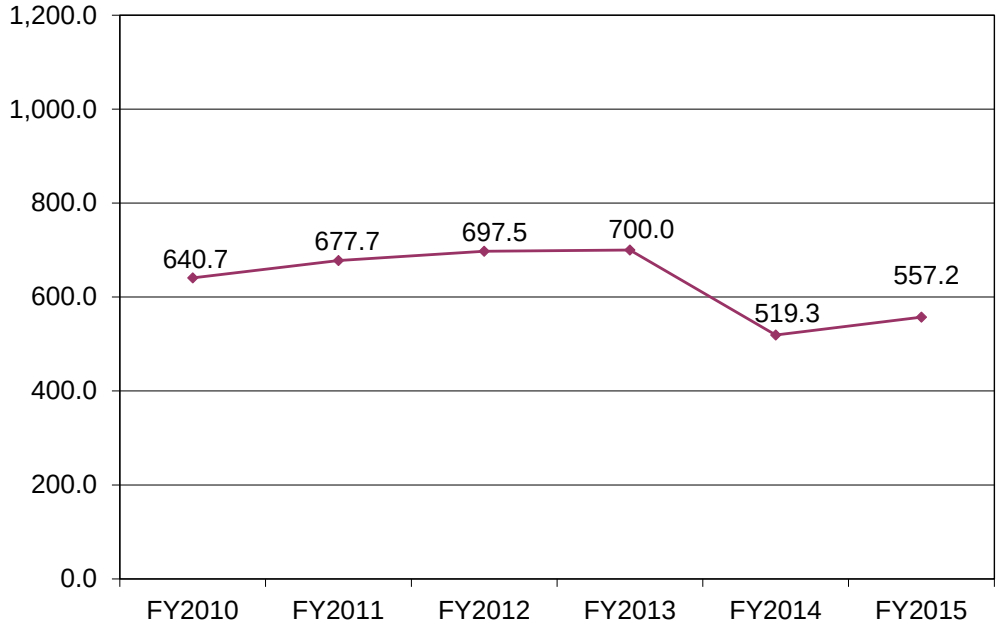
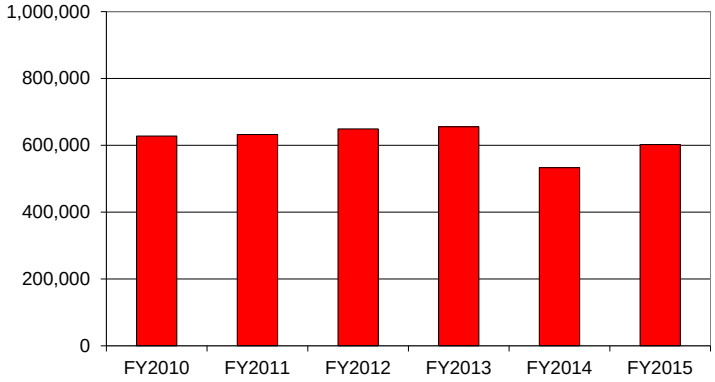


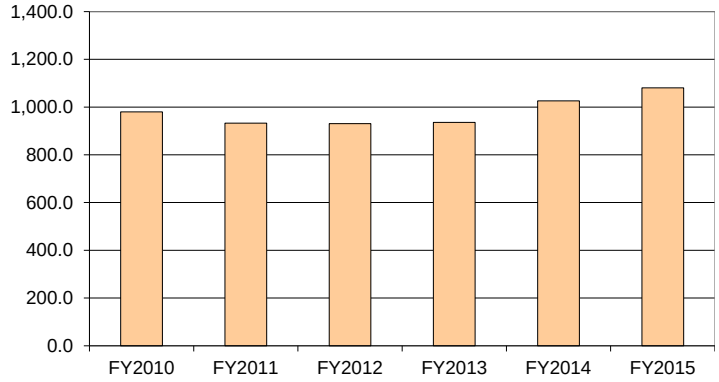
Exhibit 6.4: Car Service Hours per FTE – Light Rail



Car Service Hours



Full-time Equivalents



Light Rail Component Costs

The year-to-year changes in selected operating cost categories are presented in Exhibit 6.5, along with the concurrent changes in car service hours. The portions of the cost per car service hour that can be attributed to each included cost component are shown in Exhibit 6.6.

- There were only modest changes in most component cost categories over the period. The most significant changes were average annual increases of 10 percent in the materials/supplies area, and 6.2 percent for utilities.

- Overall, operating costs increased by 3.9 percent annually

- Labor costs represented the largest portion of the total costs, with its share ranging from 40 to 46 percent over the review period. This was followed by fringe benefits, responsible for another 30 to 36 percent.

- Materials/supplies costs contributed 10 to 12 percent in the first two years, up to 20 percent in the next two years, and back down to 13 percent in the last two years.

- Services costs contributed about seven percent in the middle years, but slightly less in the first and last years. Other cost categories each contributed four percent or less.

- Negative costs showing in the "other costs" category for the prior audit years resulted from inclusion of an expense transfers object class in NTD reporting for those years. Following NTD guidelines, SFMTA had reclassified some of its operating costs to other functions or as capital costs. This practice was eliminated from NTD reporting in 2013.

* * * * *

The following is a brief summary of the component operating costs trend highlights between FY2010 and FY2015:

- The most significant changes were average annual increases of 10 percent in the materials/supplies area, and 6.2 percent for utilities. Overall, operating costs increased by 3.9 percent annually.

- Labor costs represented the largest portion of the total costs, with its share ranging from 40 to 46 percent. Fringe benefits were responsible for another 30 to 36 percent.

- Materials/supplies costs contributed as much as 20 percent midway through the period, but 10 to 13 percent or less otherwise.

- Services costs contributed about seven percent in most years, while other cost categories each contributed four percent or less.

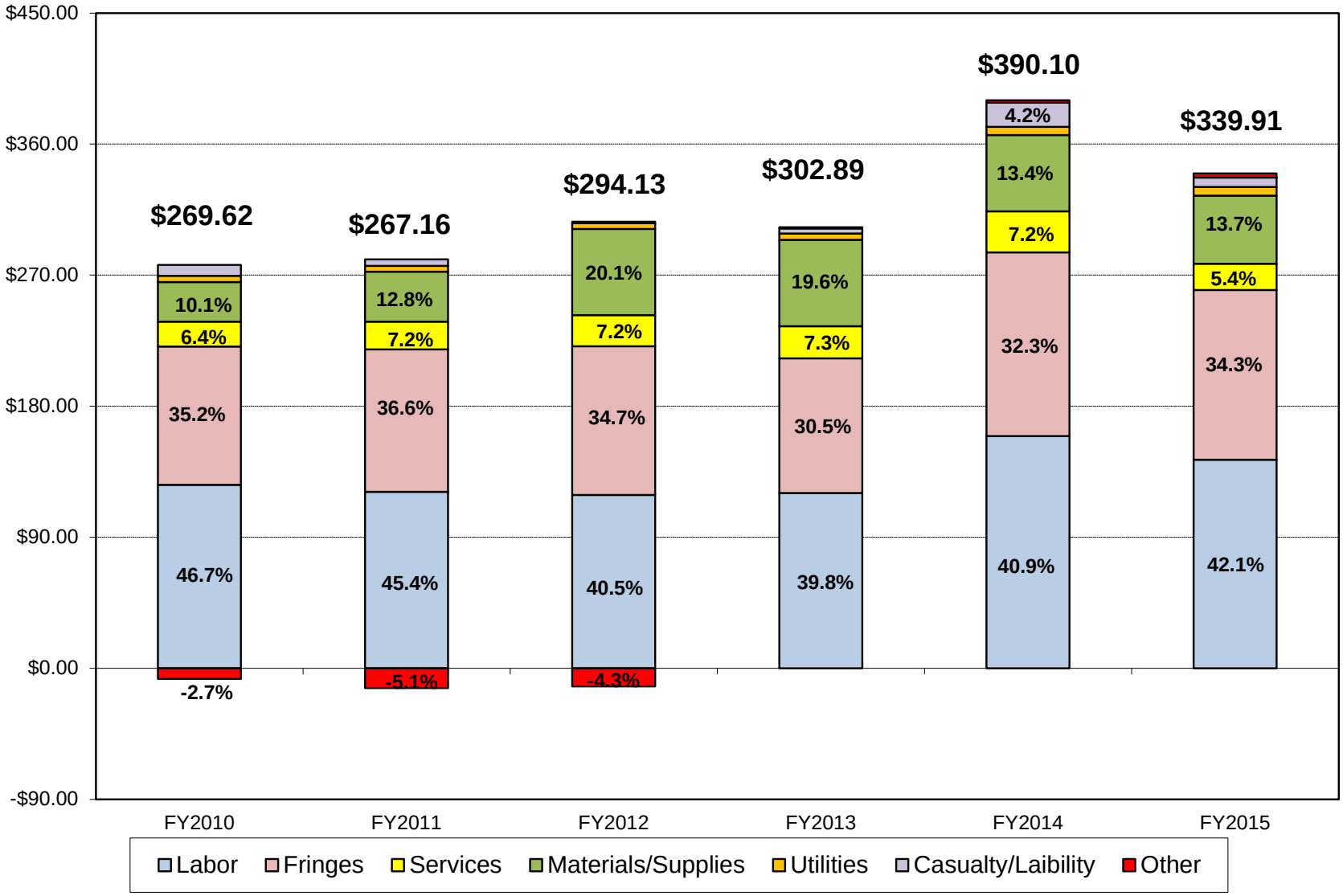
Exhibit 6.5: Component Cost Trends – Light Rail

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	*Av. Ann. Chg.*
COST CATEGORIES							
Labor - (Salaries, Wages)	$79,109,785	$76,631,673	$77,255,602	$78,907,649	$84,953,289	$86,243,968	- -
Annual Change	- -	*-3.1%*	*0.8%*	*2.1%*	*7.7%*	*1.5%*	*1.7%*
Fringe Benefits	$59,569,086	$61,731,514	$66,287,147	$60,560,843	$67,227,019	$70,102,539	- -
Annual Change	- -	*3.6%*	*7.4%*	*-8.6%*	*11.0%*	*4.3%*	*3.3%*
Services	$10,747,239	$12,104,403	$13,827,887	$14,501,904	$15,032,943	$10,962,713	- -
Annual Change	- -	*12.6%*	*14.2%*	*4.9%*	*3.7%*	*-27.1%*	*0.4%*
Materials & Supplies	$17,085,009	$21,673,076	$38,451,048	$38,814,235	$27,933,144	$28,095,559	- -
Annual Change	- -	*26.9%*	*77.4%*	*0.9%*	*-28.0%*	*0.6%*	*10.5%*
Utilities	$2,683,638	$2,546,667	$2,615,568	$2,847,660	$3,040,559	$3,622,404	- -
Annual Change	- -	*-5.1%*	*2.7%*	*8.9%*	*6.8%*	*19.1%*	*6.2%*
Casualty/Liability	$4,627,481	$2,751,729	$612,151	$2,328,880	$8,792,585	$3,923,766	- -
Annual Change	- -	*-40.5%*	*-77.8%*	*280.4%*	*277.5%*	*-55.4%*	*-3.2%*
Other Costs *(incl. expense transfers)*	-$4,596,946	-$8,594,757	-$8,136,245	$514,130	$902,658	$1,684,041	- -
Annual Change	- -	*87.0%*	*-5.3%*	*-106.3%*	*75.6%*	*86.6%*	*-181.8%*
Total	$169,225,292	$168,844,305	$190,913,158	$198,475,301	$207,882,197	$204,634,990	- -
Annual Change	- -	*-0.2%*	*13.1%*	*4.0%*	*4.7%*	*-1.6%*	*3.9%*
OPERATING STATISTICS							
Vehicle Service Hours	627,638	632,003	649,073	655,262	532,901	602,031	- -
Annual Change		*0.7%*	*2.7%*	*1.0%*	*-18.7%*	*13.0%*	*-0.8%*

Sources: FY2010 through FY2012 – Prior Performance Audit Report; FY2013 through FY2015 - NTD Reports

Exhibit 6.6: Distribution of Component Costs – Light Rail

Operating Cost per Car Service Hour



Cable Car Performance Trends

This section provides an overview of the performance of SFMTA's cable car service over the past six years. The trends in the TDA indicators and input statistics are presented in Exhibit 7. The six-year trends are illustrated in Exhibits 7.1 through 7.4.

- Operating Cost per Car Service Hour (Exhibit 7.1)
  - Cable car cost efficiency declined overall, by an average of 2.0 percent per year from FY2010 ($392.67 per hour) to FY2015 ($434.59 per hour).
  - The cost per hour showed wide variation in several of the years, with the period low of $363.66 in FY2014 and the period high of $438.32 in FY2012. SFMTA attributes a nearly 20 percent increase in FY2015 largely to a change in data methodology that attempts to more accurately capture missed service through enhanced use of the Central Control Logs. This resulted in a significant reduction in service hours being reported in that year.
  - The inflation-adjusted results exhibit an average annual decrease of 0.5 percent per year in constant FY2010 dollars.
- Passengers per Car Service Hour (Exhibit 7.2)
  - Passengers per car service hour decreased an average of 2.0 percent annually, reflecting an overall decrease in passengers combined with a smaller decrease in service hours.
  - Passengers per hour decreased overall from 55.1 in FY2010 to 49.9 in FY2015.
- Passengers per Car Service Mile (Exhibit 7.2)
  - The six-year trend showed an increase of 1.0 percent annually on average. There were 23.4 passengers per mile in FY2010, compared with 24.5 in FY2015.

- Overall, both passengers and service miles went down, but the latter went down at a somewhat higher rate.

- Operating Cost per Passenger (Exhibit 7.3)

  - The cost per passenger of $7.12 in the first year was followed by two years of increases, two years of decreases, and finally a significant increase (22.6 percent) to $8.72 per passenger in FY2015.

  - The result was an average annual increase of 4.1 percent over the six years.

  - With the impact of inflation removed, the result was an average annual increase of 1.5 percent in the cost per passenger.

- Car Service Hours per FTE (Exhibit 7.4)

  - Employee productivity decreased an average 0.6 percent per year over the six years.

  - Hours per FTE decreased overall from 330 in FY2010 to 321 in FY2015, with levels as high as 387 hours reached in the interim years.

  - Car service hours and FTEs both decreased modestly overall during the period.

* * * * *

The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2010 through FY2015:

- There was an average annual increase in the operating cost per hour of 2.0 percent, or a decrease of 0.5 percent in inflation adjusted dollars. There was wide variation in several of the years. A 20 percent annual increase in FY2015 has been attributed to an improved methodology for capturing

missed service, rather than the significant decline in service hours reported.

- The cost per passenger increased on average by 4.1 percent per year, which amounted to an average annual increase of 1.5 percent in constant FY2010 dollars.

- Passenger productivity showed slightly mixed trends, with passengers per car service hour decreasing by 2.0 percent per year overall, and passengers per car service mile increasing by 1.0 percent.

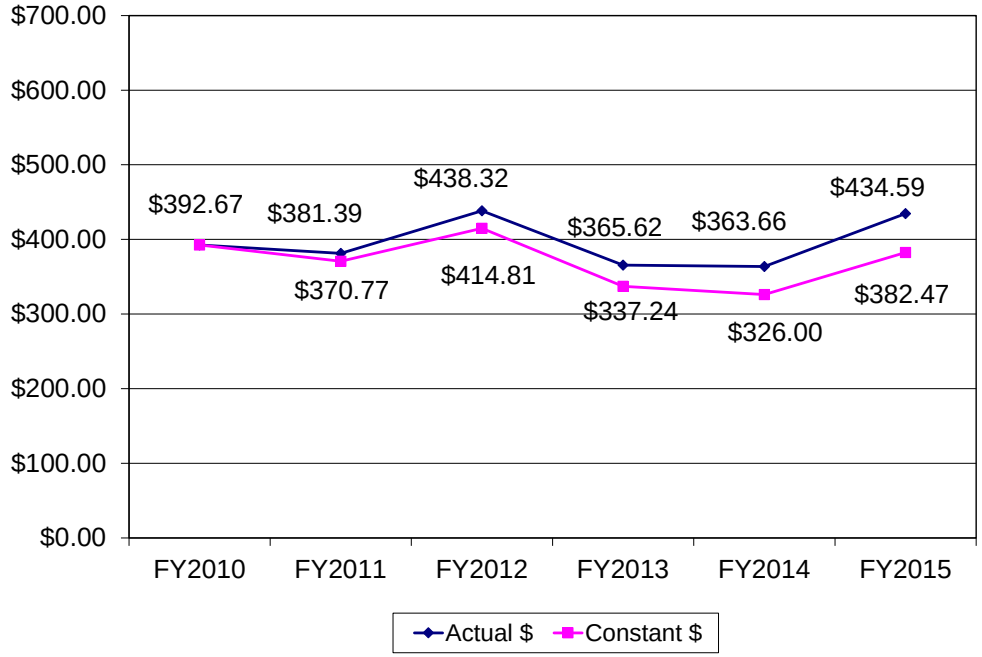
- Employee productivity decreased an average 0.6 percent per year.

