File No. 100202 Committee Item No. 2
Board Item No. _____

COMMITTEE/BOARD OF SUPERVISORS

AGENDA PACKET CONTENTS LIST

Committee: Government Audit and Oversight **Date** March 11, 2010

Board of Supervisors Meeting **Date** _____

Cmte	Board	
☐	☐	**Motion**
☐	☐	**Resolution**
☐	☐	**Ordinance**
☐	☐	**Legislative Digest**
☐	☐	**Budget Analyst Report**
☐	☐	**Legislative Analyst Report**
☐	☐	**Youth Commission Report**
☒	☐	**Introduction Form (for hearings)**
☐	☐	**Department/Agency Cover Letter and/or Report**
☐	☐	**MOU**
☐	☐	**Grant Information Form**
☐	☐	**Grant Budget**
☐	☐	**Subcontract Budget**
☐	☐	**Contract/Agreement**
☐	☐	**Form 126 – Ethics Commission**
☐	☐	**Award Letter**
☐	☐	**Application**
☐	☐	**Public Correspondence**

OTHER		(Use back side if additional space is needed)
☒	☐	"MTA Quality Review, 07/01/06 – 06/30/08 SUMMARY REPORT"
* ☒	☐	"MTA Quality Review, 07/01/06 – 06/30/08 FINAL REPORT"
☐	☐	
☐	☐	
☐	☐	

Completed by: Alisa Somera **Date** March 5, 2010
Completed by: _____ **Date** _____

An asterisked item represents the cover sheet to a document that exceeds 25 pages.
The complete document can be found in the file and the online version.

SFMTA | Municipal Transportation Agency

Proposition E: Municipal Transportation Quality Review

July 1, 2006 – June 30, 2008

SUMMARY REPORT

Nelson|Nygaard
consulting associates

Table of Contents

Introduction

This "Report Card" provides a summary of the fourth Transportation Quality Review produced since the passage of Proposition E in 1999. This summary report represents the findings of an independent review of Muni's performance for Fiscal Years 2007 and 2008. Data collected beyond Fiscal Year 2008 is also included as unaudited information for trends analysis.

On November 2, 1999, the voters of San Francisco overwhelmingly approved Proposition E, the most substantial reform in Muni history. The voters' intent was to institute structural, administrative and financial reforms designed to provide Muni with the "resources, independence and focus necessary" to become one of the best urban transit systems in the world. Recognizing the City's dependence on public transit and its need for efficient and reliable transit service that can compete with the private automobile, the drafters of the initiative sought to restructure the City's provision and administration of transportation and parking services and strengthen the City's Transit-First Policy.

The overall goals for transit service articulated in Proposition E (now Article VIIIA of the San Francisco City Charter) are as follows (Section 8A.100):

1. Reliable, safe, timely, frequent, and convenient service to all neighborhoods;
2. A reduction in breakdowns, delays, over-crowding, preventable accidents;
3. Clean and comfortable vehicles and stations, operated by competent, courteous, and well-trained employees;
4. Support and accommodation of the special transportation needs of the elderly and the disabled;

5. Protection from crime and inappropriate passenger behavior on the Municipal Railway; and
6. Responsive, efficient, and accountable management.

To achieve these goals, Article VIIIA created the San Francisco Municipal Transportation Agency (SFMTA), combining the responsibility for street operation (Department of Parking and Traffic) with the dominant "user" of the streets – Muni. Article VIIIA also established service standards and accountability measures, and required an independent, biennial quality review of transit operations.

Proposition E Service Standards

The service standards (or performance measures) adopted under Proposition E provide SFMTA and Muni management with information that helps shape decisions and policies. They are an important tool to help Muni become a world-class transit service. Service standards measure Muni performance in the following five areas:

- System Reliability
- System Performance
- Staffing Performance
- Customer Service
- Employee Satisfaction

While Proposition E specifically stated the method of measurement and goals for several of the service standards, it allowed the SFMTA Board to determine methods of measurement and goals for most. Section 8A.104 of the City Charter also allows the SFMTA Board to vote to amend any of the service standards (after holding a public hearing on any such amendments).

Muni's Citizen's Advisory Committee (CAC) and the SFMTA Board review Muni's performance quarterly, and review the definitions of measurement, methods of measurement and the goals for each of the service standards annually. The SFMTA publishes quarterly Service Standards Reports which include a description of each of the service standards and a summary of Muni and DPT performance. [1]

An Independent Transportation Quality Review

The biennial Quality Review mandated by Proposition E provides yet another tool that the SFMTA can use to continue to improve Muni's performance. This review has been conducted with the following goals in mind:

- Help the SFMTA assess Muni's progress toward the goals and objectives of Proposition E.
- Evaluate Muni's established goals and performance against the letter and intent of Proposition E.
- Assess whether specific implementation goals and methods and definitions of measurement are appropriate or could be improved.

[1] Muni publishes quarterly Service Standards Reports including a description of each of the service standards and a summary of Muni's performance. Reports are available at: *http://sfmta.com/cms/rstd/sstdindx.htm*.

- Provide independent verification to the public that Muni is on track by auditing Muni's data collection and analysis procedures.
- Make recommendations for enhancing performance in areas where there may be some deficiency.

The FY 2007-2008 Transportation Quality Review consists of the following main elements:

- **Data review and verification of performance**

  Auditors reviewed Muni's quarterly Service Standards Reports from this period to verify that data were collected according to the definitions and methods of measurement specified by Proposition E and the SFMTA Board of Directors and that data were calculated correctly. During spring of 2009, auditors met with Muni staff responsible for data collection and reporting, in order to review procedures as well as reported data. Systematic spot checks of original source data and of automated tracking systems and procedures were used to determine the accuracy of reported data.

- **Trends analysis**

  Auditors reviewed trends in data and performance achievement over the two-year audit period, as well as unaudited data and performance from Fiscal Year 2009. Findings from this trends analysis were used to develop recommendations for those areas in which Muni's performance could be improved.

- **Auditor recommendations**

  Auditor recommendations focus on ways to further refine or improve performance reporting to make it more relevant to the SFMTA and the public, or on ways to improve performance in areas where Muni has failed to meet its goals. Although the recommendations focus on the two-year audit period, they incorporate any changes in measures made since that time. The recommendations are reviewed with Muni staff to ensure that they are in line with current budget and resource constraints.

- **Documentation and communication of results**

  This Report Card summarizes the results of the review. A comprehensive Municipal Transportation Quality Review report has also been prepared.

FY 2007-2008 Performance Summary

Overall, Muni performance appears to have improved during the audit period. Fiscal Year 2007-2008 trends were found to be positive for a total of nine service standards, relatively neutral for seven, and negative for only four. Significant improvements were seen in ridership, fare revenues, miles between roadcalls, and service delivery. Operating costs and accident rates, however, increased.

Data Collection and Reporting

For this Quality Review, auditors reviewed Muni's Service Standards Reports and interviewed Muni staff to verify that data were collected according to the definitions and methods of measurement specified by the SFMTA, and that data were calculated and reported correctly. Almost without exception, the auditors found that data reported by Muni appeared reliable. Only one significant exception was noted and is described below.

A13 Productivity, B4 Cost Efficiency

The methodology for reporting light rail hours of revenue service changed in Fiscal Year 2008, resulting making it difficult to report trends in these two categories.

Previously, Muni had only been able to track "car hours," so that a two-car train in operation for one hour would be counted as two hours of revenue service. Starting in Fiscal Year 2008, technological improvements allowed Muni to count "train hours," a standard that is more consistent with the way hours for other modes are measured: one two-car train in service for one hour provides the same number of hours of service – one – as does one bus in service for one hour.

However, this improvement results in misleading reporting of trends from Fiscal Year 2007 to 2008. As reported, light rail boardings per hour, or productivity, increased approximately 48%; however this substantial increase was largely a result of the change in the method for calculating service hours. Had the same standard been used, productivity would have increased by approximately 6% from FY 2007 to 2008. Similarly, light rail operating costs per hour were reported to have increased approximately 41%, but nearly all of this increase is due to the change in calculation methodology. In fact, real costs increased by only 1%. The change in methodology for light rail reporting also impacted systemwide numbers: rather than increasing by approximately 9%, systemwide productivity increased about 2%, while systemwide costs per hour increased by about 10% rather than 17%.

Because data for train hours were not available for Fiscal Year 2007, reported figures have not been altered in the charts in the full report; however, the issues noted above are repeated there, in order to clarify actual performance.

Trends Analysis and Recommendations

The tables on the following pages summarize Muni performance in each of the service standards categories in effect during the period covered by this review (fiscal years 2007 and 2008) *and* which are still in place (standards that have since been discontinued are not

addressed by this audit). The arrow graphics indicate general trends in terms of both historic patterns and performance over the course of the audit period. Attainment of goals for each standard is addressed in the detailed performance review found in the full report.

Significant improvements have been made in performance reporting since the previous Quality Review. The recommendations in the Quality Review Report are envisioned as further refinements to a process that has already been greatly improved.

Two types of recommendations are included in the Quality Review: general recommendations to improve both performance reporting and, in some cases, performance; and measure-specific recommendations related to individual service standards. Recommendations for each service standard category can be found below, and are described in greater detail in the full Municipal Transportation Quality Review report. It should be noted that some recommendations would require additional resources, including staff.

General Recommendations

The Quality Review team identified several general issues related to Muni performance reporting.

For some measures, report performance data by the "service type" defined in the Transit Effectiveness Project (TEP) rather than by mode or division. We recommend that headway adherence become the primary measure of on-time performance for Rapid Network routes, and schedule adherence the primary measure for all other routes. We would further recommend that modal subcategories be replaced or supplemented by the TEP identified service-types for all service standards where data is already collected at the individual route level:

- A1 On-Time Performance
- A3 Load Factors
- A13 Productivity

Service type subcategories should also be used for the recommended new service standard "Average Speed" and new "Scheduled Trips Delivered" service standards if they are adopted.

Consistently use the term "light rail" to include both Metro and F-line operation. When referred to separately, use the terms "Breda LRV" for Metro, and "F-Line" for the streetcar.

Rename section A of the standards to "System Performance" to more accurately reflect the service standards it includes.

Add "Average Speed" as a new service standard under System Performance. Muni average speeds have historically been slower than for peer operators, and they have been declining over time. This standard would be relatively easy to calculate, as data on both revenue miles and revenue hours is already collected.

Measure-Specific Recommendations

In addition to the general recommendations, a number of recommendations are made to refine specific measures

and are listed under the Performance Summary table by category.

Trends and Recommendations by Performance Standard Category

Trends are in the table below, followed by recommendations.

A Operating Efficiency		 Positive Trend  Neutral Trend  Negative Trend
A1 On-Time Performance *Schedule Adherence*		In Fiscal Year 2007-2008, Muni remained well below the systemwide goal of 85% on-time measured as arriving no more than 1 minute early or 4 minutes late. Actual performance was consistently around 70%. In FY08, there was a notable decline in light rail performance, while electric trolley bus lines continued to outperform other routes.
A1 On-Time Performance *Headway Adherence*		A secondary measure of on-time performance, headway adherence, is based on a standard of vehicles operating within 30% or 10 minutes, whichever is less, of their scheduled headway (or frequency). Performance in this area declined to below 60% in Fiscal Year 2006, and improved only slightly during the audit period.
A2 Service Delivery *Scheduled Service Hours Delivered, Operator Availability, and Late Pull-Outs*		A mid-decade decline in both Service Hours Delivery and Operator Availability was reversed during the audit period, although Muni remained below its goals of 98.5% delivery of scheduled service hours and 98.5% availability of operators for scheduled service. These two measures have been and remain closely linked. Late "pull-outs" from yards at the beginnings of peak periods, meanwhile, remained relatively rare.
A2 Service Delivery *AM/PM Peak Vehicle Availability*		Availability of equipment for assignment to operators at the beginning of the AM and PM peak periods improved over the course of the audit period, reaching 100% at one point and remaining well above the goal of 98.5%.
A3 Load Factors		The number of Muni routes experiencing overcrowding, as measured by an average load of 85% of combined seated and standing capacity, has remained relatively constant at around 15 to 20%.
A4 Unscheduled Absences		While rates of unscheduled absenteeism for most positions have remained close to 5%, rates for operators have consistently been higher than 10%. This trend continued during the audit period,

		and is a key contributor to Operator Availability rates below 100% -- which in turn, result in rates for Scheduled Service Hours Delivered that are below 100%.
A5 Mean Distance Between Failure		Average miles between "roadcalls" for mechanical problems disrupting service increased significantly at several Muni divisions, including light rail.
A6 Vacancy Rate for Service Critical Positions		The vacancy rate for positions in operations fell during the audit period from close to 4% to around 2%. However, this remains a misleading measure, as operator vacancies have always been 0% -- meaning that all budgeted operator positions are filled, but not that there are enough operators to provide all scheduled service.
A13 Productivity		Numbers of boardings onto Muni vehicles per hour of service increased slightly between Fiscal Years 2007 and 2008.