Exhibit 7: TDA Indicator Performance – Cable Car

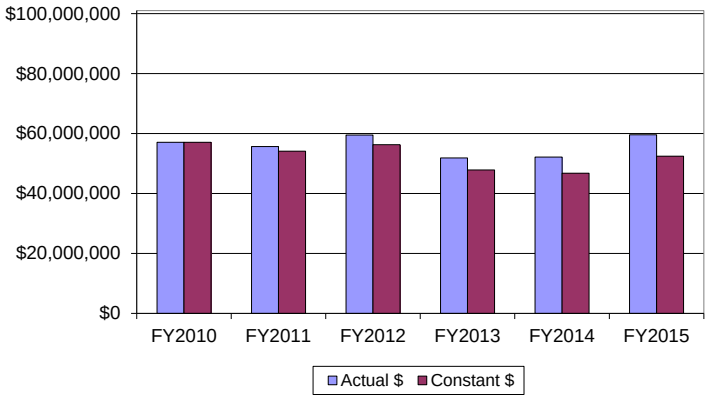
	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	*Av. Ann. Chg.*
Performance Indicators							
Op. Cost per Car Svc. Hour (Actual $)	$392.67	$381.39	$438.32	$365.62	$363.66	$434.59	- -
Annual Change	- -	*-2.9%*	*14.9%*	*-16.6%*	*-0.5%*	*19.5%*	*2.0%*
Op. Cost per Car Svc. Hour (Constant $)	$392.67	$370.77	$414.81	$337.24	$326.00	$382.47	- -
Annual Change	- -	*-5.6%*	*11.9%*	*-18.7%*	*-3.3%*	*17.3%*	*-0.5%*
Passengers per Car Service Hour	55.1	48.3	53.6	48.0	51.1	49.9	- -
Annual Change	- -	*-12.5%*	*11.1%*	*-10.4%*	*6.5%*	*-2.5%*	*-2.0%*
Passengers per Car Service Mile	23.4	24.6	24.0	22.7	25.1	24.5	- -
Annual Change	- -	*5.0%*	*-2.2%*	*-5.4%*	*10.6%*	*-2.3%*	*1.0%*
Op. Cost per Passenger (Actual $)	$7.12	$7.90	$8.18	$7.61	$7.11	$8.72	- -
Annual Change	- -	*11.0%*	*3.5%*	*-6.9%*	*-6.6%*	*22.6%*	*4.1%*
Op. Cost per Passenger (Constant $)	$7.12	$7.68	$7.74	$7.02	$6.38	$7.67	- -
Annual Change	- -	*7.9%*	*0.7%*	*-9.3%*	*-9.2%*	*20.3%*	*1.5%*
Car Service Hours per FTE	329.9	356.4	326.9	387.3	378.6	320.9	- -
Annual Change	- -	*8.0%*	*-8.3%*	*18.5%*	*-2.2%*	*-15.2%*	*-0.6%*
Input Data							
Operating Cost (Actual $)	$57,049,318	$55,663,240	$59,468,021	$51,868,243	$52,143,335	$59,576,217	- -
Annual Change	- -	*-2.4%*	*6.8%*	*-12.8%*	*0.5%*	*14.3%*	*0.9%*
Operating Cost (Constant $)	$57,049,318	$54,113,586	$56,278,603	$47,841,952	$46,743,122	$52,431,122	- -
Annual Change	- -	*-5.1%*	*4.0%*	*-15.0%*	*-2.3%*	*12.2%*	*-1.7%*
Car Service Hours	145,285	145,949	135,674	141,863	143,383	137,085	- -
Annual Change	- -	*0.5%*	*-7.0%*	*4.6%*	*1.1%*	*-4.4%*	*-1.2%*
Car Service Miles	342,314	286,712	302,690	299,841	291,853	278,454	- -
Annual Change	- -	*-16.2%*	*5.6%*	*-0.9%*	*-2.7%*	*-4.6%*	*-4.0%*
Unlinked Passengers	8,008,382	7,042,503	7,270,191	6,813,349	7,331,777	6,834,184	- -
Annual Change	- -	*-12.1%*	*3.2%*	*-6.3%*	*7.6%*	*-6.8%*	*-3.1%*
Employee Full-Time Equivalents	440.4	409.6	415.0	366.3	378.7	427.2	- -
Annual Change	- -	*-7.0%*	*1.3%*	*-11.7%*	*3.4%*	*12.8%*	*-0.6%*
Bay Area CPI - Annual Change	- -	2.9%	2.7%	2.6%	2.9%	1.9%	- -
- Cumulative Change	- -	2.9%	5.7%	8.4%	11.6%	13.6%	*2.6%*

Sources: *FY2010 through FY2012 - Prior Performance Audit Report*
FY2013 through FY2015 - NTD Reports
CPI Data - U.S. Department of Labor, Bureau of Labor Statistics

Exhibit 7.1: Operating Cost per Car Service Hour – Cable Car



Operating Cost



Car Service Hours

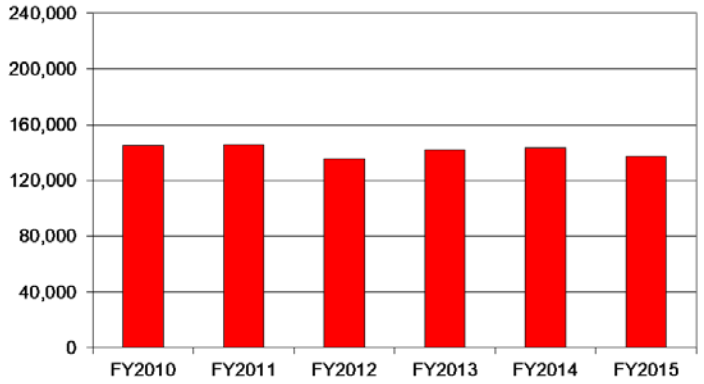
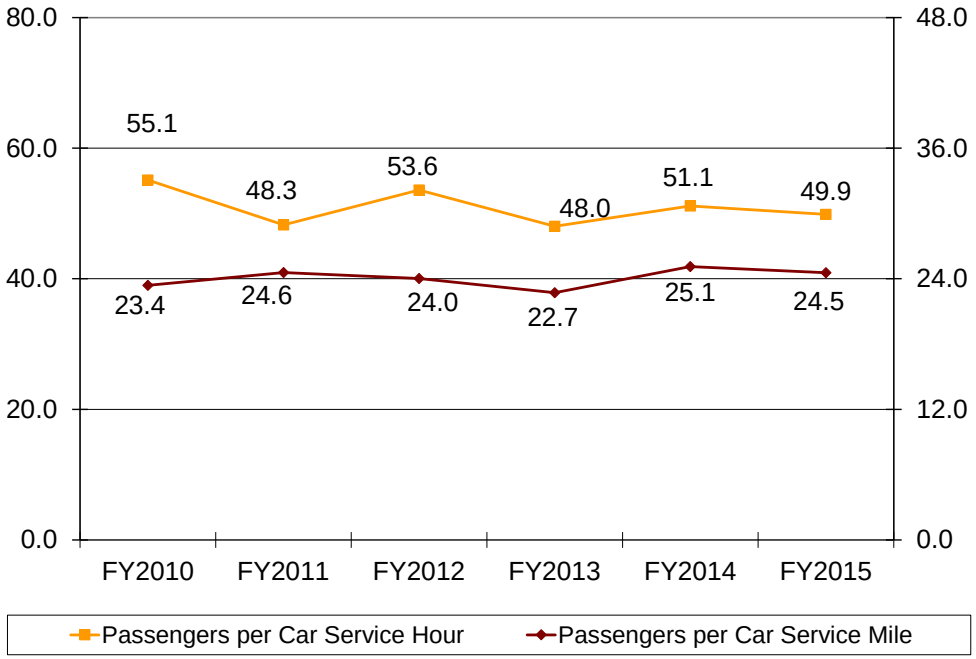
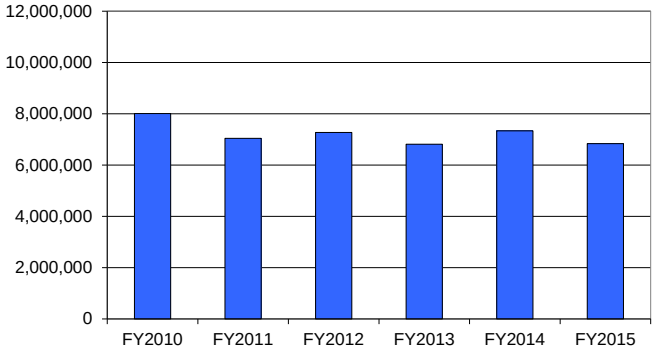


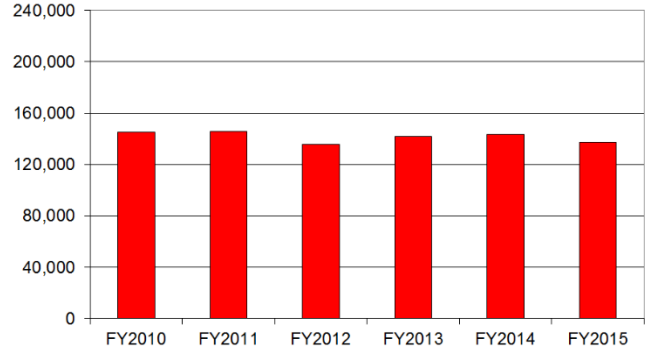
Exhibit 7.2: Passengers per Hour and per Mile – Cable Car



Unlinked Passengers



Car Service Hours



Car Service Miles

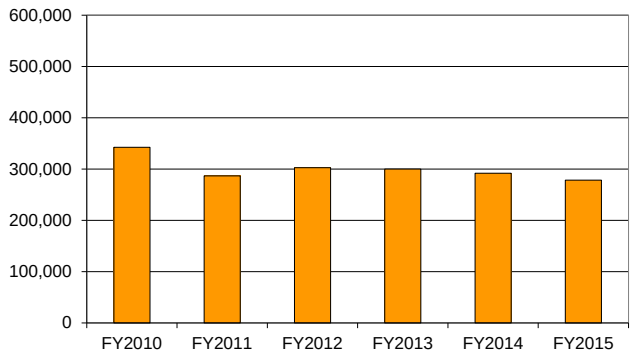
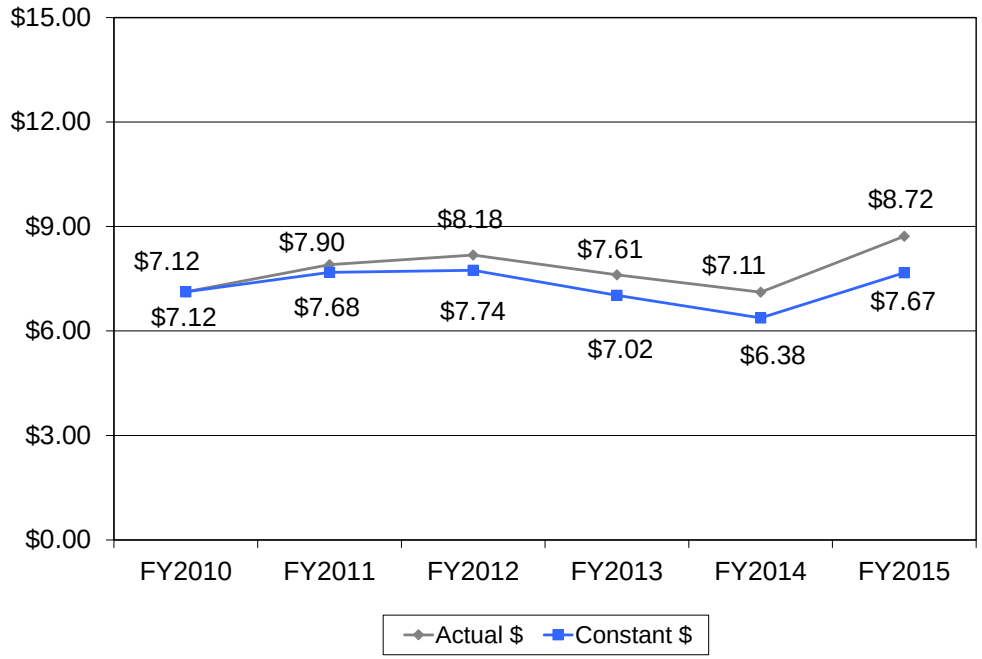
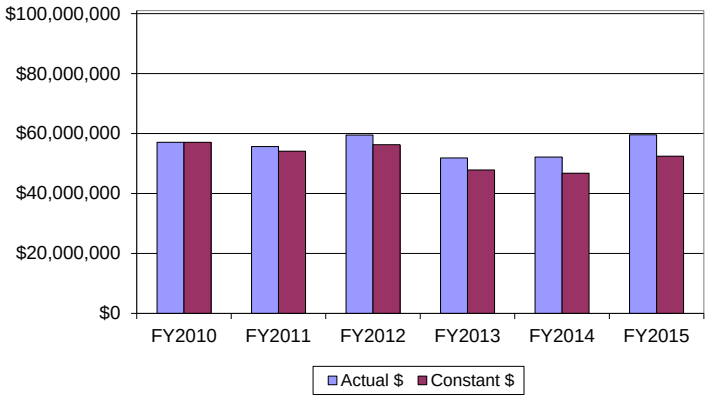


Exhibit 7.3: Operating Cost per Passenger – Cable Car



Operating Cost



Unlinked Passengers

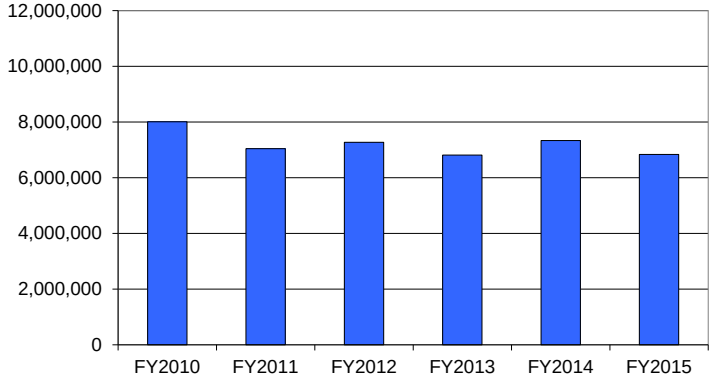
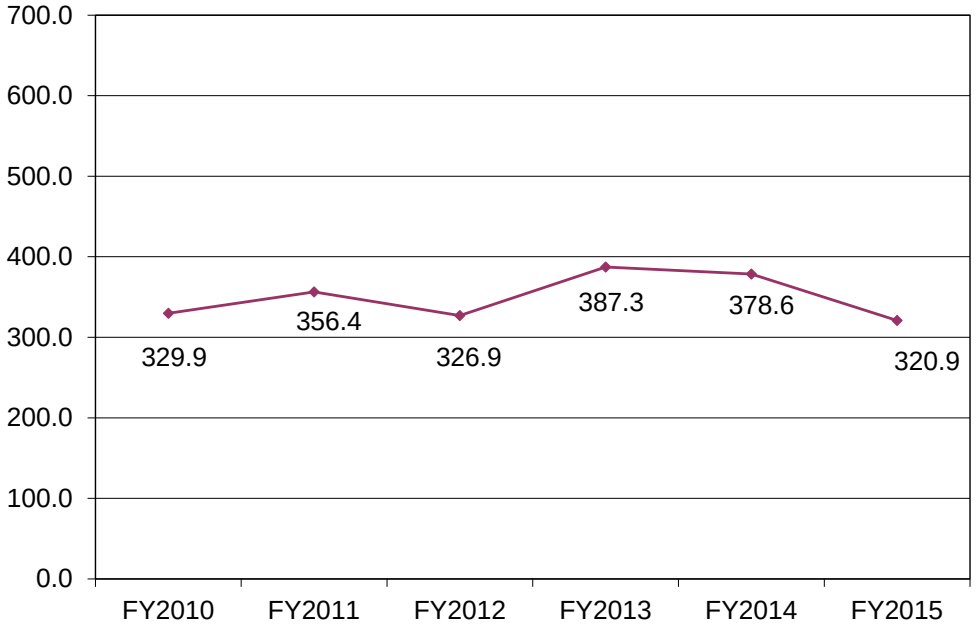
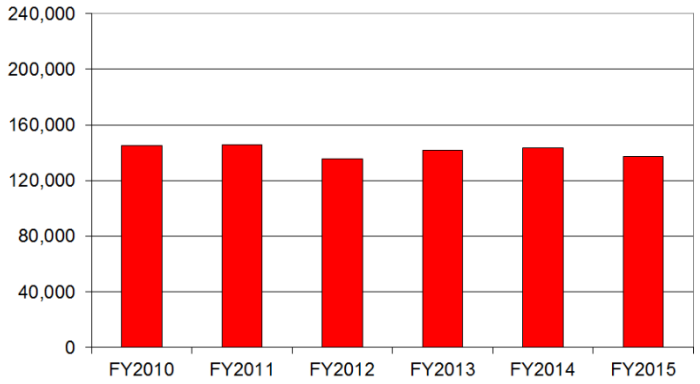


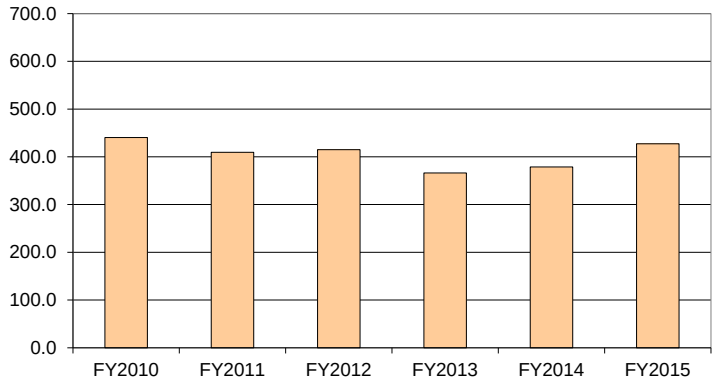
Exhibit 7.4: Car Service Hours per FTE – Cable Car



Car Service Hours



Full-time Equivalents



Cable Car Component Costs

The year-to-year changes in selected operating cost categories are presented in Exhibit 7.5, along with the concurrent changes in car service hours. The portions of the cost per car service hour that can be attributed to each included cost component are shown in Exhibit 7.6.

- Between FY2010 and FY2015, total operating costs increased by less than one percent annually.

- The most significant component cost changes were average annual increases of nine percent in the materials/supplies area, 6.7 percent for utilities and 4.7 for services, along with an average annual decrease of 5.6 percent in the casualty/liability area.

- Labor costs represented the largest portion of the total costs, with its share at about 50 percent over the review period. This was followed by fringe benefits, responsible for another 41 to 45 percent.

- Materials/supplies costs contributed in a range of three to six percent, while other cost categories each contributed less than three percent.

- Negative costs showing in the "other costs" category for the prior audit years resulted from inclusion of an expense transfers object class in NTD reporting for those years. Following NTD guidelines, SFMTA had reclassified some of its operating costs to other functions or as capital costs. This practice was eliminated from NTD reporting in 2013.

* * * * *

The following is a brief summary of the component operating costs trend highlights between FY2010 and FY2015:

- Total operating costs increased by less than one percent annually. The most significant component cost change was an average annual increase of nine percent in the materials/supplies area.

- There were also average annual increases of 6.7 percent for utilities and 4.7 percent for services, and an average annual decrease of 5.6 percent in the casualty/liability area.

- Labor costs represented the largest portion of the total costs, with its share at about 50 percent. Fringe benefits were responsible for another 41 to 45 percent.

- Materials/supplies costs contributed three to six percent, while other cost categories each contributed less than three percent.