Recommendations Related to Operating Efficiency Service Standards

A1 On-Time Performance

Use automated tools and follow best practices to streamline data collection and reporting of on-time performance.

- On-time performance should be reported by service type as defined by the TEP, rather than by mode.
- All routes on the TEP-defined Rapid Network should report headway adherence, using data collected by traffic checkers. Schedule adherence on these routes should also continue to be collected with APCs in order to calculate system averages.
- All other routes should report schedule adherence only using APC data.

Transition to a headway adherence standard on high-frequency routes might also lend itself to a move toward headway-based management of high-volume lines, with the potential of regulating train bunching and gapping.

A2 Service Delivery

Measure the percentage of scheduled trips delivered in addition to scheduled hours delivered.

Customers care about whether their bus or train arrives – about whether a trip is made, or missed. A measure of Scheduled Trips Delivered (in addition to Scheduled Hours Delivered) would be a useful additional measure, differentiating between causes of missed trips (mechanical failure or lack of an operator). Data would be reported systemwide, by service-type, and at the route level, so routes on which relatively high numbers of trips are missed can be clearly identified.

A3 Load Factors

Use automated passenger counters (APCs) to collect data on load factors where possible.

With their higher accuracy, APCs should be used to collect data on load factors on all Local Network (except cable car), Community Connector, and Specialized Services routes.

A5 Mean Distance Between Failure

Improve consistency in collection and reporting.

Two recommendations build on a one made in the previous report but not yet implemented: "Create standards by mode and improve consistency in collection and reporting." Two further measures are:

- There are now maintenance controllers at all divisions but one. We recommend that a maintenance controller be hired for the last remaining division without one.
- Report the rate of disabled vehicles that are removed from the street within 30 minutes of a reported breakdown (already being collected internally)

A6 Vacancy Rate for Service Critical Positions

Measure the percentage of positions filled by drivers available to drive, rather than whether the position is filled. Also, provide updated position codes to responsible staff on a regular basis.

Muni consistently reports a vacancy rate of 0% for transit operators, despite continually missing service due to a lack of operators. This figure is misleading, as no distinction is made between operators who are available for driving duty and those who are not. Drivers who are on "requisitions" but are not able to drive, including those on various types of leave, workers compensation and light duty assignments, special non-driving assignments, etc., reduce the available driver pool, even though they do not technically produce a "vacancy". The number of drivers who are on payroll but are not able to drive is estimated to average between 200 and 300 per day.

Rather than repeat our previous recommendation that Muni report numbers of "driving drivers," we are instead recommending that the agency simply stop reporting vacancy rates for drivers, as this is both a misleading and unnecessary figure given the other indicators of how many operators are actually available for driving duty, including absenteeism and operator availability as a percentage of scheduled hours. Additionally, the auditor noted that an updated list of position codes should be provided to the staff responsible for tracking unscheduled absences to ensure the accuracy of this report.

B Financial Stability		Positive Trend / Neutral Trend / Negative Trend
B1 Ridership	▲	After consecutive years of decline, Muni ridership increased in Fiscal Year 2008 to its highest level since 2001, due largely to a significant increase in light rail ridership.
B2 Revenue	▲	In both Fiscal Years 2007 and 2008, revenue from fares continued a steady increase. In 2008, it was 55% higher than in 2003.
B3 Farebox Performance	▶	While increased ridership resulted in an overall increase in fare revenues, Muni's average fare per boarding decreased slightly in Fiscal Year 2008, apparently due to increased use of monthly Fast Passes, which offer passengers a steep discount.
B4 Cost Efficiency	▼	Muni's operating cost per hour of revenue service has increased at a faster rate every fiscal year since 2005, reaching 10% in Fiscal Year 2008.
B5 Cost Effectiveness	▼	In Fiscal Year 2008, Muni's operating costs grew at a faster pace than ridership, resulting in a significant increase in costs per boarding.

Recommendations Related to Financial Stability Service Standards

B1 Ridership

Use automated passenger counters (APCs) to collect data on boardings where feasible.

Muni has implemented a plan allowing APCs to be rotated among vehicles on a regular basis. Muni is now working with the Federal Transit Administration on a plan to report official ridership data to the FTA using APCs rather than teams of traffic checkers; expanded use of APCs would allow traffic checkers to supplement APC data on busy routes and to collect data on routes without APC units.

B3 Farebox Performance

Report farebox recovery ratios.

Muni should continue to report average fares and total revenues, but supplement this information with farebox recovery ratios, both systemwide and by mode. Additionally, it should set annual goals, perhaps of maintaining existing levels over time.

C Customer Focus		Positive Trend / Neutral Trend / Negative Trend
C1 Customer Perceptions	▶	In 2008, Muni did not conduct its annual telephone survey of customer satisfaction. However, in 2007 overall satisfaction improved slightly from 2006, with a majority of respondents rating service as "excellent" or "good."
C2 Operator Complaint Resolution Rate/ Customer Feedback Received	▼	In Fiscal Years 2007 and 2008, the number of Passenger Service Reports (PSRs) submitted to Muni increased significantly, apparently due to implementation of 24-hour 311 service. Also, late in Fiscal Year 2008, the rate of timely resolution for ADA-related PSRs declined significantly, although this was apparently caused by a transition to new software, and the problem has since been resolved.
C3 Operator Training	*N/A*	In Fiscal Year 2008, Muni began no longer counting training for new operators and supervisors toward training hour totals, and this change in methodology made any assessment of long-term trends impractical. However, Muni continued to achieve its goal of 50,000 hours of annual training.
C4 Safety	▼	In Fiscal Year 2008, the number of accidents involving Muni (including collisions with Muni vehicles and falls on board) increased somewhat.
C6 Security Incidents	*N/A*	Muni's methodology for tracking and reporting crime changed significantly in Fiscal Year 2008, making any historic comparison essentially meaningless (see recommendation at end of Section C6 for additional details).

Recommendations Related to Customer Focus Service Standards

C1 Customer Perceptions

Explore combining SFMTA Ridership Survey with City Survey conducted by Controller's Office.

The SFMTA has not conducted a customer survey since 2007, however, the Controller's Office conducts a biennial City Survey in which respondents grade Muni service in a number of areas, several of which overlap with categories reported in Service Standards Reports. Combining these two efforts may serve both entities with greater efficiency.

If the Muni survey is to be continued, we would endorse a number of changes, including expanded questions about vehicle cleanliness to incorporate stop and station cleanliness.

C2 Operator Complaint Resolution Rate

Change timelines to 60 days for resolution of Americans with Disabilities Act- and product/services-related Passenger Service Reports (PSRs), and 14 days for non-ADA employee conduct complaints.

C4 Safety

Report systemwide accident rates.

Muni has, as previously recommended, begun reporting accident rates per 100,000 miles, and it reports them in four separate categories: collisions and falls on board for both bus and rail. However, systemwide averages are not being reported, and should be.

C6 Security Incidents

Develop methods to ensure more accurate and complete reporting of security incidents, and report rates of fare evasion.

As noted in the previous Quality Review, changes in Muni staffing in conjunction with multiple sources of data have historically made accurate reporting of crime on Muni difficult.

For the most part, these problems have been recognized and addressed by Muni staff and crime data has become more reliable. Possible areas for improvement are:

- Division superintendents should ensure that all "miscellaneous reports" result in a record in the TransitSafe database.
- Muni should report fare evasion rates using total numbers of "contacts," which are already tracked by fare enforcement officers. This would serve to measure whether the program is succeeding in improving rates of fare compliance.

D Employee Satisfaction	 Positive Trend  Neutral Trend  Negative Trend	
D1 Grievances		While the number of grievances filed by operators in Fiscal Years 2007 and 2008 was higher than in 2006, it was close to levels recorded in 2003-2005. Grievances filed by other employees, meanwhile, increased in 2007 but returned in 2008 to previous levels.
D2 Grievance Resolution Rate		The timeline for resolution of grievances has been extended from 30 to 90 days, and the target rate of resolution from 75% to 90%. As of 2008, virtually all grievances were being resolved within 90 days.

D4 Employee Satisfaction		In 2008, Muni did not conduct an employee satisfaction survey. In 2007, satisfaction improved significantly in three of the four categories reported.

Recommendations Related to Customer Focus Service Standards

D1 Grievances

Report by division.

Reporting grievances by operating division (e.g., Green and Potrero) could help to make superintendents more accountable for the prevention and resolution of grievances.

SFMTA | Municipal Transportation Agency

Proposition E: Municipal Transportation Quality Review

July 1, 2006 – June 30, 2008

FINAL REPORT

Nelson|Nygaard
consulting associates

Table of Contents

Introduction

This report is the fourth Transportation Quality Review produced since the passage of Proposition E in 1999. Proposition E amended the City Charter creating the San Francisco Municipal Transportation Agency), combining the transit operations of Muni and the street operations of the Department of Parking and Traffic into a single agency. This report fulfills the requirement under Proposition E for a biennial audit of Muni "service standards" reporting. Data describing Muni performance in each of the service standards categories are published on a quarterly basis. Every two years, the Charter mandates that an independent auditor review the data, ensure that it is being accurately collected and reported, and make recommendations for improved reporting.

This report presents the findings of the Municipal Transportation Quality Review for the period between July 1, 2006, and June 30, 2008, or Fiscal Years (FY) 2007 and 2008. In order to ensure that the report is timely and relevant, it also includes more recent unaudited data.

The report consists of three primary components:

- Review of data collection and reporting methods
- Analysis of trends in reported data
- Auditor recommendations

This chapter summarizes findings and recommendations. The following chapters present findings and recommendations specific to each individual service standard.

Summary

Review of data collection and reporting methods

Almost without exception, the auditors found that data reported by Muni appeared to be accurate and reliable. Only one significant exception was noted: for measures A13 (Productivity) and B4 (Cost Efficiency), the methodology for reporting light rail hours of revenue service changed in Fiscal Year 2008, resulting in misleading reporting of trends.

Analysis of trends in reported data

Overall, Muni performance appears to have improved during the audit period. Fiscal Year 2007-2008 trends were found to be positive for a total of nine service standards, relatively neutral for seven, and negative for four.

Auditor recommendations

The following section summarizes general and measure-specific recommendations. It should be noted that some recommendations would require additional resources, including staff.

General Recommendations

- For some measures, report performance data by the "service type" defined in the Transit Effectiveness Project (TEP) rather than by mode or division.
- Consistently use the term "light rail" to include both Metro and F-line operation. When referred to

separately, use the terms "Breda LRV" for Metro, and "F-Line" for the streetcar.

- Rename section A of the standards to "System Performance" to more accurately reflect the service standards it includes.
- Add "Average Speed" as a new service standard under System Performance.

Measure-Specific Recommendations

- *A1 On-Time Performance* Use automated tools and follow best practices to streamline data collection and reporting of on-time performance.
- *A2 Service Delivery* Measure the percentage of scheduled trips delivered in addition to scheduled hours delivered.
- *A3 Load Factors* Use automated passenger counters (APCs) to collect data on load factors where possible.
- *A5 Mean Distance Between Failure* Improve consistency in collection and reporting.
- *A6 Vacancy Rate for Service Critical Positions* Stop reporting operator vacancies, as the number of positions filled is not an accurate indicator of the number of operators available for driving duty. Also, provide updated position codes to responsible staff on a regular basis.
- *B1 Ridership* Use automated passenger counters (APCs) to collect data on boardings where feasible.
- *B3 Farebox Performance* Report farebox recovery ratios.
- *C1 Customer Perceptions* Explore combining SFMTA Ridership Survey with City Survey conducted by Controller's Office.
- *C2 Operator Complaint Resolution Rate* Change timelines to 60 days for resolution of Americans with Disabilities Act- and product/services-related Passenger Service Reports (PSRs), and 14 days for non-ADA employee conduct complaints.
- *C4 Safety* Report systemwide accident rates.
- *C6 Security Incidents* Develop methods to ensure more accurate and complete reporting of security incidents, and report rates of fare evasion.
- *D1 Grievances* Report by division.

Background

Proposition E – The Muni Reform Initiative

On November 2, 1999, the voters of San Francisco overwhelmingly approved Proposition E, the most substantial reform in Muni history. The voters' intent was to institute structural, administrative and financial reforms designed to provide Muni with the "resources, independence and focus necessary" to become one of the best urban transit systems in the world. Recognizing the City's dependence on public transit and its need for efficient and reliable transit service that can compete with the private automobile, the drafters of the initiative sought to restructure the City's provision and administration of

transportation and parking services and strengthen the City's Transit-First Policy.