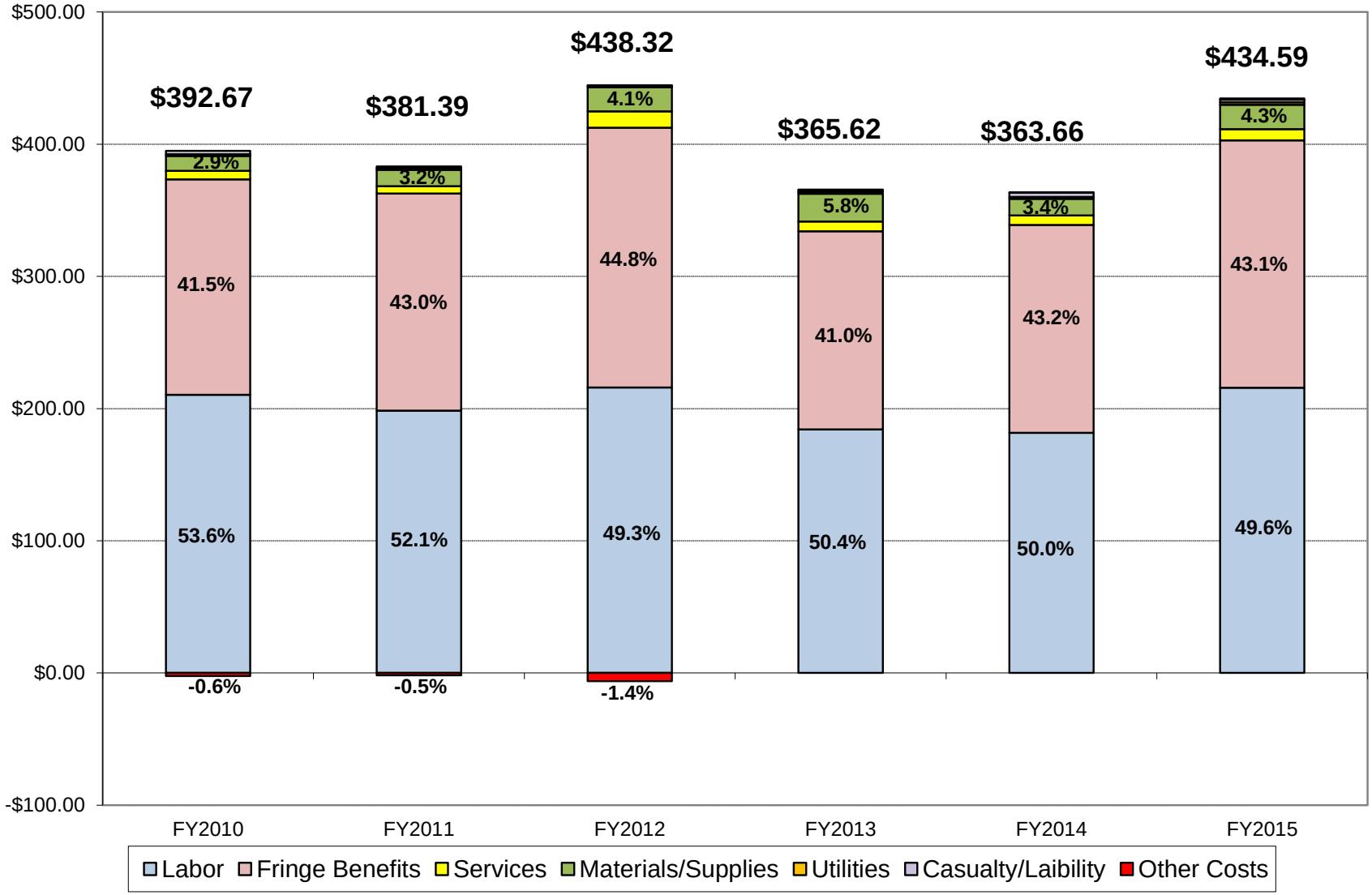
Exhibit 7.5: Component Cost Trends – Cable Car

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	*Av. Ann. Chg.*
COST CATEGORIES							
Labor - (Salaries, Wages)	$30,566,015	$28,976,220	$29,304,899	$26,147,651	$26,046,955	$29,573,771	- -
Annual Change	- -	*-5.2%*	*1.1%*	*-10.8%*	*-0.4%*	*13.5%*	*-0.7%*
Fringe Benefits	$23,686,529	$23,952,096	$26,654,783	$21,252,889	$22,548,618	$25,661,871	- -
Annual Change	- -	*1.1%*	*11.3%*	*-20.3%*	*6.1%*	*13.8%*	*1.6%*
Services	$932,381	$813,916	$1,689,343	$1,037,328	$1,041,396	$1,150,669	
Annual Change	- -	*-12.7%*	*107.6%*	*-38.6%*	*0.4%*	*10.5%*	*4.3%*
Materials & Supplies	$1,647,325	$1,802,557	$2,465,773	$2,989,275	$1,791,495	$2,535,553	- -
Annual Change	- -	*9.4%*	*36.8%*	*21.2%*	*-40.1%*	*41.5%*	*9.0%*
Utilities	$174,467	$157,781	$170,335	$187,106	$208,779	$241,225	- -
Annual Change	- -	*-9.6%*	*8.0%*	*9.8%*	*11.6%*	*15.5%*	*6.7%*
Casualty/Liability	$382,675	$227,583	$31,209	$182,636	$449,591	$287,606	- -
Annual Change	- -	*-40.5%*	*-86.3%*	*485.2%*	*146.2%*	*-36.0%*	*-5.6%*
Other Costs *(includes expense transfers*	-$340,074	-$266,913	-$848,321	$71,358	$56,501	$125,522	- -
Annual Change	- -	*-21.5%*	*217.8%*	*-108.4%*	*-20.8%*	*122.2%*	*-181.9%*
Total	$57,049,318	$55,663,240	$59,468,021	$51,868,243	$52,143,335	$59,576,217	- -
Annual Change	- -	*-2.4%*	*6.8%*	*-12.8%*	*0.5%*	*14.3%*	*0.9%*
OPERATING STATISTICS							
Vehicle Service Hours	145,285	145,949	135,674	141,863	143,383	137,085	- -
Annual Change	- -	*0.5%*	*-7.0%*	*4.6%*	*1.1%*	*-4.4%*	*-1.2%*

Sources: FY2010 through FY2012 – Prior Performance Audit Report; FY2013 through FY2015 - NTD Reports

Exhibit 7.6: Distribution of Component Costs – Cable Car

Operating Cost per Car Service Hour



Paratransit Performance Trends

This section provides an overview of the performance of SFMTA's paratransit service. Both demand response and demand taxi modes are included in the analysis. The analysis focuses on four of the five TDA performance indicators. Hours per FTE are not included in this analysis; FTE information was not available for the contracted service providers. The trends in the TDA indicators and input data are presented in Exhibit 8. The six-year trends are illustrated in Exhibits 8.1 through 8.3.

- Operating Cost per Vehicle Service Hour (Exhibit 8.1)
  - SFMTA's paratransit cost per hour increased from $61.90 in FY2010 to $80.13 in FY2015, or an average of 5.3 percent per year.
  - The largest annual increase (19.1 percent) occurred in FY2015, when the cost per hour reached the period high of $80.13. Operating costs increased by 17 percent that year, coinciding with the transition to a new service provider, even as service hours decreased slightly.
  - In constant FY2010 dollars, there was an average annual increase of 2.6 percent over the six years.
- Passengers per Vehicle Service Hour (Exhibit 8.2)
  - Passengers per vehicle service hour decreased in most years of the review period, overall down from 3.40 passengers in FY2010 to 2.73 in FY2015.
  - This trend amounted to an average annual decrease of 4.3 percent, as overall annual passenger levels decreased by 5.6 percent while corresponding service hours decreased by just 1.3 percent.
  - The most significant single-year change was a drop of 14 percent in FY2014, from 3.08 passengers per hour to 2.65.

- Passengers per Vehicle Service Mile (Exhibit 8.2)

  - Performance improved moderately overall, from 0.29 passengers per mile in FY2010 to 0.31 in FY2015.

  - The period high of 0.34 was in FY2012, followed by declines in the next two years.

  - The net effect of these changes was an average annual increase in this indicator of 1.6 percent.

- Operating Cost per Passenger (Exhibit 8.3)

  - Cost effectiveness worsened significantly, by ten percent per year on average, from $18.23 per passenger in FY2010 to $29.39 in FY2015.

  - Operating costs increased by 3.9 percent per year over the period, while passenger levels decreased by 5.6 percent per year.

  - With the impact of inflation removed, the result was still an average annual increase in the cost per passenger of 7.3 percent.

* * * * *

The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2010 through FY2015:

- Cost efficiency declined overall, with an average annual increase in the operating cost per hour of 5.3 percent (2.6 percent in inflation adjusted dollars).

- The operating cost per passenger averaged a significant annual increase of ten percent, or 7.3 percent when normalized in FY2010 dollars. Operating costs increased by 3.9 percent per year, while passenger levels decreased by 5.6 percent.

- Passenger productivity trends were mixed, with passengers per vehicle service hour decreasing by 4.3 percent per year overall, and passengers per vehicle service mile increasing by 1.6 percent.

Exhibit 8: TDA Indicator Performance – Paratransit

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	*Av. Ann. Chg.*
Performance Indicators							
Op. Cost per Vehicle Svc. Hour (Actual $)	$61.90	$64.92	$75.86	$72.29	$67.30	$80.13	- -
Annual Change	- -	*4.9%*	*16.8%*	*-4.7%*	*-6.9%*	*19.1%*	*5.3%*
Op. Cost per Vehicle Svc. Hour (Constant $)	$61.90	$63.11	$71.79	$66.68	$60.33	$70.52	- -
Annual Change	- -	*2.0%*	*13.7%*	*-7.1%*	*-9.5%*	*16.9%*	*2.6%*
Passengers per Vehicle Service Hour	3.40	3.39	3.33	3.08	2.65	2.73	- -
Annual Change	- -	*-0.1%*	*-2.0%*	*-7.3%*	*-14.0%*	*2.9%*	*-4.3%*
Passengers per Vehicle Service Mile	0.29	0.31	0.34	0.33	0.29	0.31	- -
Annual Change	- -	*7.4%*	*10.3%*	*-4.4%*	*-10.9%*	*7.0%*	*1.6%*
Op. Cost per Passenger (Actual $)	$18.23	$19.13	$22.81	$23.46	$25.41	$29.39	- -
Annual Change	- -	*4.9%*	*19.3%*	*2.8%*	*8.3%*	*15.7%*	*10.0%*
Op. Cost per Passenger (Constant $)	$18.23	$18.59	$21.59	$21.64	$22.78	$25.87	- -
Annual Change	- -	*2.0%*	*16.1%*	*0.2%*	*5.3%*	*13.6%*	*7.3%*
Vehicle Service Hours per FTE	(a)	(a)	(a)	(a)	(a)	(a)	- -
Annual Change	- -	- -	- -	- -	- -	- -	- -
Input Data							
Operating Cost (Actual $)	$18,932,867	$17,302,130	$18,492,388	$18,236,243	$19,596,029	$22,929,331	- -
Annual Change	- -	*-8.6%*	*6.9%*	*-1.4%*	*7.5%*	*17.0%*	*3.9%*
Operating Cost (Constant $)	$18,932,867	$16,820,442	$17,500,595	$16,820,648	$17,566,570	$20,179,370	- -
Annual Change	- -	*-11.2%*	*4.0%*	*-3.9%*	*4.4%*	*14.9%*	*1.3%*
Vehicle Service Hours	305,879	266,507	243,771	252,265	291,172	286,169	- -
Annual Change	- -	*-12.9%*	*-8.5%*	*3.5%*	*15.4%*	*-1.7%*	*-1.3%*
Vehicle Service Miles	3,605,214	2,922,706	2,373,640	2,381,435	2,651,131	2,505,643	- -
Annual Change	- -	*-18.9%*	*-18.8%*	*0.3%*	*11.3%*	*-5.5%*	*-7.0%*
Unlinked Passengers	1,038,770	904,598	810,663	777,324	771,175	780,048	- -
Annual Change	- -	*-12.9%*	*-10.4%*	*-4.1%*	*-0.8%*	*1.2%*	*-5.6%*
Employee Full-Time Equivalents	(a)	(a)	(a)	(a)	(a)	(a)	- -
Annual Change	- -	- -	- -	- -	- -	- -	- -
Bay Area CPI - Annual Change	- -	2.9%	2.7%	2.6%	2.9%	1.9%	- -
- Cumulative Change	- -	2.9%	5.7%	8.4%	11.6%	13.6%	*2.6%*

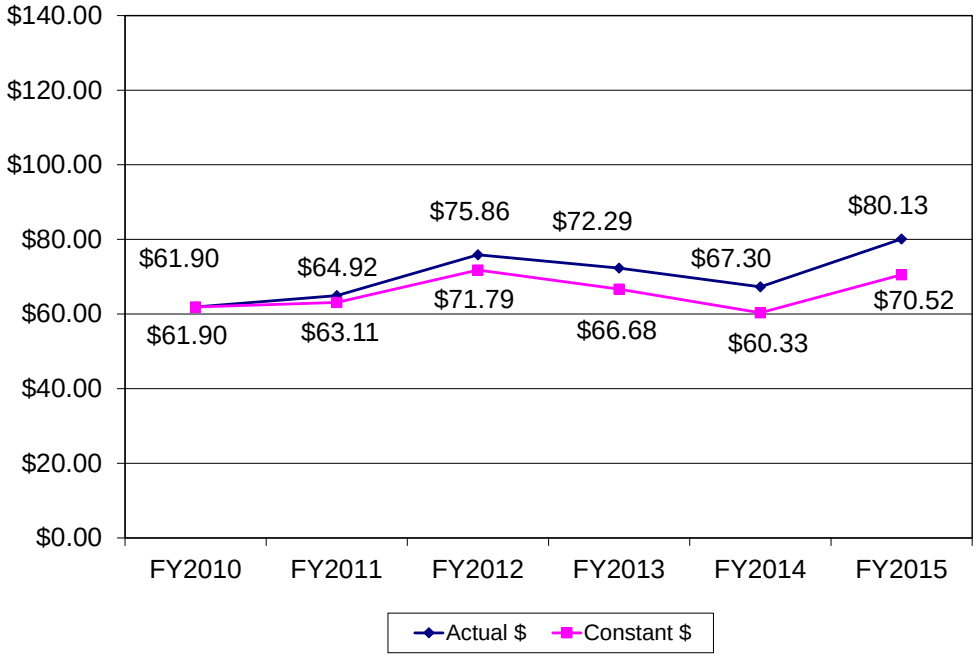
(a) = not available

Sources: FY2010 through FY2012 - Prior Performance Audit Report

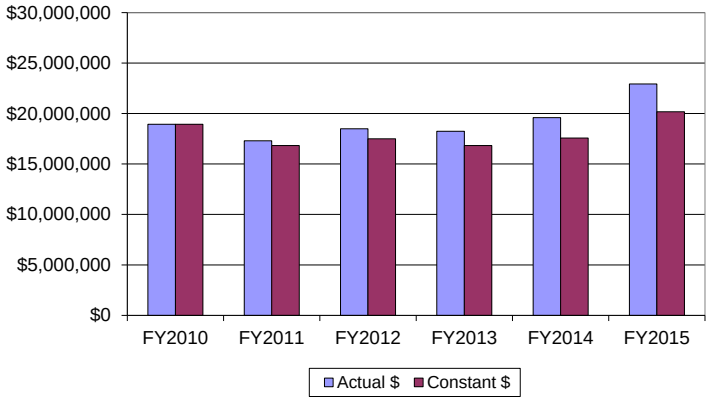
FY2013 through FY2015 - NTD Reports (DR/DT Modes); except Passengers - SFMTA Staff, & FY2015 Hours/Miles - SFMTA Staff (NTD Revisions)

CPI Data - U.S. Department of Labor, Bureau of Labor Statistics

Exhibit 8.1: Operating Cost per Vehicle Service Hour – Paratransit



Operating Cost



Vehicle Service Hours

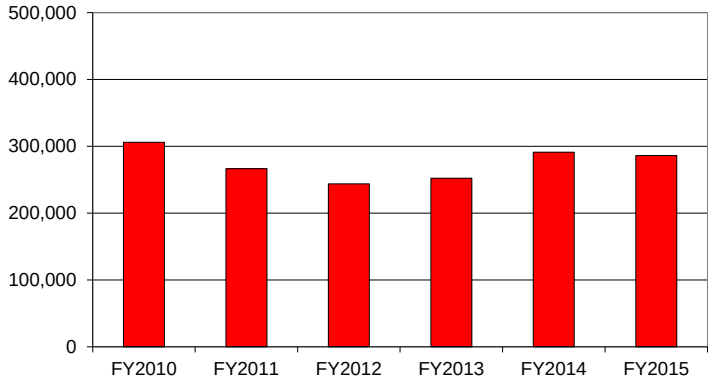
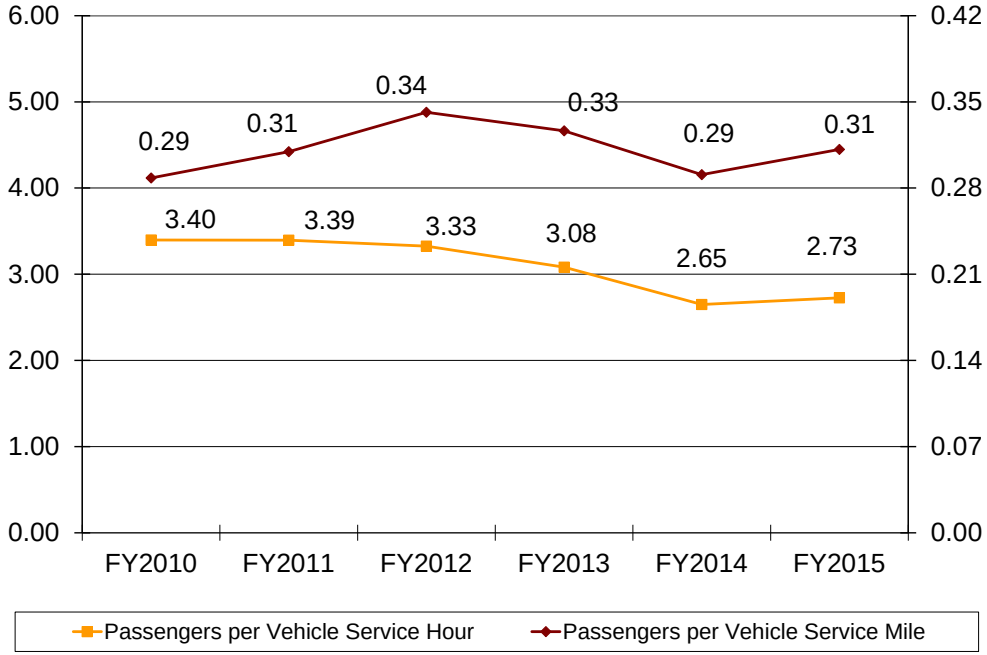
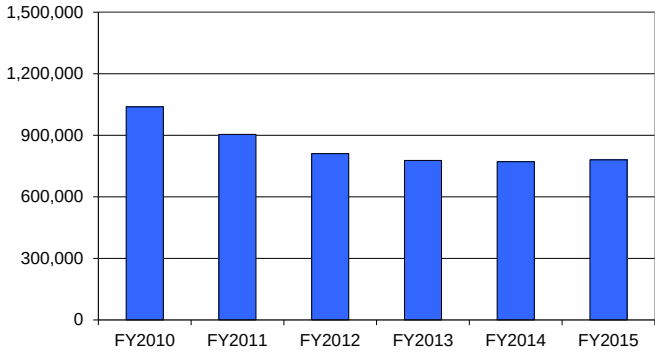