The overall goals for transit service articulated in Proposition E (now Article VIIIA of the San Francisco City Charter) are as follows (Section 8A.100):

1. Reliable, safe, timely, frequent, and convenient service to all neighborhoods;
2. A reduction in breakdowns, delays, over-crowding, preventable accidents;
3. Clean and comfortable vehicles and stations, operated by competent, courteous, and well-trained employees;
4. Support and accommodation of the special transportation needs of the elderly and the disabled;
5. Protection from crime and inappropriate passenger behavior on the Municipal Railway; and
6. Responsive, efficient, and accountable management.

To achieve these goals, Article VIIIA created the San Francisco Municipal Transportation Agency (SFMTA), combining the responsibility for street operation (Department of Parking and Traffic) with the dominant "user" of the streets – Muni. Article VIIIA also established service standards and accountability measures, and required an independent, biennial quality review of transit operations. This report represents the findings of an independent review of Muni's performance for Fiscal Years 2007 and 2008. Data collected beyond Fiscal Year 2008 is also included as unaudited information for trends analysis.

An Independent Transportation Quality Review

The biennial Quality Review mandated by Proposition E provides yet another tool that the SFMTA can use to continue to improve Muni's performance. This review has been conducted with the following goals in mind:

- Help the SFMTA assess Muni's progress toward the goals and objectives of Proposition E.
- Evaluate Muni's established goals and performance against the letter and intent of Proposition E.
- Assess whether specific implementation goals and methods and definitions of measurement are appropriate or could be improved.
- Provide independent verification to the public that Muni is on track by auditing Muni's data collection and analysis procedures.

The Quality Review consists of the following main elements:

- **Data review and verification of performance**

  Proposition E requires a routine audit of Muni's quality assurance process including an audit of data collection methods and service standard reporting. This audit covers Fiscal Years 2007 and 2008 (July 1, 2006 – June 30, 2008). Auditors reviewed Muni's quarterly Service Standards

Reports from this period to verify that data were collected according to the definitions and methods of measurement specified by Proposition E and the SFMTA Board of Directors and that data were calculated correctly. During the spring of 2009, auditors met with Muni staff responsible for data collection and reporting to review procedures as well as the actual reported data. Systematic spot checks of original source data and of automated tracking systems and procedures were used to determine the accuracy of reported data.

- **Trends analysis**

  Auditors reviewed trends in data and performance achievement over the two-year audit period, as well as unaudited data and performance from Fiscal Year 2009. Findings from this trends analysis were used to develop recommendations for those areas in which Muni's performance could be improved.

- **Auditor recommendations**

  Auditor recommendations focus on ways to further refine or improve performance reporting to make it more relevant to the SFMTA and the public, or on ways to improve performance in areas where Muni has failed to meet its goals. Although the recommendations focus on the two-year audit period, they incorporate any changes that have been made since that time. The recommendations are reviewed with Muni staff to ensure that they are in line with current budget and resource constraints.

- **Documentation and communication of results**

  In addition to the final report, a more reader-friendly "Report Card" is developed that summarizes performance trends and recommendations in easy-to-understand, lay terms.

Summary of Service Standards and Changes Since the Previous Audit

The service standards (or performance measures) adopted under Proposition E were not intended to create onerous reporting requirements, but rather to provide the SFMTA with the tools needed to create a world-class transit service. In order to do this effectively, the service standards need to provide information and feedback that SFMTA management can readily use to help shape decisions and policies so that the desired outcomes can be achieved.

While Proposition E specifically stated the method of measurement and goals for several of the service standards, it also provided some flexibility with regard to the way in which other standards could be measured and the milestones or goals could be achieved. When not specified by Proposition E, the SFMTA Board adopted methods and definitions of measurement as well as specific goals and milestones for each of the service standards. Additionally, Section 8A.104 of the City Charter allows the SFMTA Board to vote to amend any of the service standards (after holding a public hearing on any such amendments).

Muni's Citizens' Advisory Council (CAC) and the SFMTA Board review Muni's performance quarterly, and review the definitions of measurement, methods of measurement and the goals for each of the service standards annually. The SFMTA publishes quarterly Service Standards Reports which include a description of each of the service standards and a summary of Muni and DPT performance. (These reports are available to the public via Muni's web site at http://www.sfmta.com/cms/rstd/sstdindx.htm) These reports also include additional performance information that is not required by Proposition E, but is used by Muni for other purposes, such as employee incentive programs.

As a result of Board action on recommendations made in the previous two Quality Reviews, a number of changes were made to service standards reporting over the course of the audit period. These included new measures, modifications to existing measures, and reorganization and re-naming of some measures. Only those service standards and subcategories of service standards that were in existence during the audit period and which continue to exist are addressed in this Quality Review. Numbering and naming conventions used in this Quality Review correspond to current service standards practices.

Figure 1 on the following pages lists service standards reporting changes that were made, and changes that were not made, during the audit period in response to measure-specific recommendations from the previous two Quality Reviews. Implementation of recommendations from the prior Quality Review was delayed until Fiscal Year 2008 as a result of changes in the staff responsible for management of service standards reporting. It should be noted that the vast majority of recommendations from the previous Quality Review have been implemented, with a number of recommendations still to be implemented as an outcome of the TEP process.

Figure 1 Measure-Specific Recommendations from FY2003-04 & FY2005-06 Quality Reviews, and Muni Responses

Previous Measure	Current Measure	Major Measure-Specific Reporting Recommendations from Previous Audits	Adopted (Y=Yes; N=No; P=Part)	Notes
1a. Schedule Adherence	A1 On-Time Performance	Consider developing a service classification system that would allow Muni to tailor reliability goals to different service types	N	Delayed pending Transit Effectiveness Project recommendations; with TEP now complete, recommendation is reiterated in this report
6a. Headway Adherence	A1 On-Time Performance	Combine with measure 1a – rename joint measure "On-time Performance"	Y	
1a. Schedule Adherence and 6a. Headway Adherence	A1 On-Time Performance	Utilize automated tools to collect more and better data	N	Delayed pending addt'l study of available tools; recommendation is revised in this report
3a. Pass-Ups	–	Eliminate measure	Y	Service standard reported rates of vehicles bypassing stops as a result of overcrowding, which is measured directly by A3, Load Factors
7a. Vehicle Availability	A2 Service Delivery (AM/PM Peak Vehicle Availability)	Increase vehicle availability goal	Y	Increased from 98.5% to 99%
7a. Vehicle Availability	A2 Service Delivery (AM/PM Peak Vehicle Availability)	Report number of days when each facility does not meet goal	Y	Numbers of days when each facility fails to achieve 100% are reported

Previous Measure	Current Measure	Major Measure-Specific Reporting Recommendations from Previous Audits	Adopted (Y=Yes; N=No; P=Part)	Notes
9a. Miles Between Roadcalls by Mode	A5 Mean Distance Between Failure	Develop common reporting standards and methods for all divisions	P	Goals more or less standardized by mode (this revision to the FY03-04 recommendation was endorsed in the FY05-06 Quality Review); methods now consistent with exception of one division; recommendation reiterated in this report
1b. Passengers Carried by Mode	A17 Sustainability	Use transit mode share goals to determine ridership growth goals	Y	Implemented in FY09 as separate measure
1b. Passengers Carried by Mode	B1 Ridership	Take advantage of new technology by developing a plan for APC deployment	P	APC deployment plan developed and implemented; Muni now in process of transitioning to use of APCs for collection of boarding data; recommendation revised in this report
2b. Average Fare Per Passenger	B3 Farebox Performance	Change measure name to “Farebox Performance”	Y	
2b. Average Fare Per Passenger	B3 Farebox Performance	Expand measure to include farebox recovery ratio and determine farebox recovery ratio performance goal	N	Delayed pending Transit Effectiveness Project recommendations; with TEP now complete, recommendation is reiterated in this report
–	–	Add New Measure: "Gross Speed"	N	Delayed pending Transit Effectiveness Project recommendations; with TEP now complete, recommendation is reiterated in this report

Previous Measure	Current Measure	Major Measure-Specific Reporting Recommendations from Previous Audits	Adopted (Y=Yes; N=No; P=Part)	Notes
4b. Fully Allocated Costs Per Hour of Service by Mode	B4 Cost Efficiency	Change title from "Fully allocated costs per hour of service by mode" to "Cost Efficiency"	Y	
4b. Fully Allocated Costs Per Hour of Service by Mode	B4 Cost Efficiency	Establish goal	Y	MTA intends to benchmark results relative to peers when FY09 data becomes available.
–	A13 Productivity	Add new measure "Productivity," measured by passenger boardings per revenue service hour	Y	
–	A13 Productivity	Establish goal	Y	MTA intends to benchmark results relative to peers when FY09 data becomes available.
–	B5 Cost Effectiveness	Add new measure "Cost Effectiveness," measured by the cost to provide each passenger trip	Y	
–	B5 Cost Effectiveness	Establish goal	Y	MTA intends to benchmark results relative to peers when FY09 data becomes available.
1c. Net Vacancies by Position	A6 Vacancy Rate for Service Critical Positions	Eliminate measure	N	This service standard was recommended for elimination in FY03-04 Quality Review; in FY05-06 Quality Review, refinements were recommended instead (see below)

Previous Measure	Current Measure	Major Measure-Specific Reporting Recommendations from Previous Audits	Adopted (Y=Yes; N=No; P=Part)	Notes
1c. Net Vacancies by Position	A6 Vacancy Rate for Service Critical Positions	Measure the percentage of positions filled by drivers available to drive, rather than whether the position is filled	P	Alternate measure, "Effective Systemwide % of Extra Board Operators," implemented instead; see recommendation in this report
2c. Attrition Rates	–	Eliminate measure	Y	Service standard reported rates of new hires remaining on staff beyond probationary period, a secondary measure of effective hiring practices
2c. Attrition Rates	D4 Employee Satisfaction	Replace measure with data from Muni's Annual Employee Survey and report in "Employee Satisfaction" category	Y	Both category "D" and service standard "D4" are called "Employee Satisfaction"
1d. Marketing Plan	–	Eliminate measure	Y	Goal of standard was merely to develop plan
2d. Schedule Publication	–	Eliminate measure	Y	Goal of standard was merely to publish timetables
	C1 Customer Perceptions	Add New Measure: "Operator Courtesy"	Y	Reported along with other customer survey results under C1, Customer Perceptions

Previous Measure	Current Measure	Major Measure-Specific Reporting Recommendations from Previous Audits	Adopted (Y=Yes; N=No; P=Part)	Notes
3d. Operator Conduct Complaints	C2 Operator Complaint Resolution Rate/Customer Feedback Received	Move resolution of operator conduct complaints to measure 3e	P	The intent of this recommendation was to clearly separate reporting of resolution rates for Passenger Service Reports from reporting of total numbers of PSRs received; while both are still reported under same letter-and-number code, subcategories of service standard are now more clearly delineated using separate titles
3d. Operator Conduct Complaints	C1 Customer Perceptions	Use Muni's Annual Rider Survey to measure customer satisfaction instead of the number of PSRs	Y	While PSRs are still reported, customer satisfaction is measured directly using customer survey results under service standard C1
3d. Operator Conduct Complaints	C2 Operator Complaint Resolution Rate/Customer Feedback Received	Change title of measure to "Customer Satisfaction"	Y	Title changed to "Customer Feedback Received," which effectively achieves goal of making clear that service standard has to do with customer complaints
4d. Annual Passenger Surveys and Follow-up by Management	C1 Customer Perceptions	Eliminate measure; use Muni's annual rider survey to measure customer satisfaction instead of the number of PSRs	Y	Goal of previous service standard was merely to conduct annual customer surveys; results of customer survey are now reported under service standard C1

Previous Measure	Current Measure	Major Measure-Specific Reporting Recommendations from Previous Audits	Adopted (Y=Yes; N=No; P=Part)	Notes
–	C1 Customer Perceptions	Add New Measure: "Vehicle and Station Cleanliness"	P	"Vehicle cleanliness" results from customer survey are now reported under service standard C1; recommendation to include station cleanliness in survey is made in this report
5d. Public Information	C1 Customer Perceptions	Change to measure customer information in terms of the percent of all boardings that have real time transit vehicle arrival information	P	Previous goal was merely development of plan for improvement of communication with riders; "Communication with riders" results from customer survey are now reported under service standard C1; real time arrival information system has been greatly expanded
6d. Operator Training and Accident Follow-up	C4 Safety	Report accident rate in terms of accidents per 100,000 vehicle miles (incl. non-revenue miles)	Y	Subcategories are also reported
6d. Operator Training and Accident Follow-up	–	Report the accident rate of the 10% of operators with the highest accident rates	N	This recommendation has not been adopted, but is not reiterated; accident reporting has been significantly improved by reporting of rates per 100,000 miles
7d. Crime Incidents	C6 Security Incidents	Standardize reporting methods	P	Recommendation implemented, but additional refinements remain necessary; see recommendation in this report