Exhibit 8.2: TDA Indicator Performance – Paratransit

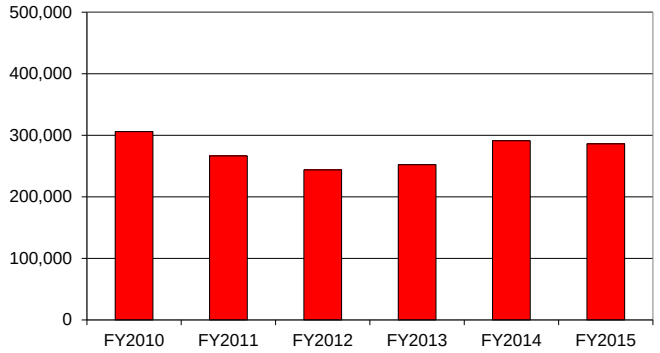
Passengers per Hour and per Mile



Unlinked Passengers



Vehicle Service Hours



Vehicle Service Miles

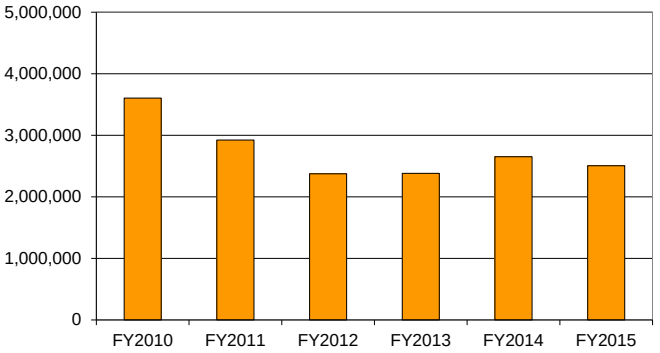
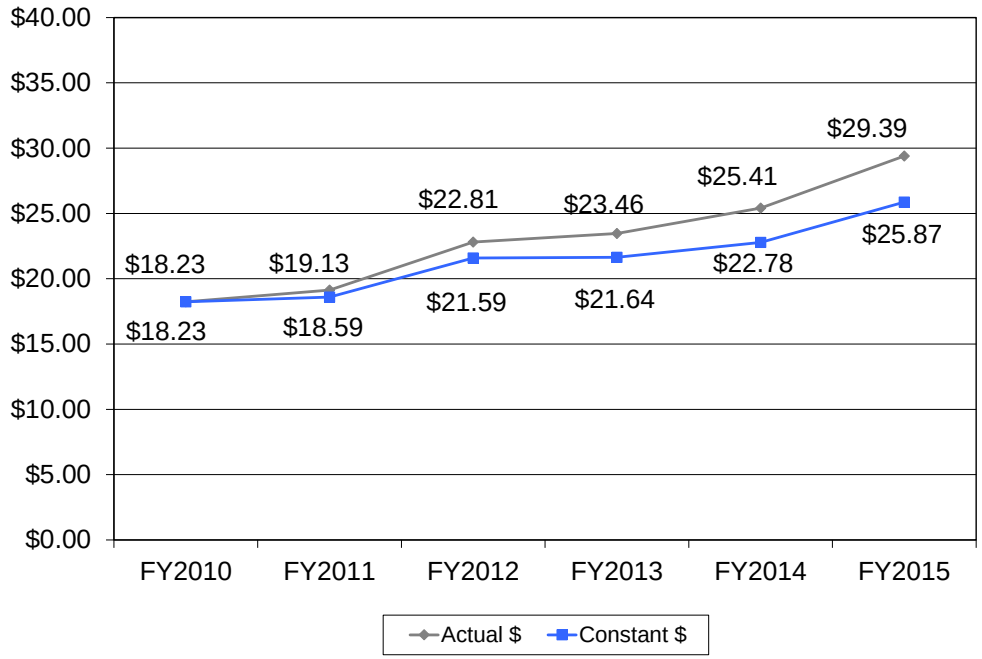
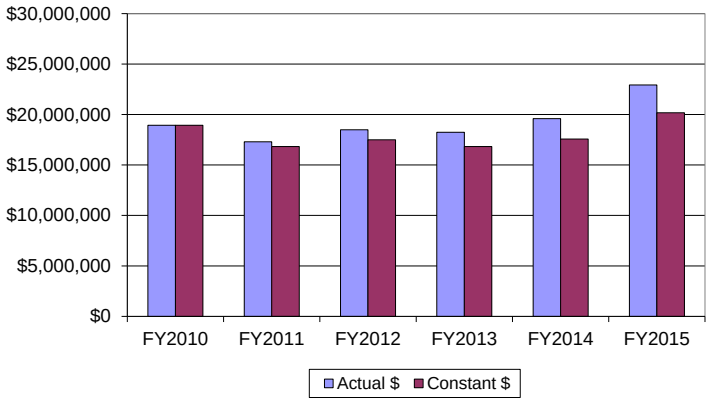


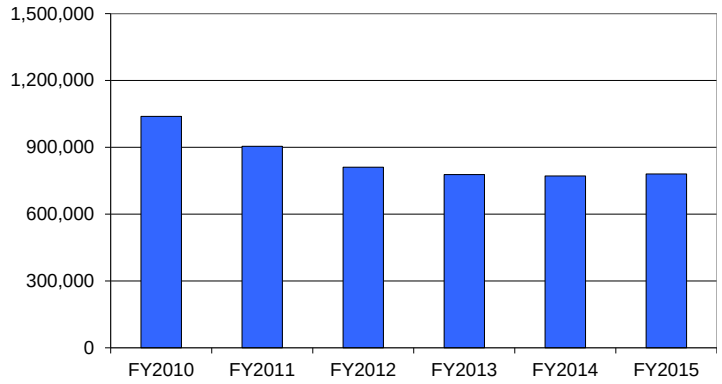
Exhibit 8.3: Operating Cost per Passenger – Paratransit



Operating Cost



Unlinked Passengers



Paratransit Component Costs

The year-to-year changes in selected operating cost categories are presented in Exhibit 8.4, along with the concurrent changes in vehicle service hours. The portions of the cost per vehicle service hour that can be attributed to each included cost component are shown in Exhibit 8.5.

- Between FY2010 and FY2015, the total annual costs increased by 3.9 percent on average. This was driven by a corresponding increase (3.8 percent) in purchased transportation costs, which is by far the largest component cost category.

- Costs in several other categories showed significant percent changes as well, but they continued to comprise a very small portion of the total hourly costs (about two percent combined).

- Purchased transportation costs continued to be the source of about 98 percent of all costs in all six years.

* * * * *

The following is a brief summary of the component operating costs trend highlights between FY2010 and FY2015:

- Total annual costs increased by 3.9 percent on average, driven by a corresponding increase in purchased transportation costs – by far the largest component cost category.

- Costs in several other categories showed significant percent changes as well, but they comprised a very small portion of the total hourly costs.

- Purchased transportation costs continued to be the source of about 98 percent of all costs in all six years.

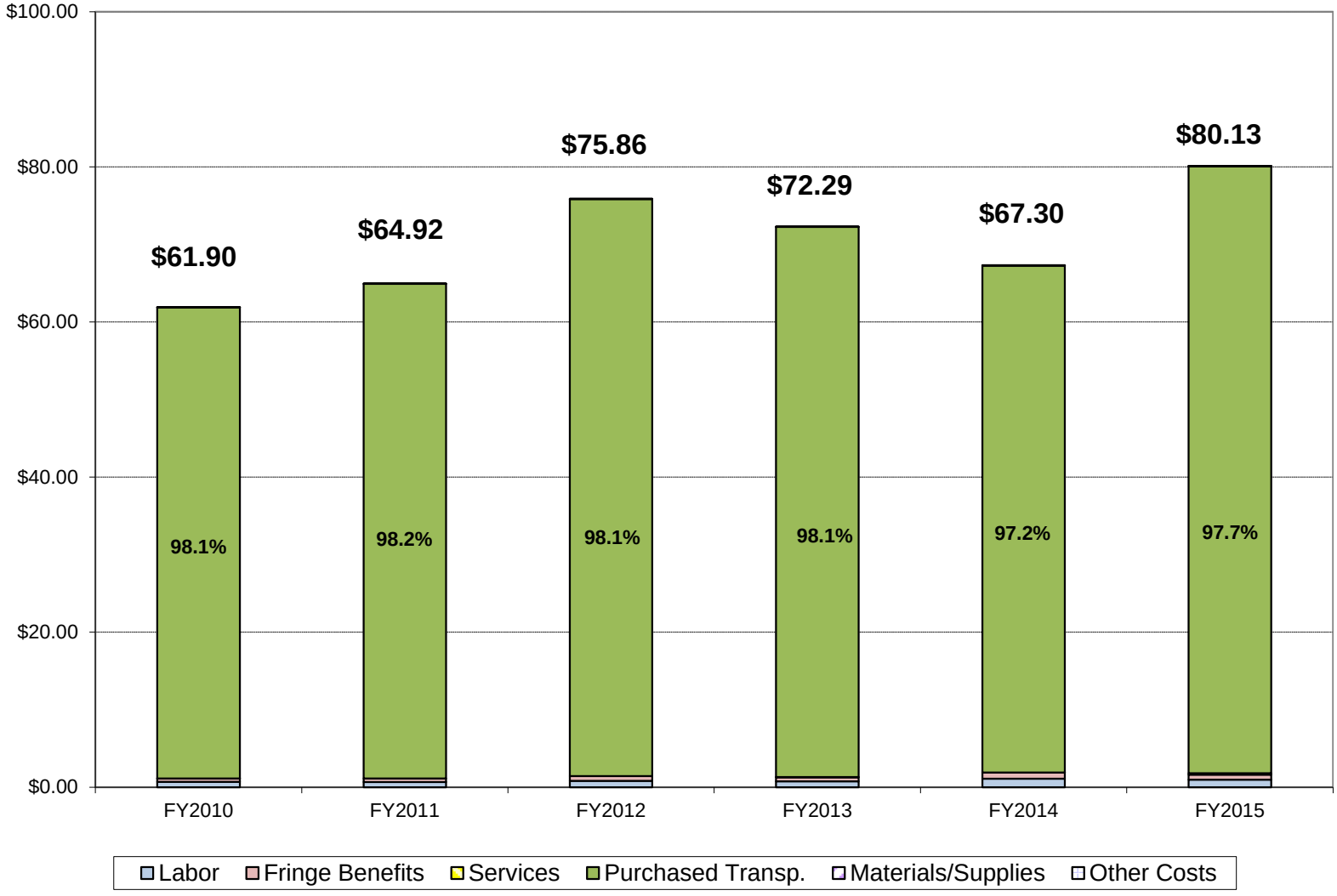
Exhibit 8.4: Component Costs Trends – Paratransit

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	*Av. Ann. Chg.*
COST CATEGORIES							
Labor - (Salaries, Wages)	$217,073	$179,321	$199,204	$192,758	$326,017	$285,212	- -
Annual Change	- -	*-17.4%*	*11.1%*	*-3.2%*	*69.1%*	*-12.5%*	*5.6%*
Fringe Benefits	$128,234	$126,154	$150,242	$131,367	$224,465	$179,823	- -
Annual Change	- -	*-1.6%*	*19.1%*	*-12.6%*	*70.9%*	*-19.9%*	*7.0%*
Services	$4,652	$0	$0	$9,246	$92	$49,463	- -
Annual Change	- -	*-100.0%*	- -	- -	*-99.0%*	*53664.1%*	*60.4%*
Purchased Transportation	$18,580,657	$16,993,087	$18,140,981	$17,893,751	$19,040,363	$22,405,428	- -
Annual Change	- -	*-8.5%*	*6.8%*	*-1.4%*	*6.4%*	*17.7%*	*3.8%*
Materials/Supplies	$346	$1,039	$1,560	$417	$2,675	$6,577	- -
Annual Change	- -	*200.3%*	*50.1%*	*-73.3%*	*541.5%*	*145.9%*	*80.2%*
Other Costs	$1,905	$1,764	$401	$8,704	$2,417	$2,828	- -
Annual Change	- -	*-7.4%*	*-77.3%*	*2070.6%*	*-72.2%*	*17.0%*	*8.2%*
Total	$18,932,867	$17,301,365	$18,492,388	$18,236,243	$19,596,029	$22,929,331	- -
Annual Change	- -	*-8.6%*	*6.9%*	*-1.4%*	*7.5%*	*17.0%*	*3.9%*
OPERATING STATISTICS							
Vehicle Service Hours	305,879	266,507	243,771	252,265	291,172	286,169	- -
Annual Change	- -	*-12.9%*	*-8.5%*	*3.5%*	*15.4%*	*-1.7%*	*-1.3%*

Sources: FY2010 through FY2012 – Prior Performance Audit Report; FY2013 through FY2015 - NTD Reports

Exhibit 8.5: Distribution of Component Costs – Paratransit

Operating Cost per Vehicle Service Hour



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IV. COMPLIANCE WITH PUC REQUIREMENTS

An assessment of SFMTA's compliance with selected sections of the state Public Utilities Code (PUC) has been performed. The compliance areas included in this review are those that MTC has identified for inclusion in the triennial performance audit. Other statutory and regulatory compliance requirements are reviewed by MTC in conjunction with its annual review of SFMTA's TDA-STA claim application.

The results from this review are detailed by individual requirement in Exhibit 9. SFMTA is in compliance with all seven sections of the state PUC that were reviewed as part of this performance audit. These sections included requirements concerning CHP terminal safety inspections, labor contracts, reduced fares, Welfare-to-Work, revenue sharing, and evaluating passenger needs.

Exhibit 9: Compliance with State PUC Requirements

Code Reference	Operator Compliance Requirements	Compliance Finding	Verification Information
PUC99251	CHP Certification - The CHP has, within the 13 months prior to each TDA claim submitted by an operator, certified the operator's compliance with Vehicle Code Section 1808 following a CHP inspection of the operator's terminal	In Compliance	Satisfactory Inspections (by facility): • Flynn: 02/13, 02/14, 02/15 • Kirkland: 10/13, 10/14, 10/15 • Woods: 10/12, 11/13, 11/14, 10/15
PUC99264	Operator-to-Vehicle Staffing - The operator does not routinely staff with two or more persons public transportation vehicles designed to be operated by one person	In Compliance	No provision for excess staffing in Collective Bargaining Agreements with Transport Workers Union, Local 250-A (9163), July 2011-June 2014 and July 2014-June 2017.
PUC99314.5(e) (1)(2)	Part-Time Drivers and Contracting - If the operator receives STA funds, the operator is not precluded by contract from employing part-time drivers or from contracting with common carriers.	In Compliance	Part-time drivers are employed by SFMTA per in Article 11 of Collective Bargaining Agreements with Transport Workers Union, Local 250-A (9163), July 2011-June 2014 and July 2014-June 2017. SFMTA contracts with various carriers for its paratransit service provision, through its paratransit broker Transdev Services, Inc. (formerly Veolia Transportation Services, Inc.).
PUC99155	Reduced Fare Eligibility - For any operator who received TDA Article 4 funds, if the operator offers reduced fares to senior citizens and disabled persons, applicant will honor the federal Medicare identification card, the California Department of Motor Vehicles disability ID card, the Regional Transit Connection Discount Card, or any other current identification card issued by another transit operator that is valid for the type of transportation service or discount requested; and if the operator offers reduced fares to senior citizens, it also offers the same reduced fare to disabled patrons	In Compliance	Fare information in public information materials on SFMTA website.

Code Reference	Operator Compliance Requirements	Compliance Finding	Verification Information
PUC99155.1(a)(1)(2)	Welfare-to-Work - The operator coordinates with county welfare departments in order to ensure that transportation moneys available for purposes of assisting recipients of aid are expended efficiently for the benefit of that population; if a recipient of CalWORKs program funds by the county, the operator shall give priority to the enhancement of public transportation services for welfare-to-work purposes and to the enhancement of transportation alternatives, such as, but not limited to, subsidies or vouchers, van pools, and contract paratransit operations, in order to promote welfare-to-work purposes.	In Compliance	SFMTA is a stakeholder in the MTC Coordinated Public Transit-Human Services Transportation Plan for the San Francisco Bay Area, directed by MTC as the RTAP and MPO for the Bay Area. The most recent Coordination Plan update was completed in March 2013.
PUC99314.7, Govt Code 66516, MTC Res. Nos. 3837, 4073	Joint Revenue Sharing Agreement - The operator has current joint fare revenue sharing agreements in place with transit operators in the MTC region with which its service connects, and submitted copies of agreements to MTC	In Compliance	SFMTA and connecting operators participate in the regional Clipper program. Additional agreements with BART remain in effect: • Daly City Transfer Agreement (1994) • Fast Pass Agreement (2014)
PUC99246(d)	Process for Evaluation of Passenger Needs - The operator has an established process in place for evaluating the needs and types of passengers being served	In Compliance	• Short Range Transit Plan (SRTP) -- most recent FY2015-FY2030, adopted June 2015: includes evaluations of existing service and facility conditions, demographic analysis, service alternatives, marketing and outreach plans, operating and capital plans and recommendations. • "Muni Forward" program website – describes various transit route changes and service improvement

Code Reference	Operator Compliance Requirements	Compliance Finding	Verification Information
			projects underway or planned, largely as informed by the earlier Transit Effectiveness Project (TEP). • 2013 Systemwide On-Board Survey/Customer Survey Reports • 2014 Ridership Survey Report

V. STATUS OF PRIOR AUDIT RECOMMENDATIONS

SFMTA's prior performance audit was completed in June 2013. Generally, MTC has used the audit recommendations as the basis for developing the Productivity Improvement Program (PIP) projects the operator is required to complete. MTC tracks PIP project implementation as part of its annual review of the operator's TDA-STA claim application. This section provides an assessment of actions taken by TDA-STA recipients toward implementing the recommendations advanced in the prior audit. This assessment provides continuity between the current and prior audits, which allows MTC to fulfill its obligations where the recommendations were advanced as PIP projects.

This review addresses SFMTA's responses to the recommendations made in the prior performance audit, and whether SFMTA made reasonable progress toward their implementation. However, there were no recommendations made in SFMTA's prior audit.

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VI. FUNCTIONAL PERFORMANCE INDICATOR TRENDS

To further assess SFMTA's performance over the past three years, a detailed set of functional area performance indicators was defined. This assessment consists of a three-year trend analysis of the functions in each of the following areas:

- Management, Administration and Marketing
- Service Planning
- Operations
- Maintenance
- Safety

The indicators selected for this analysis were primarily those that were tracked regularly by SFMTA or for which input data were maintained by SFMTA on an on-going basis, such as performance reports, contractor reports, annual financial reports and NTD reports. As such, there may be some overlap with the TDA indicators examined earlier in the audit process, but most indicators will be different. Some indicators were selected from the California Department of Transportation's Performance Audit Guidebook for Transit Operators and Regional Transportation Planning Entities as being appropriate for this evaluation. The input statistics for the indicators, along with their sources, are contained in Appendix A at the end of this report.

The trends in performance are presented over the three-year audit period to give an indication of which direction performance is moving for these indicators. The remainder of this section presents the findings from this review. The discussion presents

the highlights of performance systemwide or by mode, each followed by an exhibit illustrating the indicators by function as applicable.

Systemwide (All Modes)

For the purposes of this review, SFMTA's functional indicators relating to Management, Administration and Marketing have been included generally on a systemwide basis. In addition, data for certain indicators in the operations, maintenance and safety areas are not available from SFMTA by mode, so they are included in this section. Systemwide audit period performance is discussed below and presented in Exhibit 10.

- Management, Administration and Marketing

  - Administrative costs increased from about 17 percent of total operating costs in FY2013 to 20 percent or higher, and at the same time increased from $32 to well over $40 per vehicle service hour.

  - The portion of administrative costs attributed to marketing activities decreased overall, from three to two percent. In terms of passenger trips, marketing costs amounted to $0.02 in both FY2013 and FY2015.

  - The TDA Article 4 operating ratio, reflecting farebox revenue plus local support, declined significantly, from nearly 50 percent of operating costs in FY2013 to 39 percent in FY2014 and 37 percent in the last year. However, in FY2013 SFMTA received $56 million more than usual from the SF County Transportation Authority -- for the Central Subway Project tunnel boring. Additionally, the share of funds received from MTC from Bridge Tolls (AB664 and RM2) dropped from FY2013 to FY2015 by approximately $2 million.

  - The systemwide farebox recovery ratio declined from about 33 percent in the FY2013 to less than 29 percent by FY2015. However, SFMTA noted that FY2013 fare revenues included a one-time $10.8 million

payment pursuant to a contract finalized with BART for feeder services provided by SFMTA between FY2010 and FY2013. It also should be noted that the paratransit farebox revenues reported only include those collected by SFMTA; revenues collected by the contractor (for door-to-door, shared-ride van services -- approximately $300,000 per year) are abated against the operating costs.

- Operations, Maintenance and Safety

  - The rate of complaints (all modes except paratransit) was reduced slightly in FY2015, from 8.6 to 8.3 per 100,000 passengers.

  - Mechanic pay hours increased over the period from about 43 percent of vehicle service hours to 48 percent.

  - Maintenance employee scheduled and unscheduled absences both increased somewhat overall, but remained at about 16 percent and five percent of total hours worked, respectively.

  - There were about 14,000 work hours lost due to industrial accidents in both FY2013 and FY2015, but nearly 16,000 in the interim year.

  - Operating training hours more than tripled to over 200,000 in FY2015 compared to the previous two years.

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The following is a brief summary of the systemwide functional trend highlights between FY2013 and FY2015:

- Management, Administration and Marketing results showed administrative costs rose to 20 percent of total operating costs, and increased to well over $40 per vehicle service hour. Meanwhile, marketing costs decreased compared to total administrative costs and remained relatively steady in terms of passenger trips. The TDA Article 4 operating ratio (including local support) declined from nearly 50 percent to 37

percent, but the FY2013 results reflected one-time increased funding for Central Subway Project activities. Meanwhile, the farebox recovery ratio declined to less than 29 percent, but FY2013 fare revenues included a one-time $10.8 million payment from BART for multi-year feeder services.

- Operations, Maintenance and Safety results showed complaints decreased slightly, mechanic pay hours increased compared to vehicle service hours, maintenance employee scheduled absences at about 16 percent of total work hours and unscheduled absences at about five percent, overall stability in lost time due to industrial accidents, and a major increase in operator training time.

Exhibit 10: Functional Performance Trends – Systemwide (All Modes)

FUNCTION/Indicator	Actual Performance		
	FY2013	FY2014	FY2015
MANAGEMENT, ADMINISTRATION & MARKETING			
Administrative Cost/Total Operating Cost	16.6%	21.3%	19.8%
Annual Percent Change	- -	*28.0%*	*-7.1%*
Three Year Percent Change	- -	- -	*18.9%*
Adminstrative Cost/Vehicle Service Hour	$32.11	$44.96	$42.37
Annual Percent Change	- -	*40.0%*	*-5.8%*
Three Year Percent Change	- -	- -	*31.9%*
Marketing Cost/Total Administrative Cost	3.1%	2.1%	2.3%
Annual Percent Change	- -	*-34.1%*	*11.0%*
Three Year Percent Change	- -	- -	*-26.8%*
Marketing Cost/Unlinked Passenger Trip	$0.02	$0.01	$0.02
Annual Percent Change	- -	*-11.6%*	*11.7%*
Three Year Percent Change	- -	- -	*-1.3%*
TDA Art. 4 Farebox Rev. + Local Support/Oper. Cost	49.6%	39.4%	37.6%
Annual Percent Change	- -	*-20.5%*	*-4.5%*
Three Year Percent Change	- -	- -	*-24.1%*
Farebox Revenue/Operating Cost	32.9%	29.8%	28.8%
Annual Percent Change	- -	*-9.6%*	*-3.3%*
Three Year Percent Change	- -	- -	*-12.6%*
OPERATIONS, MAINTENANCE & SAFETY			
Complaints/100,000 Unlinked Passenger Trips	8.6	8.6	8.3
Annual Percent Change	- -	*0.4%*	*-3.0%*
Three Year Percent Change	- -	- -	*-2.5%*
Mechanic Pay Hours/Vehicle Service Hours	42.8%	47.5%	48.3%
Annual Percent Change	- -	*10.9%*	*1.6%*
Three Year Percent Change	- -	- -	*12.7%*
Maint. Empl. Sched. Absences/Tot. Hours Worked	15.7%	16.3%	16.2%
Annual Percent Change	- -	*3.5%*	*-0.7%*
Three Year Percent Change	- -	- -	*2.8%*
Maint. Empl. Unsched. Absences/Tot. Hours Worked	5.5%	5.3%	5.7%
Annual Percent Change	- -	*-3.5%*	*6.8%*
Three Year Percent Change	- -	- -	*3.1%*
Lost Days Due to Industrial Accidents	14,496	15,956	14,382
Annual Percent Change	- -	*10.1%*	*-9.9%*
Three Year Percent Change	- -	- -	*-0.8%*
Operator Training Hours - Actual	63,438	66,569	214,323
Annual Percent Change	- -	*4.9%*	*222.0%*
Three Year Percent Change	- -	- -	*237.8%*

Motor Coach

SFMTA's motor coach functional area trends represent areas of cost efficiency, safety, productivity and service reliability. Audit period performance is discussed below and presented in Exhibit 11.

- Service Planning
  - The scheduled operator pay hour to platform hour ratio increased overall from about 133 percent to 142 percent.
  - Operating costs per passenger mile increased from $1.16 in the first year to $1.39 in FY2015 (20 percent).
  - The portion of vehicle miles traveled that were in service was reduced from 90 percent to 88 percent. Similarly, the portion of vehicle hours in service decreased from 93 to 92 percent.

- Operations
  - Vehicle operations costs were reduced overall from 60 percent of total operating costs in FY2013 to 57 percent in FY2015, while vehicle operations costs per service hour increased overall from $107 to $111.
  - Operator scheduled absences remained at about 11 percent of total hours worked, while unscheduled absences went down in FY2015 from 5.4 to 4.8 percent.
  - The actual operator pay hour to platform hour ratio increased in each year, from about 146 percent to 160 percent overall.
  - Schedule adherence (reported based on timepoint checks) deteriorated from 63 percent in FY2013 to 59 percent by FY2015.
  - The incidence of missed trips increased to 4.0 percent in FY2014, but then reversed to 2.2 percent in FY2015.

- Maintenance

  - Total maintenance costs (vehicle plus non-vehicle) remained in a range of 21 to 23 percent of total operating costs.

  - Vehicle maintenance costs per service mile increased over the audit period from $3.93 in FY2013 to about $4.70 in the next two years, 18 percent overall. SFMTA noted that it has experienced increases in costs directly attributable to improved maintenance practices, especially investing in the fleet earlier on rather than face breakdowns when vehicles are in service.

  - The vehicle spare ratio dropped noticeably in each year, from 28.5 percent in FY2013 to 13.0 percent in FY2015.

  - The mean distance between major failures improved overall by one-third during the period. When looking at all failures, the rate of improvement was double that.

- Safety

  - The rate of preventable accidents increased from six per 100,000 miles traveled in the first two years, to seven in FY2015. SFMTA is aware of that it has recently experienced a higher rate of collisions, which is attributed at least in part to a large influx of new operators, and has implemented a multi-pronged Collision Reduction Program to help reverse this trend.

  - Casualty/liability costs per service per service hour and mile both jumped significantly in FY2014, followed by a partial turnaround in FY2015.

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The following is a brief summary of the motor coach functional trend highlights between FY2013 and FY2015:

- Service Planning results showed an increase in the scheduled operator pay to platform ratio to 142 percent, a 20 percent increase in the cost per passenger mile, and moderate decreases in the portions of vehicle miles and hours in service.

- Operations results showed some reduction in operating costs incurred from vehicle operations, and some increase in vehicle operations costs per hour. Operator scheduled absences were steady at about 11 percent of total work hours, while unscheduled absences went down to 4.8 percent. The actual operator pay to platform ratio climbed to 160 percent. Schedule adherence went down from 63 to 59 percent, while missed trips were down to 2.2 percent in FY2015.

- Maintenance results showed vehicle maintenance costs per mile increasing by 18 percent overall, but the vehicle spare ratio decreasing steadily and substantially, and noticeable improvement in the mechanical failure rates. The increased maintenance costs are directly attributable to improved maintenance practices.

- Safety results showed the preventable accident rate increasing in FY2015, and sharply increasing casualty/liability costs in FY2014 which were followed by some turnaround in FY2015. SFMTA is aware of that it has recently experienced a higher rate of collisions, and has implemented a multi-pronged Collision Reduction Program.

Exhibit 11: Functional Performance Trends – Motor Coach

FUNCTION/Indicator	Actual Performance		
	FY2013	FY2014	FY2015
SERVICE PLANNING			
Operator Pay Hours to Platform Hours - Scheduled	132.8%	131.2%	142.3%
Annual Percent Change	- -	*-1.2%*	*8.4%*
Three Year Percent Change	- -	- -	*7.1%*
Total Operating Cost/Passenger Mile	$1.16	$1.26	$1.39
Annual Percent Change	- -	*8.2%*	*10.9%*
Three Year Percent Change	- -	- -	*19.9%*
Vehicle Service Miles/Total Miles	90.2%	89.7%	88.1%
Annual Percent Change	- -	*-0.5%*	*-1.8%*
Three Year Percent Change	- -	- -	*-2.3%*
Vehicle Service Hours/Total Hours	93.3%	92.9%	92.4%
Annual Percent Change	- -	*-0.4%*	*-0.5%*
Three Year Percent Change	- -	- -	*-1.0%*
OPERATIONS			
Vehicle Operations Cost/Total Operating Cost	60.7%	54.6%	56.9%
Annual Percent Change	- -	*-10.0%*	*4.1%*
Three Year Percent Change	- -	- -	*-6.3%*
Vehicle Operations Cost/Vehicle Service Hour	$107.15	$105.39	$111.46
Annual Percent Change	- -	*-1.6%*	*5.8%*
Three Year Percent Change	- -	- -	*4.0%*
Operator Sched. Absences/Total Hours Worked	10.8%	11.0%	10.7%
Annual Percent Change	- -	*1.9%*	*-2.6%*
Three Year Percent Change	- -	- -	*-0.8%*
Operator Unsched. Absences/Total Hours Worked	5.4%	5.4%	4.8%
Annual Percent Change	- -	*0.2%*	*-10.8%*
Three Year Percent Change	- -	- -	*-10.6%*
Operator Pay Hours to Platform Hours - Actual	146.5%	150.4%	160.5%
Annual Percent Change	- -	*2.7%*	*6.7%*
Three Year Percent Change	- -	- -	*9.6%*
Timepoints On-Time/Total Timepoints	63.0%	61.5%	58.9%
Annual Percent Change	- -	*-2.4%*	*-4.2%*
Three Year Percent Change	- -	- -	*-6.5%*
Missed Trips/Total Trips	2.5%	4.0%	2.2%
Annual Percent Change	- -	*62.9%*	*-44.1%*
Three Year Percent Change	- -	- -	*-8.9%*

FUNCTION/Indicator	Actual Performance		
	FY2013	FY2014	FY2015
MAINTENANCE			
Vehicle + Non-Veh. Maint. Cost/Total Operating Cost	22.2%	23.0%	21.3%
Annual Percent Change	- -	*3.4%*	*-7.3%*
Three Year Percent Change	- -	- -	*-4.1%*
Vehicle Maintenance Cost/Vehicle Service Mile	$3.93	$4.78	$4.65
Annual Percent Change	- -	*21.7%*	*-2.7%*
Three Year Percent Change	- -	- -	*18.4%*
Spare Vehicles/Total Vehicles	28.5%	16.7%	13.0%
Annual Percent Change	- -	*-41.5%*	*-22.4%*
Three Year Percent Change	- -	- -	*-54.6%*
Mean Distance between Major Failures (Miles)	5,261	7,019	6,971
Annual Percent Change	- -	*33.4%*	*-0.7%*
Three Year Percent Change	- -	- -	*32.5%*
Mean Distance between All Failures (Miles)	3,786	5,580	6,380
Annual Percent Change	- -	*47.4%*	*14.3%*
Three Year Percent Change	- -	- -	*68.5%*
SAFETY			
Preventable Accidents/100,000 Vehicle Miles	6.03	6.05	6.98
Annual Percent Change	- -	*0.3%*	*15.4%*
Three Year Percent Change	- -	- -	*15.7%*
Casualty & Liability Cost/Vehicle Service Hour	$3.32	$12.48	$8.18
Annual Percent Change	- -	*276.4%*	*-34.5%*
Three Year Percent Change	- -	- -	*146.6%*
Casualty & Liability Cost/Vehicle Service Mile	$0.40	$1.54	$1.03
Annual Percent Change	- -	*282.8%*	*-33.0%*
Three Year Percent Change	- -	- -	*156.6%*

Trolley Coach

SFMTA's trolley coach functional area performance trends for the audit period are discussed below and presented in Exhibit 12.

- Service Planning
  - The scheduled operator pay hour to platform hour ratio increased from 118 percent in the first two years to 125 percent in FY2015.
  - Operating costs per passenger mile increased from $1.48 in the first year to $1.83 in FY2015 (24 percent).
  - The portion of vehicle miles traveled that were in service remained at about 96 percent. Similarly, the portion of vehicle hours in service remained at about 97 percent.
- Operations
  - Vehicle operations costs were reduced from 55 percent of total operating costs in FY2013 to 52 percent in both following years, while vehicle operations costs per service hour increased overall from $82.68 to $91.48.
  - Operator scheduled absences remained at just over ten percent of total hours worked, while unscheduled absences went down in FY2015 from five percent to 4.4 percent.
  - The actual operator pay hour to platform hour ratio increased in each year, from about 134 percent to 143 percent overall.
  - Schedule adherence (reported based on timepoint checks) was in a range of 61 to 63 percent through the period.
  - The incidence of missed trips decreased steadily from 4.0 percent in FY2013 to 1.4 percent by FY2015.

- Maintenance

  - Total maintenance costs (vehicle plus non-vehicle) remained in a range of 25 to 27 percent of total operating costs.

  - Vehicle maintenance costs per service mile increased from $3.68 in FY2013 to $4.95 two years later (34 percent), with most of the increase occurring in FY2015. SFMTA noted that it has experienced increases in costs directly attributable to improved maintenance practices, especially investing in the fleet earlier on rather than face breakdowns when vehicles are in service.

  - The vehicle spare ratio dropped slightly from 29 percent to 28 percent.

  - The mean distance between major failures improved overall by 11 percent during the period. When looking at all failures, the rate of improvement was triple that.

- Safety

  - The rate of preventable accidents increased from about eight per 100,000 miles traveled in the first two years, to 9.3 in FY2015. SFMTA is aware that it has recently experienced a higher rate of collisions, which is attributed at least in part to a large influx of new operators, and has implemented a multi-pronged Collision Reduction Program to help reverse this trend.

  - Casualty/liability costs per service per service hour and mile both jumped significantly in FY2014, followed by a partial turnaround in FY2015.

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The following is a brief summary of the trolley coach functional trend highlights between FY2013 and FY2015:

- Service Planning results showed an increase in the scheduled operator pay to platform ratio to 125 percent, a 24 percent increase in the cost per passenger mile, and steady levels of vehicle miles and hours in service.

- Operations results showed some reduction in operating costs incurred from vehicle operations, and an increase in vehicle operations costs per hour. Operator scheduled absences were steady at about ten percent of total work hours, while unscheduled absences went down from five to 4.4 percent. The actual operator pay to platform ratio climbed to 143 percent. Schedule adherence ranged between 61 and 63 percent, while missed trips were down to 1.4 percent in FY2015.

- Maintenance results showed vehicle maintenance costs per mile increasing by 34 percent overall, while the spare ratio decreased slightly and there was improvement in the mechanical failure rates. The increased maintenance costs are directly attributable to improved maintenance practices.

- Safety results showed the preventable accident rate increasing in FY2015, and sharply increasing casualty/liability costs in FY2014 which were followed by some turnaround in FY2015. SFMTA is aware of that it has recently experienced a higher rate of collisions, and has implemented a multi-pronged Collision Reduction Program.

Exhibit 12: Functional Performance Trends – Trolley Coach

FUNCTION/Indicator	Actual Performance		
	FY2013	FY2014	FY2015
SERVICE PLANNING			
Operator Pay Hours to Platform Hours - Scheduled	117.9%	118.0%	125.2%
Annual Percent Change	- -	*0.1%*	*6.1%*
Three Year Percent Change	- -	- -	*6.2%*
Total Operating Cost/Passenger Mile	$1.48	$1.54	$1.83
Annual Percent Change	- -	*4.0%*	*19.0%*
Three Year Percent Change	- -	- -	*23.8%*
Vehicle Service Miles/Total Miles	96.4%	96.7%	96.0%
Annual Percent Change	- -	*0.2%*	*-0.6%*
Three Year Percent Change	- -	- -	*-0.4%*
Vehicle Service Hours/Total Hours	97.1%	97.3%	97.1%
Annual Percent Change	- -	*0.1%*	*-0.2%*
Three Year Percent Change	- -	- -	*-0.1%*
OPERATIONS			
Vehicle Operations Cost/Total Operating Cost	55.4%	51.8%	51.8%
Annual Percent Change	- -	*-6.5%*	*0.0%*
Three Year Percent Change	- -	- -	*-6.5%*
Vehicle Operations Cost/Vehicle Service Hour	$82.68	$83.11	$91.48
Annual Percent Change	- -	*0.5%*	*10.1%*
Three Year Percent Change	- -	- -	*10.6%*
Operator Sched. Absences/Total Hours Worked	10.5%	10.9%	10.8%
Annual Percent Change	- -	*4.2%*	*-1.0%*
Three Year Percent Change	- -	- -	*3.1%*
Operator Unsched. Absences/Total Hours Worked	5.0%	5.1%	4.4%
Annual Percent Change	- -	*1.4%*	*-14.1%*
Three Year Percent Change	- -	- -	*-13.0%*
Operator Pay Hours to Platform Hours - Actual	133.7%	134.7%	142.9%
Annual Percent Change	- -	*0.7%*	*6.1%*
Three Year Percent Change	- -	- -	*6.8%*
Timepoints On-Time/Total Timepoints	62.3%	63.3%	61.4%
Annual Percent Change	- -	*1.6%*	*-3.1%*
Three Year Percent Change	- -	- -	*-1.5%*
Missed Trips/Total Trips	4.0%	2.7%	1.4%
Annual Percent Change	- -	*-31.3%*	*-50.6%*
Three Year Percent Change	- -	- -	*-66.0%*

FUNCTION/Indicator	Actual Performance		
	FY2013	FY2014	FY2015
MAINTENANCE			
Vehicle + Non-Veh. Maint. Cost/Total Operating Cost	26.8%	25.6%	27.5%
Annual Percent Change	- -	*-4.6%*	*7.4%*
Three Year Percent Change	- -	- -	*2.4%*
Vehicle Maintenance Cost/Vehicle Service Mile	$3.68	$3.87	$4.95
Annual Percent Change	- -	*5.0%*	*28.0%*
Three Year Percent Change	- -	- -	*34.4%*
Spare Vehicles/Total Vehicles	29.2%	28.4%	27.9%
Annual Percent Change	- -	*-2.9%*	*-1.5%*
Three Year Percent Change	- -	- -	*-4.4%*
Mean Distance between Major Failures (Miles)	2,948	3,297	3,275
Annual Percent Change	- -	*11.9%*	*-0.7%*
Three Year Percent Change	- -	- -	*11.1%*
Mean Distance between All Failures (Miles)	2,109	2,969	2,796
Annual Percent Change	- -	*40.8%*	*-5.8%*
Three Year Percent Change	- -	- -	*32.6%*
SAFETY			
Preventable Accidents/100,000 Vehicle Miles	8.03	7.79	9.30
Annual Percent Change	- -	*-2.9%*	*19.3%*
Three Year Percent Change	- -	- -	*15.9%*
Casualty & Liability Cost/Vehicle Service Hour	$2.50	$9.75	$6.26
Annual Percent Change	- -	*289.2%*	*-35.8%*
Three Year Percent Change	- -	- -	*149.8%*
Casualty & Liability Cost/Vehicle Service Mile	$0.39	$1.54	$1.03
Annual Percent Change	- -	*292.4%*	*-33.0%*
Three Year Percent Change	- -	- -	*163.1%*

Light Rail

SFMTA's light rail/historic trolley functional area performance trends for the audit period are discussed below and presented in Exhibit 13.