Previous Measure	Current Measure	Major Measure-Specific Reporting Recommendations from Previous Audits	Adopted (Y=Yes; N=No; P=Part)	Notes
7d. Crime Incidents	C6 Security Incidents	Refine measure to report the different types of crimes that occur on vehicles and in stations (e.g., types of incidents: felonious, quality of life, and fare evasion)	P	Recommendation implemented, but additional refinements remain necessary; see recommendation in this report
7d. Crime Incidents	C6 Security Incidents	Report each type of incident as both a rate (per 100,000 passenger trips) and an absolute number	Y	Recommendation implemented
1e. Number of Grievances	D1 Grievances	Report as rate (grievances per employee per year) in addition to absolute number of grievances	Y	Will be reported starting end of FY09
1e. Number of Grievances	D1 Grievances	Report by division in addition to as an organization to improve accountability	N	Recommendation is reiterated in this report
2e. Speed of Resolution of Grievances	D2 Grievance Resolution Rate	Change goal from "resolve 75% of grievances within 30 days" to "resolve 90% of grievances within 90 days" to more realistically reflect the resolution process timeframes	Y	
4e. Employee Recognition	D4 Employee Satisfaction	Replace with data from Muni's Annual Employee Survey	Y	Standard merely reported numbers of awards given to employees
5e. Employee Education and Training Opportunities	–	Eliminate measure	Y	Standard merely reported numbers of hours of non-safety training provided; starting end of FY09, customer service training will be tracked as part of service standard C3, Operator Training

In addition to measure-specific recommendations, previous audits have made a number of general recommendations to improve both Muni performance reporting and Muni performance. Below are brief summaries of general recommendations made in the last audit, and descriptions of Muni's progress toward implementation of those recommendations:

- *Performance measures should reflect the multimodal nature of the SFMTA.* In previous Quality Reviews, we recommended that the SFMTA move toward a more fully integrated, multimodal system of performance reporting that would better reflect its role as manager of the city's entire transportation network, and not just as an umbrella organization with separate divisions dedicated to different modes (e.g., Muni for transit and the Department of Parking and Traffic for automobiles). While the categories and standards we recommended have not yet been adopted, Muni and DPT reporting has been combined (while this report only addresses Muni-specific service standards, quarterly reports include a number of standards addressing other modes) and multimodal service standards such as "Sustainability" (mode share) have been introduced.
- *Improve organization of measures to improve readability.* We also recommended that new, more multimodal categories such as "safety" be developed. While this has not been done, Service Standards reports have been reorganized and reformatted, and are now much easier to understand and to use. They are both relatively simple in their presentation and robust in terms of the data they make available.
- *Set different performance standards for different types of Muni service.* Subcategories for most service standards consist of mode (e.g., "light rail") or operating division (e.g., Green Division). While this is sometimes useful and often necessary, given that much data is reported at the division level, divisions have no relevance to Muni riders, and mode often has little more (does it matter whether on-time performance is greater on routes where vehicles are electric trolley buses, or diesel motor coaches?). Fortunately, planners for Muni's Transit Effectiveness Project (TEP) have developed categories based on service type: for example, "Rapid" lines that operate frequently along trunk routes, and "Community Connector" routes that circulate less frequently through residential neighborhoods. While Muni has not yet adopted use of these categories for any service standards, the recommendation is repeated in this Quality Review, as it would greatly improve performance reporting and would be relatively easy to implement.
- *Ensure technological resources are properly maintained and fully utilized***.** On this point, the SFMTA continues to make progress, as reporting systems for several service standards have been upgraded and plans have been developed to

better utilize available technology for more efficient deployment of resources. Transitions to new database software continue in some cases to be problematic.

- *Focus on improving the performance measures that address customer experience.* In recent quarters, notable progress has been made on key indicators of reliability, such as schedule adherence. Much of this progress can be attributed to prioritization of provision of front-line resource, including efforts to increase staffing levels and reduce absenteeism. However, Muni progress in these areas is now threatened by its current budget deficit.

Data Collection and Reporting

For this Quality Review, auditors both reviewed Muni's Service Standards Reports and interviewed Muni staff to verify that data were collected according to the definitions and methods of measurement specified by the SFMTA and that data were calculated and reported correctly. Almost without exception, the auditors found that data reported by Muni appeared to be reliable. Only one significant exception was noted.

Measures that have been discontinued (see Changes Since the Previous Audit, previous pages) were not audited.

A13 Productivity, B4 Cost Efficiency

The methodology for reporting light rail hours of revenue service changed in Fiscal Year 2008, resulting in misleading reporting of trends in these two categories.

Previously, Muni had only been able to track "car hours," so that a two-car train in operation for one hour would be counted as two hours of revenue service. Starting in Fiscal Year 2008, technological improvements allowed Muni to count "train hours," a standard that is more consistent with the way hours for other modes are measured: one two-car train in service for one hour provides the same number of hours of service – one – as does one bus in service for one hour.

However, this improvement resulted in misleading reporting of trends from Fiscal Year 2007 to 2008. As reported, light rail boardings per hour, or productivity, increased approximately 48%; however this substantial increase was largely a result of the change in the method for calculating service hours. Had the same standard been used, productivity would have increased by approximately 6% from FY 2007 to 2008. Similarly, light rail operating costs per hour were reported to have increased approximately 41%, but nearly all of this increase is due to the change in calculation methodology. In fact, real costs increased by only 1%. The change in methodology for light rail reporting also impacted systemwide numbers: rather than increasing by approximately 9%, systemwide productivity increased about 2%, while systemwide costs per hour increased by about 10% rather than 17%.

Because data for train hours were not available for Fiscal Year 2007, reported figures have not been altered in the charts accompanying each service standard in the following chapters. However, the issues noted above are repeated there, in order to clarify actual performance.

Trends Analysis

Figure 2 on the following pages summarizes Muni performance in each of the service standards categories that were in effect during the period covered by this review (fiscal years 2007 and 2008) *and* which are still in place (standards that have since been discontinued are not addressed by this audit). The arrow graphics indicate general trends (up for "positive," facing right for "neutral," and turned down for "negative") in terms of both historic patterns and performance over the course of the audit period. Attainment of goals for each standard is not generally addressed below, but is addressed in the detailed performance review that makes up the body of this report.