- Service Planning

  - The scheduled operator pay hour to platform hour ratio decreased overall from about 96 percent in the first two years to 90 percent in FY2015. It should be noted that for these results, platform hours reflect car service hours, although many light rail trains consist of multiple cars with a single operator.

  - Operating costs per passenger mile decreased from $1.40 in the first year to $1.35 in FY2015 (3.7 percent).

  - Virtually all car miles traveled and car hours were in service in all three years.

- Operations

  - Vehicle operations costs increased from 32 percent of total operating costs in the first two years to 34 percent in FY2015, while vehicle operations costs per service hour increased overall from $98 to $115.

  - Operator scheduled absences decreased slightly from 11.3 percent to 10.9 percent of total hours worked, while unscheduled absences went down from 5.2 to 4.6 percent.

  - The actual operator pay hour to platform hour ratio increased in FY2014 from 108 percent to 139 percent, and then fell back to 124 percent in FY2015 (an overall 12 percent increase). Similar to the scheduled operator pay to platform ratio discussed above, for these results platform hours reflect car service hours, although many light rail trains consist of multiple cars with a single operator.

- Schedule adherence (reported based on timepoint checks) remained at just under 50 percent in all three years.
- The incidence of missed trips increased from two percent in FY2013 to nearly five percent in FY2014 and FY2015, but this appears largely due to a change in data methodology that attempts to more accurately capture missed service through enhanced use of the Central Control Logs and the Automatic Train Control System (ACTS).

- Maintenance

  - Total maintenance costs (vehicle plus non-vehicle) were reduced from 52 percent of total operating costs in FY2013 to 48 percent in the next two years.

  - Vehicle maintenance costs per service mile increased overall from $12.48 to $12.77, or 2.3 percent.

  - The car spare ratio dropped slightly in FY2015, from 23 percent to 22 percent.

  - The mean distance between major failures declined in FY2014 but recovered in FY2015 to FY2013 levels. When looking at all failures, there was an overall decline of 3.7 percent.

- Safety

  - There were about three preventable accidents per 100,000 miles traveled in the first and last years, with 2.5 in the interim year.

  - Casualty/liability costs per service per service hour and mile both jumped significantly in FY2014, followed by a partial turnaround in FY2015.

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The following is a brief summary of the light rail functional trend highlights between FY2013 and FY2015:

- Service Planning results showed some decrease in the scheduled operator pay to platform ratio (based on car service hours), a 3.7 percent decrease in the cost per passenger mile, and virtually all car miles and hours in service.

- Operations results showed a moderate increase to 34 percent of operating costs incurred from vehicle operations, and an increase in vehicle operations costs per hour. Operator scheduled absences were down slightly to 10.9 percent of total work hours, while unscheduled absences went down to 4.6 percent. The actual operator pay to platform ratio (based on car service hours) climbed by 12 percent overall. Schedule adherence remained at just under 50 percent. Missed trips were up from two percent to nearly five percent in the last two years, but this has been attributed to an improved methodology for capturing missed service.

- Maintenance results showed some decrease in the operating costs incurred from maintenance activities (vehicle and non-vehicle), while vehicle maintenance costs per mile increased by 2.3 percent overall and the spare ratio decreased slightly. There was little overall change in the major mechanical failure rate, with a small general increase in all mechanical failures.

- Safety results showed the preventable accident rate relatively stable, but sharply increasing casualty/liability costs in FY2014 which were followed by some turnaround in FY2015.

Exhibit 13: Functional Performance Trends – Light Rail

FUNCTION/Indicator	Actual Performance		
	FY2013	FY2014	FY2015
SERVICE PLANNING			
Operator Pay Hours to Platform Hours - Scheduled *(a)*	95.6%	96.3%	90.1%
Annual Percent Change	- -	*0.7%*	*-6.5%*
Three Year Percent Change	- -	- -	*-5.8%*
Total Operating Cost/Passenger Mile	$1.40	$1.38	$1.35
Annual Percent Change	- -	*-1.6%*	*-2.1%*
Three Year Percent Change	- -	- -	*-3.7%*
Car Service Miles/Total Miles	99.97%	99.87%	99.84%
Annual Percent Change	- -	*-0.1%*	*0.0%*
Three Year Percent Change	- -	- -	*-0.1%*
Car Service Hours/Total Hours	99.7%	99.5%	99.4%
Annual Percent Change	- -	*-0.2%*	*0.0%*
Three Year Percent Change	- -	- -	*-0.3%*
OPERATIONS			
Vehicle Operations Cost/Total Operating Cost	32.5%	31.8%	34.0%
Annual Percent Change	- -	*-2.0%*	*6.7%*
Three Year Percent Change	- -	- -	*4.6%*
Vehicle Operations Cost/Car Service Hour	$98.38	$124.20	$115.43
Annual Percent Change	- -	*26.3%*	*-7.1%*
Three Year Percent Change	- -	- -	*17.3%*
Operator Sched. Absences/Total Hours Worked	11.3%	11.1%	10.9%
Annual Percent Change	- -	*-2.6%*	*-0.9%*
Three Year Percent Change	- -	- -	*-3.5%*
Operator Unsched. Absences/Total Hours Worked	5.2%	5.0%	4.6%
Annual Percent Change	- -	*-4.7%*	*-8.0%*
Three Year Percent Change	- -	- -	*-12.3%*
Operator Pay Hours to Platform Hours - Actual *(a)*	108.4%	139.3%	121.5%
Annual Percent Change	- -	*28.5%*	*-12.8%*
Three Year Percent Change	- -	- -	*12.0%*
Timepoints On-Time/Total Timepoints	48.2%	49.1%	48.6%
Annual Percent Change	- -	*2.0%*	*-1.0%*
Three Year Percent Change	- -	- -	*1.0%*
Missed Trips/Total Trips	2.0%	4.9%	4.7%
Annual Percent Change	- -	*149.0%*	*-3.8%*
Three Year Percent Change	- -	- -	*139.5%*

(a) Platform hours reflect car service hours; many light rail trains consist of multiple cars with a single operator.

FUNCTION/Indicator	Actual Performance		
	FY2013	FY2014	FY2015
MAINTENANCE			
Vehicle + Non-Veh. Maint. Cost/Total Operating Cost	52.2%	48.2%	48.5%
Annual Percent Change	- -	*-7.7%*	*0.7%*
Three Year Percent Change	- -	- -	*-7.1%*
Vehicle Maintenance Cost/Car Service Mile	$12.48	$12.94	$12.77
Annual Percent Change	- -	*3.7%*	*-1.4%*
Three Year Percent Change	- -	- -	*2.3%*
Spare Vehicles/Total Vehicles	22.9%	22.9%	22.1%
Annual Percent Change	- -	*0.0%*	*-3.4%*
Three Year Percent Change	- -	- -	*-3.4%*
Mean Distance between Major Failures (Miles)	3,782	2,953	3,829
Annual Percent Change	- -	*-21.9%*	*29.7%*
Three Year Percent Change	- -	- -	*1.3%*
Mean Distance between All Failures (Miles)	717	658	691
Annual Percent Change	- -	*-8.2%*	*4.9%*
Three Year Percent Change	- -	- -	*-3.7%*
SAFETY			
Preventable Accidents/100,000 Car Miles	2.90	2.50	2.99
Annual Percent Change	- -	*-13.7%*	*19.2%*
Three Year Percent Change	- -	- -	*2.9%*
Casualty & Liability Cost/Car Service Hour	$3.55	$16.50	$6.52
Annual Percent Change	- -	*364.2%*	*-60.5%*
Three Year Percent Change	- -	- -	*83.4%*
Casualty & Liability Cost/Car Service Mile	$0.40	$1.67	$0.74
Annual Percent Change	- -	*320.2%*	*-55.8%*
Three Year Percent Change	- -	- -	*85.7%*

Cable Car

SFMTA's cable car functional area performance trends for the audit period are discussed below and presented in Exhibit 14.

- Service Planning
  - The scheduled operator pay hour to platform hour ratio increased from about 243 percent to 262 percent.
  - Operating costs per passenger mile increased overall from $6.10 in the first year to $6.95 in FY2015 (14 percent).
  - The portion of vehicle miles traveled that were in service remained at about 98 percent. Similarly, the portion of vehicle hours in service remained at about 99 percent.
- Operations
  - Vehicle operations costs remained in a range of 51 to 54 percent of total operating costs, while vehicle operations costs per service hour increased overall by 15 percent.
  - Operator scheduled absences increased slightly from ten percent to 11.1 percent of total hours worked, while unscheduled absences went up from 4.1 to 5.0 percent.
  - The actual operator pay hour to platform hour ratio increased in each year, from about 290 percent to 318 percent overall.
  - Schedule adherence (reported based on timepoint checks) was only about 13 percent throughout the audit period.
  - The incidence of missed trips decreased from 2.7 percent in FY2013 to 1.2 percent in FY2015.

- Maintenance

  - Total maintenance costs (vehicle plus non-vehicle) were reduced from 32 percent of total operating costs in FY2013 to 29 percent in FY2014, and then increased to 33 percent in FY2015.

  - Vehicle maintenance costs per service mile increased over the audit period from about $22 in the first two years to $29 in FY2015, almost 30 percent overall. SFMTA noted that it has experienced increases in costs directly attributable to improved maintenance practices, especially investing in the fleet earlier on rather than face breakdowns when vehicles are in service.

  - The car spare ratio remained at 32.5 percent.

  - The mean distance between major failures improved overall by more than one-third during the period, to 5,269 miles in FY2015. When looking at all failures, the rate was steady -- at about 135 miles.

- Safety

  - The rate of preventable accidents increased from 16 per 100,000 miles traveled in the first year to 26 in FY2014 and FY2015 (60 percent). SFMTA is aware of that it has recently experienced a higher rate of collisions, which is attributed at least in part to a large influx of new operators, and has implemented a multi-pronged Collision Reduction Program to help reverse this trend.

  - Casualty/liability costs per service per service hour and mile both jumped significantly in FY2014, and then a partial turnaround in FY2015.

* * * * *

The following is a brief summary of the cable car functional trend highlights between FY2013 and FY2015:

- Service Planning results showed an increase in the scheduled operator pay to platform ratio to 262 percent, a 14 percent overall increase in the cost per passenger mile, and virtually all car miles and hours in service.

- Operations results showed a relatively steady trend in operating costs incurred from vehicle operations, but a 15 percent increase in vehicle operations costs per hour. Operator scheduled and unscheduled absence rates both went up slightly, and the actual operator pay to platform ratio climbed to 318 percent. Schedule adherence remained at only 13 percent, while missed trips were down to 1.2 percent in FY2015.

- Maintenance results showed car maintenance costs per mile increasing by almost 30 percent overall, while the spare ratio remained at 32.5 percent. The major mechanical failure rate improved by one-third, while the rate for all mechanical failures was steady. The increased maintenance costs are directly attributable to improved maintenance practices.

- Safety results showed the preventable accident rate increasing by 60 percent after FY2013, and sharply increasing casualty/liability costs in FY2014 which were followed by some turnaround in FY2015. SFMTA is aware of that it has recently experienced a higher rate of collisions, and has implemented a multi-pronged Collision Reduction Program.

Exhibit 14: Functional Performance Trends – Cable Car

FUNCTION/Indicator	Actual Performance		
	FY2013	FY2014	FY2015
SERVICE PLANNING			
Operator Pay Hours to Platform Hours - Scheduled	242.8%	250.8%	262.4%
Annual Percent Change	- -	*3.3%*	*4.6%*
Three Year Percent Change	- -	- -	*8.0%*
Total Operating Cost/Passenger Mile	$6.10	$5.64	$6.95
Annual Percent Change	- -	*-7.6%*	*23.2%*
Three Year Percent Change	- -	- -	*13.8%*
Car Service Miles/Total Miles	97.91%	97.85%	97.87%
Annual Percent Change	- -	*-0.1%*	*0.0%*
Three Year Percent Change	- -	- -	*0.0%*
Car Service Hours/Total Hours	98.9%	98.9%	98.8%
Annual Percent Change	- -	*0.0%*	*-0.1%*
Three Year Percent Change	- -	- -	*0.0%*
OPERATIONS			
Vehicle Operations Cost/Total Operating Cost	52.8%	53.9%	51.1%
Annual Percent Change	- -	*2.1%*	*-5.2%*
Three Year Percent Change	- -	- -	*-3.2%*
Vehicle Operations Cost/Car Service Hour	$193.21	$196.12	$222.25
Annual Percent Change	- -	*1.5%*	*13.3%*
Three Year Percent Change	- -	- -	*15.0%*
Operator Sched. Absences/Total Hours Worked	10.0%	10.9%	11.1%
Annual Percent Change	- -	*8.5%*	*1.9%*
Three Year Percent Change	- -	- -	*10.6%*
Operator Unsched. Absences/Total Hours Worked	4.1%	4.7%	5.0%
Annual Percent Change	- -	*15.2%*	*4.7%*
Three Year Percent Change	- -	- -	*20.6%*
Operator Pay Hours to Platform Hours - Actual	289.8%	298.9%	317.7%
Annual Percent Change	- -	*3.1%*	*6.3%*
Three Year Percent Change	- -	- -	*9.6%*
Timepoints On-Time/Total Timepoints	13.2%	13.2%	12.5%
Annual Percent Change	- -	*0.1%*	*-4.7%*
Three Year Percent Change	- -	- -	*-4.6%*
Missed Trips/Total Trips	2.7%	2.5%	1.2%
Annual Percent Change	- -	*-7.1%*	*-52.7%*
Three Year Percent Change	- -	- -	*-56.1%*

FUNCTION/Indicator	Actual Performance		
	FY2013	FY2014	FY2015
MAINTENANCE			
Vehicle + Non-Veh. Maint. Cost/Total Operating Cost	31.9%	29.0%	33.2%
Annual Percent Change	- -	*-9.3%*	*14.6%*
Three Year Percent Change	- -	- -	*3.9%*
Vehicle Maintenance Cost/Car Service Mile	$22.63	$22.11	$29.19
Annual Percent Change	- -	*-2.3%*	*32.0%*
Three Year Percent Change	- -	- -	*29.0%*
Spare Vehicles/Total Vehicles	32.5%	32.5%	32.5%
Annual Percent Change	- -	*0.0%*	*0.0%*
Three Year Percent Change	- -	- -	*0.0%*
Mean Distance between Major Failures (Miles)	3,828	4,734	5,269
Annual Percent Change	- -	*23.7%*	*11.3%*
Three Year Percent Change	- -	- -	*37.6%*
Mean Distance between All Failures (Miles)	139	135	138
Annual Percent Change	- -	*-2.9%*	*2.3%*
Three Year Percent Change	- -	- -	*-0.7%*
SAFETY			
Preventable Accidents/100,000 Car Miles	16.65	26.15	26.71
Annual Percent Change	- -	*57.0%*	*2.1%*
Three Year Percent Change	- -	- -	*60.4%*
Casualty & Liability Cost/Car Service Hour	$1.29	$3.14	$2.10
Annual Percent Change	- -	*143.6%*	*-33.1%*
Three Year Percent Change	- -	- -	*63.0%*
Casualty & Liability Cost/Car Service Mile	$0.61	$1.54	$1.03
Annual Percent Change	- -	*152.9%*	*-33.0%*
Three Year Percent Change	- -	- -	*69.6%*

Paratransit

SFMTA's paratransit functional area performance trends for the audit period are discussed below and presented in Exhibit 15.

- Service Planning
  - The operating cost per passenger mile increased overall from $4.77 in the first year to $5.68 in the last year (19 percent).
  - There was a major increase in the portion of vehicle miles traveled that were in service, from 65 percent in FY2013 more than 80 percent subsequently.
  - The portion of vehicle hours in service dropped from 88 percent in the first two years to 81 percent in FY2015.
- Operations
  - Vehicle operations costs increased slightly from 72 percent of total operating costs in FY2013 to 74 percent in FY2015.
  - ADA trip schedule adherence improved from 79.6 percent in FY2013 to 83.5 percent in FY2015.
  - The complaint rate increased by nearly 50 percent, from 8.6 per 10,000 passenger trips in FY2013 to 12.8 in FY2015. However, SFMTA staff noted that in FY2013 and FY2014, the complaints data mostly included complaints that were submitted directly to the paratransit broker from customers, and did not necessarily include complaints submitted to the transportation provider, unless those complaints were forwarded to the broker. Further, two months into FY2015, the service provider was transitioned, which likely led to an increase in complaints in the short-term. Staff reports that the number of complaints is declining again, now that the transition has been completed for some time.

- The incidence of missed trips increased from about 12 per 10,000 total trips in the first two years, to nearly 14 in FY2015.

- There were no ADA trip denials.

- The rates of trip cancellations and passenger no-shows remained at about 30 percent and eight percent of total ADA trips, respectively,

- Maintenance

  - Total maintenance costs (vehicle plus non-vehicle) remained at about nine percent of total operating costs in all three years, while vehicle maintenance costs per service mile increased overall from $0.62 to $0.73 (17 percent).

  - The vehicle spare ratio (excluding taxi) was about 18 percent in both FY2013 and FY2015, despite an interim increase to 28 percent.

  - The mean distance between major failures and all failures both improved in FY2014, and then worsened in FY2015 – significantly for major failures. SFMTA staff qualified these results by noting that in FY2015, the new contractor's maintenance software system recorded every event where a service truck was deployed, while previous reporting only included NTD reportable events. In addition, it was noted that the FY2015 numbers include lift failures requiring a vehicle switch-out as a major mechanical failure, as allowed under local determination. A paratransit lift failure is now considered a major occurrence, whereas it might not be for fixed route service, and it is unclear how the previous contractor classified such events.

- Safety

  - The rate of FTA reportable accidents improved by 70 percent, from 0.22 per 100,000 vehicle miles in FY2013 to 0.07 in FY2015.

* * * * *

The following is a brief summary of the paratransit functional trend highlights between FY2013 and FY2015:

- Service Planning results showed a 19 percent net increase in the cost per passenger mile, and a major increase to more than 80 percent of vehicle miles in service, but a small decrease in vehicle hours in service to 81 percent, by FY2015.

- Operations results showed schedule adherence improving somewhat to 83.5 percent, but missed trips also increased. However, there were no ADA trip denials, and the trip cancellation and passenger no-show rates remained about steady. The complaint rate increased by nearly 50 percent, but this largely reflected more comprehensive recording of complaints and the short-term impact of transitioning to a new service provider in FY2015.

- Maintenance results showed vehicle maintenance costs increasing by 17 percent overall, the spare ratio at 18 percent at the beginning and end of the period, and worsening of the mechanical failure rates in FY2015. The latter, however, largely reflects changes in reporting of failures concurrent with the transition to the new contracted service provider.

- Safety results showed a 70 percent improvement in the FTA reportable accident rate.

Exhibit 15: Functional Performance Trends – Paratransit

FUNCTION/Indicator	Actual Performance		
	FY2013	FY2014	FY2015
SERVICE PLANNING			
Total Operating Cost/Passenger Mile	$4.77	$4.68	$5.68
Annual Percent Change	- -	*-1.9%*	*21.3%*
Three Year Percent Change	- -	- -	*19.0%*
Vehicle Service Miles/Total Miles	64.6%	86.9%	82.5%
Annual Percent Change	- -	*34.5%*	*-5.1%*
Three Year Percent Change	- -	- -	*27.6%*
Vehicle Service Hours/Total Hours	88.2%	88.2%	80.8%
Annual Percent Change	- -	*0.1%*	*-8.4%*
Three Year Percent Change	- -	- -	*-8.3%*
OPERATIONS			
Vehicle Operations Cost/Total Operating Cost	72.3%	72.5%	74.3%
Annual Percent Change	- -	*0.3%*	*2.5%*
Three Year Percent Change	- -	- -	*2.8%*
ADA Trips On-Time/Total ADA Trips	79.6%	82.0%	83.5%
Annual Percent Change	- -	*3.1%*	*1.8%*
Three Year Percent Change	- -	- -	*5.0%*
Complaints/10,000 Passenger Trips	8.6	11.2	12.8
Annual Percent Change	- -	*30.1%*	*13.6%*
Three Year Percent Change	- -	- -	*47.8%*
Missed Trips/10,000 Total Trips	12.2	12.1	13.8
Annual Percent Change	- -	*-0.5%*	*14.0%*
Three Year Percent Change	- -	- -	*13.4%*
ADA Trip Denials/Total ADA Trips	0.0%	0.0%	0.0%
Annual Percent Change	- -	- -	- -
Three Year Percent Change	- -	- -	- -
Trip Cancellations/Total ADA Trips	31.0%	30.4%	31.6%
Annual Percent Change	- -	*-2.1%*	*4.1%*
Three Year Percent Change	- -	- -	*2.0%*
No-Show Passengers/Total ADA Trips	8.1%	8.9%	8.3%
Annual Percent Change	- -	*10.5%*	*-7.4%*
Three Year Percent Change	- -	- -	*2.3%*

FUNCTION/Indicator	Actual Performance		
	FY2013	FY2014	FY2015
MAINTENANCE			
Vehicle + Non-Veh. Maint. Cost/Total Operating Cost	8.8%	8.8%	9.0%
Annual Percent Change	- -	*0.3%*	*2.5%*
Three Year Percent Change	- -	- -	*2.8%*
Vehicle Maintenance Cost/Vehicle Service Mile	$0.62	$0.60	$0.76
Annual Percent Change	- -	*-3.2%*	*26.9%*
Three Year Percent Change	- -	- -	*22.8%*
Spare Vehicles/Total Vehicles (Excludes Taxi)	18.8%	28.6%	18.2%
Annual Percent Change	- -	*51.6%*	*-36.4%*
Three Year Percent Change	- -	- -	*-3.5%*
Mean Dist. betw. Major Failures (Miles; Excludes Taxi)	149,974	215,378	51,903
Annual Percent Change	- -	*43.6%*	*-75.9%*
Three Year Percent Change	- -	- -	*-65.4%*
Mean Dist. betw. All Failures (Miles; Excludes Taxi)	21,735	24,938	23,357
Annual Percent Change	- -	*14.7%*	*-6.3%*
Three Year Percent Change	- -	- -	*7.5%*
SAFETY			
FTA Reportable Accidents/100,000 Vehicle Miles	0.22	0.20	0.07
Annual Percent Change	- -	*-9.4%*	*-66.5%*
Three Year Percent Change	- -	- -	*-69.7%*

VII. CONCLUSIONS AND RECOMMENDATIONS

The preceding sections presented a review of SFMTA's transit service performance during the three-year period of FY2013 through FY2015 (July 1, 2012 through June 30, 2015). They focused on TDA compliance issues including trends in TDA-mandated performance indicators and compliance with selected sections of the state Public Utilities Code (PUC). They also provided the findings from an overview of SFMTA's data collection activities to support the TDA indicators, actions taken to implement recommendations from the prior performance audit, and a review of selected key functional performance results.

Conclusions

The key findings and conclusions from the individual sections of this performance audit are summarized below:

- Data Collection – SFMTA is in compliance with the data collection and reporting requirements for these performance indicators. In addition, most of the statistics collected over the six-year review period appear to be consistent with the TDA definitions, and indicate general consistency in terms of the direction and magnitude of the year-to-year changes across the statistics. However, certain significant exceptions were identified:

  – Reported declines in motor coach and trolley coach ridership from FY2014 to FY2015 appear to reflect measurement errors with the current older-generation automatic passenger counters (APCs). SFMTA reports it is working to ensure that ridership data is accurate, and that both legacy and future APC systems are properly operating. It is also starting to regularly track other indicators of ridership.

  – There was a change in data methodology that attempts to more accurately capture missed service through enhanced use of the

Central Control Logs and the Automatic Train Control System (ACTS). This resulted in significantly reduced car service hours and miles being reported for light rail starting in FY2014 and cable car in FY2015.

– The paratransit contractor submits reports to SFMTA with its monthly invoices, which contain ridership figures validated by the Broker staff to ensure that SFMTA does not pay for trips not actually provided. But for NTD reporting, the contractor used Trapeze and DCCS software to automatically generate annual paratransit trip data without validation, or a combination of automatically and manually generated data. Going forward, SFMTA ensures NTD data will be based on validated monthly trip counts, and procedural changes will eliminate the need for an extensive validation process.

- TDA Performance Trends

SFMTA's performance trends for the five TDA-mandated indicators were analyzed by mode. A six-year analysis period was used for all the indicators. In addition, component operating costs were analyzed for the six-year period.

Motor Coach – The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2010 through FY2015:

– There was an average annual increase in the operating cost per hour of 2.9 percent, or just 0.3 percent in inflation adjusted dollars. The largest annual increase (nearly 10 percent) occurred in FY2014.

– The cost per passenger increased on average by three percent per year, which amounted to an average annual increase of just 0.4 percent in constant FY2010 dollars.

– Passenger productivity showed small positive trends, with passengers per vehicle service hour overall about constant, and passengers per vehicle service mile increasing by 1.6 percent per year.

– Employee productivity decreased an average 2.2 percent per year.

The following is a brief summary of the component operating costs trend highlights for the motor coach service between FY2010 and FY2015:

– The most significant change was an average annual increase of about 7.5 percent in the materials/supplies area. Overall, operating costs increased by 3.7 percent annually.

– Labor costs represented the largest portion of the total costs, with a share that generally decreased from 41 percent to 37 percent over the six years.

– Fringe benefits comprised the second largest portion, beginning and ending the review period at 33.1 percent.

– Services costs contributed between 10 and 12 percent, and other cost categories generally contributed less than 10 percent each.

Trolley Coach – The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2010 through FY2015:

– There was an average annual increase in the operating cost per hour of 2.7 percent, or 0.1 percent in inflation adjusted dollars. There were annual increases of 7.5 and 10 percent in the last two years.

– The cost per passenger increased on average by 4.4 percent per year, which amounted to an average annual increase of 1.8 percent in constant FY2010 dollars.

– Passenger productivity showed relatively steady trends, with passengers per vehicle service hour decreasing by 1.6 percent per year overall, and passengers per vehicle service mile increasing by less than one percent.

– Employee productivity decreased an average 1.3 percent per year.

The following is a brief summary of the component operating costs trend highlights for the trolley coach service between FY2010 and FY2015:

- The most significant changes were average annual increases of about 12 percent in the materials/supplies area, and six percent for utilities. Overall, operating costs increased by 2.3 percent annually.

- Labor costs represented the largest portion of the total costs, with a share that decreased from about 46 percent in the first three years to 41 percent by the last two years.

- Fringe benefits comprised the second largest portion, beginning and ending the review period at about 35 percent.

- Services costs generally contributed about 10 percent, and other cost categories each generally contributed seven percent or less.

Light Rail – The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2010 through FY2015:

- There was an average annual increase in the operating cost per hour of 4.7 percent, or 2.1 percent in inflation adjusted dollars. A nearly 30 percent annual increase in FY2014 has been attributed to an improved methodology for capturing missed service, rather than the significant decline in service hours reported. This was followed by a 13 percent decrease in the last year.

- The cost per passenger increased on average by 1.0 percent per year, which amounted to an average annual decrease of 1.6 percent in constant FY2010 dollars.

- Passengers per car service hour and car service mile both increased -- by 3.7 percent and 4.6 percent on average per year, respectively.

- Employee productivity decreased an average 2.8 percent per year.

The following is a brief summary of the component operating costs trend highlights for the light rail service between FY2010 and FY2015:

- The most significant changes were average annual increases of 10 percent in the materials/supplies area, and 6.2 percent for utilities. Overall, operating costs increased by 3.9 percent annually.

- Labor costs represented the largest portion of the total costs, with its share ranging from 40 to 46 percent. Fringe benefits were responsible for another 30 to 36 percent.

- Materials/supplies costs contributed as much as 20 percent midway through the period, but 10 to 13 percent or less otherwise.

- Services costs contributed about seven percent in most years, while other cost categories each contributed four percent or less.

Cable Car – The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2010 through FY2015:

- There was an average annual increase in the operating cost per hour of 2.0 percent, or a decrease of 0.5 percent in inflation adjusted dollars. There was wide variation in several of the years. A 20 percent annual increase in FY2015 has been attributed to an improved methodology for capturing missed service, rather than the significant decline in service hours reported.

- The cost per passenger increased on average by 4.1 percent per year, which amounted to an average annual increase of 1.5 percent in constant FY2010 dollars.

- Passenger productivity showed slightly mixed trends, with passengers per car service hour decreasing by 2.0 percent per year overall, and passengers per car service mile increasing by 1.0 percent.

- Employee productivity decreased an average 0.6 percent per year.

The following is a brief summary of the component operating costs trend highlights for the cable car service between FY2010 and FY2015:

- Total operating costs increased by less than one percent annually. The most significant component cost change was an average annual increase of nine percent in the materials/supplies area.

- There were also average annual increases of 6.7 percent for utilities and 4.7 percent for services, and an average annual decrease of 5.6 percent in the casualty/liability area.

- Labor costs represented the largest portion of the total costs, with its share at about 50 percent. Fringe benefits were responsible for another 41 to 45 percent.

- Materials/supplies costs contributed three to six percent, while other cost categories each contributed less than three percent.

Paratransit – The following is a brief summary of the TDA performance trend highlights over the six-year period of FY2010 through FY2015:

- Cost efficiency declined overall, with an average annual increase in the operating cost per hour of 5.3 percent (2.6 percent in inflation adjusted dollars).

- The operating cost per passenger averaged a significant annual increase of ten percent, or 7.3 percent when normalized in FY2010 dollars. Operating costs increased by 3.9 percent per year, while passenger levels decreased by 5.6 percent.

- Passenger productivity trends were mixed, with passengers per vehicle service hour decreasing by 4.3 percent per year overall, and passengers per vehicle service mile increasing by 1.6 percent.

The following is a brief summary of the component operating costs trend highlights for the paratransit service between FY2010 and FY2015:

- Total annual costs increased by 3.9 percent on average, driven by a corresponding increase in purchased transportation costs – by far the largest component cost category.

- Costs in several other categories showed significant percent changes as well, but they comprised a very small portion of the total hourly costs.

- Purchased transportation costs continued to be the source of about 98 percent of all costs in all six years.

- PUC Compliance – SFMTA is in compliance with the sections of the state PUC that were reviewed as part of this performance audit. The sections reviewed included requirements concerning CHP safety inspections, labor contracts, reduced fares, Welfare-to-Work, revenue sharing, and evaluation of passenger needs.

- Status of Prior Audit Recommendations – There were no recommendations made in SFMTA's prior performance audit.

- Functional Performance Indicator Trends

  To further assess SFMTA's performance over the past three years, a detailed set of systemwide and modal functional area performance indicators was defined and reviewed.

  Systemwide (All Modes) – The following is a brief summary of the systemwide functional trend highlights between FY2013 and FY2015:

  - Management, Administration and Marketing results showed administrative costs rose to 20 percent of total operating costs, and increased to well over $40 per vehicle service hour. Meanwhile, marketing costs decreased compared to total administrative costs and remained relatively steady in terms of passenger trips. The TDA Article 4 operating ratio (including local support) declined from nearly 50 percent to 37 percent, but the FY2013 results reflected one-time increased funding for Central Subway Project activities. Meanwhile, the farebox recovery ratio declined to less than 29 percent, but FY2013 fare revenues included a one-time $10.8 million payment from BART for multi-year feeder services.

  - Operations, Maintenance and Safety results showed complaints decreased slightly, mechanic pay hours increased compared to vehicle service hours, maintenance employee scheduled absences

at about 16 percent of total work hours and unscheduled absences at about five percent, overall stability in lost time due to industrial accidents, and a major increase in operator training time.

Motor Coach – The following is a brief summary of the motor coach functional trend highlights between FY2013 and FY2015:

- Service Planning results showed an increase in the scheduled operator pay to platform ratio to 142 percent, a 20 percent increase in the cost per passenger mile, and moderate decreases in the portions of vehicle miles and hours in service.

- Operations results showed some reduction in operating costs incurred from vehicle operations, and some increase in vehicle operations costs per hour. Operator scheduled absences were steady at about 11 percent of total work hours, while unscheduled absences went down to 4.8 percent. The actual operator pay to platform ratio climbed to 160 percent. Schedule adherence went down from 63 to 59 percent, while missed trips were down to 2.2 percent in FY2015.

- Maintenance results showed vehicle maintenance costs per mile increasing by 18 percent overall, but the vehicle spare ratio decreasing steadily and substantially, and noticeable improvement in the mechanical failure rates. The increased maintenance costs are directly attributable to improved maintenance practices.

- Safety results showed the preventable accident rate increasing in FY2015, and sharply increasing casualty/liability costs in FY2014 which were followed by some turnaround in FY2015. SFMTA is aware of that it has recently experienced a higher rate of collisions, and has implemented a multi-pronged Collision Reduction Program.

Trolley Coach – The following is a brief summary of the trolley coach functional trend highlights between FY2013 and FY2015:

- Service Planning results showed an increase in the scheduled operator pay to platform ratio to 125 percent, a 24 percent increase

in the cost per passenger mile, and steady levels of vehicle miles and hours in service.

- Operations results showed some reduction in operating costs incurred from vehicle operations, and an increase in vehicle operations costs per hour. Operator scheduled absences were steady at about ten percent of total work hours, while unscheduled absences went down from five to 4.4 percent. The actual operator pay to platform ratio climbed to 143 percent. Schedule adherence ranged between 61 and 63 percent, while missed trips were down to 1.4 percent in FY2015.

- Maintenance results showed vehicle maintenance costs per mile increasing by 34 percent overall, while the spare ratio decreased slightly and there was improvement in the mechanical failure rates. The increased maintenance costs are directly attributable to improved maintenance practices.

- Safety results showed the preventable accident rate increasing in FY2015, and sharply increasing casualty/liability costs in FY2014 which were followed by some turnaround in FY2015. SFMTA is aware of that it has recently experienced a higher rate of collisions, and has implemented a multi-pronged Collision Reduction Program.

Light Rail – The following is a brief summary of the light rail/historical trolley functional trend highlights between FY2013 and FY2015:

- Service Planning results showed some decrease in the scheduled operator pay to platform ratio (based on car service hours), a 3.7 percent decrease in the cost per passenger mile, and virtually all car miles and hours in service.

- Operations results showed a moderate increase to 34 percent of operating costs incurred from vehicle operations, and an increase in vehicle operations costs per hour. Operator scheduled absences were down slightly to 10.9 percent of total work hours, while unscheduled absences went down to 4.6 percent. The actual operator pay to platform ratio (based on car service hours) climbed

by 12 percent overall. Schedule adherence remained at just under 50 percent. Missed trips were up from two percent to nearly five percent in the last two years, but this has been attributed to an improved methodology for capturing missed service.

- Maintenance results showed some decrease in the operating costs incurred from maintenance activities (vehicle and non-vehicle), while vehicle maintenance costs per mile increased by 2.3 percent overall and the spare ratio decreased slightly. There was little overall change in the major mechanical failure rate, with a small general increase in all mechanical failures.

- Safety results showed the preventable accident rate relatively stable, but sharply increasing casualty/liability costs in FY2014 which were followed by some turnaround in FY2015.

Cable Car – The following is a brief summary of the cable car functional trend highlights between FY2013 and FY2015:

- Service Planning results showed an increase in the scheduled operator pay to platform ratio to 262 percent, a 14 percent overall increase in the cost per passenger mile, and virtually all car miles and hours in service.

- Operations results showed a relatively steady trend in operating costs incurred from vehicle operations, but a 15 percent increase in vehicle operations costs per hour. Operator scheduled and unscheduled absence rates both went up slightly, and the actual operator pay to platform ratio climbed to 318 percent. Schedule adherence remained at only 13 percent, while missed trips were down to 1.2 percent in FY2015.

- Maintenance results showed car maintenance costs per mile increasing by almost 30 percent overall, while the spare ratio remained at 32.5 percent. The major mechanical failure rate improved by one-third, while the rate for all mechanical failures was steady. The increased maintenance costs are directly attributable to improved maintenance practices.

- Safety results showed the preventable accident rate increasing by 60 percent after FY2013, and sharply increasing casualty/liability costs in FY2014 which were followed by some turnaround in FY2015. SFMTA is aware of that it has recently experienced a higher rate of collisions, and has implemented a multi-pronged Collision Reduction Program.

Paratransit – The following is a brief summary of the paratransit functional trend highlights between FY2013 and FY2015:

- Service Planning results showed a 19 percent net increase in the cost per passenger mile, and a major increase to more than 80 percent of vehicle miles in service, but a small decrease in vehicle hours in service to 81 percent, by FY2015.

- Operations results showed schedule adherence improving somewhat to 83.5 percent, but missed trips also increased. However, there were no ADA trip denials, and the trip cancellation and passenger no-show rates remained about steady. The complaint rate increased by nearly 50 percent, but this largely reflected more comprehensive recording of complaints and the short-term impact of transitioning to a new service provider in FY2015.

- Maintenance results showed vehicle maintenance costs increasing by 17 percent overall, the spare ratio at 18 percent at the beginning and end of the period, and worsening of the mechanical failure rates in FY2015. The latter, however, largely reflects changes in reporting of failures concurrent with the transition to the new contracted service provider.

- Safety results showed a 70 percent improvement in the FTA reportable accident rate.

Recommendations

1. CONTINUE EFFORTS TOWARD OBTAINING ACCURATE RESULTS FROM SFMTA'S AUTOMATIC PASSENGER COUNTERS.
[Reference Section: II. Review of TDA Data Collection and Reporting Methods]

This review has determined that SFMTA is in compliance with the data collection and reporting requirements for the TDA performance indicators, and that most of the statistics collected over the audit period appear to be consistent with the TDA definitions. However, reported declines in motor coach and trolley coach ridership from FY2014 to FY2015 appear to reflect measurement errors with the current older-generation automatic passenger counters (APCs). SFMTA reports it is working to ensure that ridership data is accurate, and that both legacy and future APC systems are properly operating. It is also starting to regularly track other indicators of ridership.

SFMTA should continue its activities related to validating its legacy APCs and improving business processes around the APCs to ensure that ridership data is accurate. Further, as new vehicles with the latest generation technology APCs are phased in, SFMTA should ensure the future APC systems are properly validated, maintained, and integrated with other in-vehicle systems.

2. ENSURE THAT PARATRANSIT PASSENGER TRIP DATA IS CONSISTENT AND ACCURATE ACROSS ALL REPORTING SYSTEMS.
[Reference Section: II. Review of TDA Data Collection and Reporting Methods]

SFMTA's paratransit passenger trip data reported to the NTD has not been validated as was the passenger trip data reported with the monthly Paratransit Contractor invoices. Audit period NTD data shows declines in ridership, while

the more carefully validated monthly report data shows relatively flat ridership. According to SFMTA staff, the paratransit contractor submits reports to SFMTA with its monthly invoices, which contain ridership figures that are validated by the Broker staff to ensure that SFMTA does not pay for any trips not actually provided. Meanwhile, the contractor was using Trapeze and DCCS software to automatically generate the annual trip counts, and reported those figures directly to NTD without validation. In FY2013, a combination of automatically generated trip numbers and manually generated data were used but not validated prior to NTD reporting.

SFMTA staff has indicated that going forward, the contractor will no longer be using any manually generated data, nor automatically generated end-of-year trip counts for the reports to the NTD. The contractor will be summing the monthly trip counts that have gone through the validation process, and will be implementing procedural changes so that the automatically generated reports do not require an extensive validation process. SFMTA should monitor this situation to ensure that these reporting changes occur as planned.

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APPENDIX A:
INPUT STATISTICS FOR
FUNCTIONAL PERFORMANCE MEASURES

Functional Performance Inputs - Systemwide (All Modes)

Data Item	FY2013	FY2014	FY2015	Source
Total Operating Costs	$667,966,406	$714,836,008	$745,284,959	NTD F-40
Administrative Costs	$111,046,251	$152,084,907	$147,276,304	NTD F-40
Vehicle Service Hours	3,458,132	3,382,726	3,476,264	NTD S-10 (all modes)
Marketing Costs	$3,491,370	$3,152,110	$3,389,349	General Ledger Accounts
Unlinked Passenger Trips	223,851,332	228,748,481	220,119,342	NTD S-10 (all modes)
Farebox Revenue (All Modes)	$220,093,193	$212,823,751	$214,676,014	NTD F-10
Farebox Revenue (TDA Article 4 services only)	$218,938,920	$211,684,251	$213,327,914	NTD F-10
Local Support (TDA Article 4 services only) *(a)*	$103,148,719	$62,380,690	$58,579,753	Finance/IT - Accounting/Oper. Budget
NOT AVAILABLE BY MODE				
Complaints	19,158	19,663	18,363	Finance/IT - Performance Management
Mechanic Pay Hours	1,372,803	1,468,381	1,529,504	LDS Vehicle Maint. Total Paid
Total Maintenance Employee Time (Hours)	1,120,781	1,207,445	1,255,083	LDS Veh. Maint. Worked (Sch/Unsch)
Maint. Employee Sched. Absences (Hours) *(b)*	176,291	196,653	203,040	LDS Vehicle Maintenance
Maint. Employee Unsched. Absences (Hours) *(b)*	61,835	64,284	71,382	LDS Vehicle Maintenance
Lost Days - Industrial Accidents	14,496	15,956	14,382	Human Resources - Workers' Comp.
Operator Training Hours - Actual	63,438	66,569	214,323	LDS Total Paid

(a) Local Support includes the following (USOA revenue class in parentheses):

- *Auxiliary transportation revenue (406)*
- *Taxes directly levied (408)*
- *Local cash grants and reimbursements (409)*
- *Local special fare assistance (410)*
- *Subsidy from other sectors of operation (440)*

(b) FY2013 maintenance absence hours exclude 13,000 hours of unidentified (scheduled/unscheduled) absences

Functional Performance Inputs – Motor Coach

Data Item	FY2013	FY2014	FY2015	Source
Operator Pay Hours - Scheduled	1,976,737	2,005,116	2,217,063	LDS Sched. (Worked/Absence)
Operator Pay Hours - Actual	2,140,552	2,203,650	2,393,843	LDS Total Paid
Vehicle Service Miles	12,043,494	11,870,110	11,806,194	NTD S-10 MB
Total Vehicle Miles	13,357,269	13,230,050	13,404,941	NTD S-10 MB
Vehicle Service Hours (Platform Hours) - Scheduled	1,488,451	1,528,066	1,558,161	Operations Planning/Schedules
Vehicle Service Hours (Platform Hours) - Actual	1,461,447	1,464,828	1,491,118	NTD S-10 MB
Total Vehicle Hours	1,566,304	1,577,018	1,614,118	NTD S-10 MB
Unlinked Passenger Trips	97,180,861	98,365,557	95,005,347	NTD S-10 MB
Farebox Revenue	$86,420,407	$81,928,792	$82,663,946	NTD F-10
Total Operating Costs	$257,977,594	$282,652,719	$292,229,715	NTD F-30 MB
Passenger Miles	222,183,652	225,050,363	209,848,686	NTD S-10 MB
Vehicle Operations Costs	$156,594,759	$154,378,118	$166,193,938	NTD F-30 MB
Total Operator Time (Hours)	1,832,283	1,892,982	2,071,775	LDS Worked (Sched/Unsched)
Operator Scheduled Absences (Hours)	198,420	208,847	222,621	LDS
Operator Unscheduled Absences (Hours)	98,387	101,821	99,446	LDS
Timepoints On-Time *(a)*	6,209,229	5,960,293	6,240,387	Finance/IT - Performance Mgmt
Total Timepoints *(a)*	9,861,721	9,697,516	10,597,514	Finance/IT - Performance Mgmt
Missed Trips	43,808	73,915	42,684	Finance/IT - Performance Mgmt
Total Trips	1,782,013	1,845,279	1,905,528	Finance/IT - Performance Mgmt
Vehicle Maintenance Costs	$47,323,150	$56,757,582	$54,917,377	NTD F-30 MB
Non-Vehicle Maintenance Costs	$9,950,817	$8,144,655	$7,315,336	NTD F-30 MB
Spare Vehicles (Total less Maximum Service)	148	82	64	NTD S-10 MB
Total Vehicles	536	491	494	NTD S-10 MB
Revenue Vehicle Mechanical System Failures - Total	3,528	2,371	2,101	NTD R-20
Revenue Vehicle Mechanical System Failures - Major	2,539	1,885	1,923	NTD R-20
Preventable Accidents	805	800	935	Finance/IT - Performance Mgmt
Casualty/Liability Costs	$4,847,050	$18,285,570	$12,194,227	NTD F-30 MB

(a) On-time performance measured by comparing scheduled and actual timepoint arrival times (as observed by NextBus), not at trip-level.

Functional Performance Inputs – Trolley Coach

Data Item	FY2013	FY2014	FY2015	Source
Operator Pay Hours - Scheduled	1,164,550	1,154,624	1,233,525	LDS Sched. (Worked/Absence)
Operator Pay Hours - Actual	1,266,976	1,280,018	1,342,017	LDS Total Paid
Vehicle Service Miles	6,044,020	6,014,207	5,690,212	NTD S-10 TB
Total Vehicle Miles	6,267,278	6,222,169	5,925,177	NTD S-10 TB
Vehicle Service Hours (Platform Hours) - Scheduled	987,577	978,355	985,334	Operations Planning/Schedules
Vehicle Service Hours (Platform Hours) - Actual	947,295	950,442	939,313	NTD S-10 TB
Total Vehicle Hours	975,171	977,204	967,498	NTD S-10 TB
Unlinked Passenger Trips	65,247,637	65,328,431	60,553,936	NTD S-10 TB
Farebox Revenue	$58,023,023	$54,875,296	$52,687,848	NTD F-10
Total Operating Costs	$141,409,025	$152,561,728	$165,914,706	NTD F-30 TB
Passenger Miles	95,481,477	99,004,803	90,484,000	NTD S-10 TB
Vehicle Operations Costs	$78,320,244	$78,989,769	$85,927,813	NTD F-30 TB
Total Operator Time (Hours)	1,091,453	1,103,693	1,165,482	LDS Worked (Sched/Unsched)
Operator Scheduled Absences (Hours)	114,220	120,299	125,743	LDS
Operator Unscheduled Absences (Hours)	54,661	56,026	50,792	LDS
Timepoints On-Time *(a)*	4,656,318	4,682,985	4,773,224	Finance/IT - Performance Mgmt
Total Timepoints *(a)*	7,475,409	7,396,469	7,778,720	Finance/IT - Performance Mgmt
Missed Trips	50,276	34,318	17,045	Finance/IT - Performance Mgmt
Total Trips	1,256,948	1,248,449	1,254,140	Finance/IT - Performance Mgmt
Vehicle Maintenance Costs	$22,264,654	$23,261,389	$28,176,443	NTD F-30 TB
Non-Vehicle Maintenance Costs	$15,642,676	$15,736,542	$17,374,427	NTD F-30 TB
Spare Vehicles (Total less Maximum Service)	88	82	76	NTD S-10 TB
Total Vehicles	301	289	272	NTD S-10 TB
Revenue Vehicle Mechanical System Failures - Total	2,972	2,096	2,119	NTD R-20
Revenue Vehicle Mechanical System Failures - Major	2,126	1,887	1,809	NTD R-20
Preventable Accidents	503	485	551	Finance/IT - Performance Mgmt
Casualty/Liability Costs	$2,372,847	$9,264,717	$5,877,231	NTD F-30 TB

(a) On-time performance measured by comparing scheduled and actual timepoint arrival times (as observed by NextBus), not at trip-level.

Functional Performance Inputs – Light Rail/Historic Trolley

Data Item	FY2013	FY2014	FY2015	Source
Operator Pay Hours - Scheduled	635,044	639,903	643,580	LDS Sched. (Worked/Absence)
Operator Pay Hours - Actual	710,523	742,494	731,442	LDS Total Paid
Car Service Miles	5,859,656	5,264,532	5,317,677	NTD S-10 LR + SR
Total Car Miles	5,861,408	5,271,364	5,326,424	NTD S-10 LR + SR
Car Service Hours (Platform Hours) - Scheduled	663,936	664,379	714,588	Operations Planning/Schedules
Car Service Hours (Platform Hours) - Actual	655,262	532,901	602,031	NTD S-10 LR + SR
Total Car Hours	657,062	535,666	605,405	NTD S-10 LR + SR
Unlinked Passenger Trips	53,749,159	56,951,602	56,932,671	NTD S-10 LR + SR
Farebox Revenue	$47,797,726	$46,783,048	$49,536,992	NTD F-10
Total Operating Costs	$198,475,301	$207,882,197	$204,634,990	NTD F-30 LR + SR
Passenger Miles	141,701,644	150,881,180	151,679,879	NTD S-10 LR + SR
Vehicle Operations Costs	$64,463,389	$66,188,671	$69,495,341	NTD F-30 LR + SR
Total Operator Time (Hours)	606,478	639,906	633,106	LDS Worked (Sched/Unsched)
Operator Scheduled Absences (Hours)	68,807	70,715	69,318	LDS
Operator Unscheduled Absences (Hours)	31,694	31,873	29,017	LDS
Timepoints On-Time *(a)*	1,529,564	1,516,484	1,601,463	Finance/IT - Performance Mgmt
Total Timepoints *(a)*	3,176,565	3,087,412	3,293,681	Finance/IT - Performance Mgmt
Missed Trips	12,178	30,650	30,236	Finance/IT - Performance Mgmt
Total Trips	616,288	622,943	638,972	Finance/IT - Performance Mgmt
Vehicle Maintenance Costs	$73,121,663	$68,148,773	$67,896,794	NTD F-30 LR + SR
Non-Vehicle Maintenance Costs	$30,488,610	$31,997,224	$31,381,507	NTD F-30 LR + SR
Spare Vehicles (Total less Maximum Service)	46	46	44	NTD S-10 LR + SR
Total Vehicles	201	201	199	NTD S-10 LR + SR
Revenue Vehicle Mechanical System Failures - Total	8,172	8,007	7,710	NTD R-20
Revenue Vehicle Mechanical System Failures - Major	1,550	1,785	1,391	NTD R-20
Preventable Accidents	170	132	159	Finance/IT - Performance Mgmt
Casualty/Liability Costs	$2,328,880	$8,792,585	$3,923,766	NTD F-30 LR + SR

(a) On-time performance measured by comparing scheduled and actual timepoint arrival times (as observed by NextBus), not at trip-level.

Functional Performance Inputs – Cable Car

Data Item	FY2013	FY2014	FY2015	Source
Operator Pay Hours - Scheduled	366,292	378,406	395,859	LDS Sched. (Worked/Absence)
Operator Pay Hours - Actual	411,094	428,552	435,581	LDS Total Paid
Car Service Miles	299,841	291,853	278,454	NTD S-10 CC
Total Car Miles	306,242	298,257	284,512	NTD S-10 CC
Car Service Hours (Platform Hours) - Scheduled	150,834	150,865	150,865	Operations Planning/Schedules
Car Service Hours (Platform Hours) - Actual	141,863	143,383	137,085	NTD S-10 CC
Total Car Hours	143,473	144,995	138,697	NTD S-10 CC
Unlinked Passenger Trips	6,813,349	7,331,777	6,834,184	NTD S-10 CC
Farebox Revenue	$26,697,764	$28,097,115	$28,439,128	NTD F-10
Total Operating Costs	$51,868,243	$52,143,335	$59,576,217	NTD F-30 CC
Passenger Miles	8,497,218	9,247,927	8,574,599	NTD S-10 CC
Vehicle Operations Costs	$27,409,905	$28,120,593	$30,467,613	NTD F-30 CC
Total Operator Time (Hours)	358,755	370,726	375,401	LDS Worked (Sched/Unsched)
Operator Scheduled Absences (Hours)	35,889	40,249	41,544	LDS
Operator Unscheduled Absences (Hours)	14,763	17,577	18,636	LDS
Timepoints On-Time *(a)*	77,551	72,946	69,236	Finance/IT - Performance Mgmt
Total Timepoints *(a)*	589,710	554,398	551,968	Finance/IT - Performance Mgmt
Missed Trips	7,476	6,443	3,331	Finance/IT - Performance Mgmt
Total Trips	278,438	258,432	282,469	Finance/IT - Performance Mgmt
Vehicle Maintenance Costs	$6,784,482	$6,453,773	$8,128,307	NTD F-30 CC
Non-Vehicle Maintenance Costs	$9,777,103	$8,648,697	$11,639,146	NTD F-30 CC
Spare Vehicles (Total less Maximum Service)	13	13	13	NTD S-10 CC
Total Vehicles	40	40	40	NTD S-10 CC
Revenue Vehicle Mechanical System Failures - Total	2,197	2,204	2,055	NTD R-20
Revenue Vehicle Mechanical System Failures - Major	80	63	54	NTD R-20
Preventable Accidents	51	78	76	Finance/IT - Performance Mgmt
Casualty/Liability Costs	$182,636	$449,591	$287,606	NTD F-30 CC

(a) On-time performance measured by comparing scheduled and actual timepoint arrival times (as observed by NextBus), not at trip-level.

Functional Performance Inputs – Paratransit

Data Item	FY2013	FY2014	FY2015	Source
Vehicle Service Miles	2,381,435	2,651,131	2,505,643	NTD S-10 DR + DT *(a)*
Total Vehicle Miles	2,986,283	3,050,667	3,038,980	NTD S-10 DR [+ DT VSM]
Vehicle Service Hours	252,265	291,172	286,169	NTD S-10 DR + DT *(a)*
Total Vehicle Hours	286,132	329,947	354,018	NTD S-10 DR [+ DT VSH]
Unlinked Passenger Trips	777,324	771,175	780,048	Access. Services (Memo)
Farebox Revenue	$1,154,273	$1,139,500	$1,348,100	NTD F-10
Total Operating Costs	$18,236,243	$19,596,029	$22,929,331	NTD F-30 DR + DT
Passenger Miles	3,822,731	4,187,469	4,039,292	NTD S-10 DR + DT
Vehicle Operations Costs	$13,182,603	$14,205,381	$17,032,395	NTD F-30 DR + DT
Trips On-Time (ADA only)	174,485	191,468	198,915	Accessible Services
Total Trips (ADA + Taxi)	777,324	771,175	780,048	Para Yr-End Monthly Rpts
Complaints	671	866	995	Para Yr-End Monthly Rpts
Missed Trips	1,047	934	1,095	Accessible Services
Total ADA Trips	219,278	233,412	238,108	Accessible Services
ADA Trip Denials	0	0	0	Accessible Services
Trip Cancellations (including Late Cancellations)	67,957	70,846	75,245	Accessible Services
No Shows	17,749	20,876	19,715	Accessible Services
Vehicle Maintenance Costs	$1,477,870	$1,592,531	$1,909,461	NTD F-30 DR + DT
Non-Vehicle Maintenance Costs	$118,230	$127,403	$152,757	NTD F-30 DR + DT
Spare Vehicles (excluding Taxi)	26	46	30	NTD S-10 DR
Total Vehicles (excluding Taxi)	138	161	165	NTD S-10 DR
Rev Veh Mech System Failures - Total (excl Taxi)	138	95	100	NTD R-20; Access. Svcs.
Rev Veh Mech System Failures - Major (excl Taxi)	20	11	45	NTD R-20; Access. Svcs.
Accidents (FTA Reportable/Non-Reportable)	8/120	6/158	2/157	Para Yr-End Monthly Rpts

(a) FY2015 based on updated NTD VSM/VSH for DR, per memo from Accessible Services Dept.