Figure 2 FY2007-08 Performance Summary

Performance Summary	▲ Positive Trend ▶ Neutral Trend ▼ Negative Trend	
A1 On-Time Performance *Schedule Adherence*	▶	In Fiscal Year 2007-2008, Muni remained well below the systemwide goal of 85% on-time measured as arriving no more than 1 minute early or 4 minutes late. Actual performance was consistently around 70%. In FY08, there was a notable decline in light rail performance, while electric trolley bus lines continued to outperform other routes.
A1 On-Time Performance *Headway Adherence*	▶	A secondary measure of on-time performance, headway adherence, is based on a standard of vehicles operating within 30% or 10 minutes, whichever is less, of their scheduled headway (or frequency). Performance in this area declined to below 60% in Fiscal Year 2006, and improved only slightly during the audit period.
A2 Service Delivery *Scheduled Service Hours Delivered, Operator Availability, and Late Pull-Outs*	▲	A mid-decade decline in both Service Hours Delivery and Operator Availability was reversed during the audit period, although Muni remained below its goals of 98.5% delivery of scheduled service hours and 98.5% availability of operators for scheduled service. These two measures have been and remain closely linked. Late "pull-outs" from yards at the beginnings of peak periods, meanwhile, remained relatively rare.
A2 Service Delivery *AM/PM Peak Vehicle Availability*	▲	Availability of equipment for assignment to operators at the beginning of the AM and PM peak periods improved over the course of the audit period, reaching 100% at one point and remaining well above the goal of 98.5%.
A3 Load Factors	▶	The number of Muni routes experiencing overcrowding, as measured by an average load of 85% of combined seated and standing capacity, has remained relatively constant at around 15 to 20%.
A4 Unscheduled Absences	▶	While rates of unscheduled absenteeism for most positions have remained close to 5%, rates for operators have consistently been higher than 10%. This trend continued during the audit period, and is a key contributor to Operator Availability rates below 100% -- which in turn, result in rates for Scheduled Service Hours Delivered that are below 100%.
A5 Mean Distance Between Failure	▲	Average miles between "roadcalls" for mechanical problems disrupting service increased significantly at several Muni divisions, including light rail.

A6 Vacancy Rate for Service Critical Positions		The vacancy rate for positions in operations fell during the audit period from close to 4% to around 2%. However, this remains a misleading measure, as operator vacancies have always been 0% -- meaning that all budgeted operator positions are filled, but not that there are enough operators to provide all scheduled service.
A13 Productivity		Numbers of boardings onto Muni vehicles per hour of service increased slightly between Fiscal Years 2007 and 2008.
B1 Ridership		After consecutive years of decline, Muni ridership increased in Fiscal Year 2008 to its highest level since 2001, due largely to a significant increase in light rail ridership.
B2 Revenue		In both Fiscal Years 2007 and 2008, revenue from fares continued a steady increase. In 2008, it was 55% higher than in 2003.
B3 Farebox Performance		While increased ridership resulted in an overall increase in fare revenues, Muni's average fare per boarding decreased slightly in Fiscal Year 2008, apparently due to increased use of monthly Fast Passes, which offer passengers a steep discount.
B4 Cost Efficiency		Muni's operating cost per hour of revenue service has increased at a faster rate every fiscal year since 2005, reaching 10% in Fiscal Year 2008.
B5 Cost Effectiveness		In Fiscal Year 2008, Muni's operating costs grew at a faster pace than ridership, resulting in a significant increase in costs per boarding.
C1 Customer Perceptions		In 2008, Muni did not conduct its annual telephone survey of customer satisfaction. However, in 2007 overall satisfaction improved slightly from 2006, with a majority of respondents rating service as "excellent" or "good."
C2 Operator Complaint Resolution Rate/ Customer Feedback Received		In Fiscal Years 2007 and 2008, the number of Passenger Service Reports (PSRs) submitted to Muni increased significantly, apparently due to implementation of 24-hour 311 service. Also, late in Fiscal Year 2008, the rate of timely resolution for ADA-related PSRs declined significantly, although this was apparently caused by a transition to new software, and the problem has since been resolved.
C3 Operator Training	*N/A*	In Fiscal Year 2008, Muni began no longer counting training for new operators and supervisors toward training hour totals, and this change in methodology made any assessment of long-term

		trends impractical. However, Muni continued to achieve its goal of 50,000 hours of annual training.
C4 Safety		In Fiscal Year 2008, the number of accidents involving Muni (including collisions with Muni vehicles and falls on board) increased somewhat.
C6 Security Incidents	*N/A*	Muni's methodology for tracking and reporting crime changed significantly in Fiscal Year 2008, making any historic comparison essentially meaningless (see recommendation at end of Section C6 for additional details).
D1 Grievances		While the number of grievances filed by operators in Fiscal Years 2007 and 2008 was higher than in 2006, it was close to levels recorded in 2003-2005. Grievances filed by other employees, meanwhile, increased in 2007 but returned in 2008 to previous levels.
D2 Grievance Resolution Rate		The timeline for resolution of grievances has been extended from 30 to 90 days, and the target rate of resolution from 75% to 90%. As of 2008, virtually all grievances were being resolved within 90 days.
D4 Employee Satisfaction		In 2008, Muni did not conduct an employee satisfaction survey. In 2007, satisfaction improved significantly in three of the four categories reported.

Recommendations

Significant improvements have been made in performance reporting since the previous Quality Review. The recommendations on the following pages are envisioned as further refinements to a process that has already been greatly improved.

Two types of recommendations are included in this Quality Review: general recommendations to improve both performance reporting and, in some cases, performance; and measure-specific recommendations related to individual service standards.

General Recommendations

The Quality Review team identified several general issues related to Muni performance reporting. Some of these recommendations are repeated from the previous Quality Review (see descriptions earlier in this chapter).

For some measures, report performance data by the "service type" defined in the Transit Effectiveness Project (TEP) rather than by mode or division.

Subcategories for a number of service standards are organized by mode or division (e.g., Green Division, where light rail service is based). This reflects Muni's organizational structure. However, it is not always the most relevant way to present information to the public, or the most useful to Muni.

The Transit Effectiveness Project (TEP) recommended a number of service categories: Rapid Network, Local Network, Community Connectors, Specialized Services, and Owl Network. These categories were developed by TEP planners using performance and other characteristics that are more relevant to riders, and suggested a concentrated program for improving speed and reliability on the routes people depend on the most.

Under our recommendation for service standard A1, below, we recommend that headway adherence become the primary measure of on-time performance for Rapid Network routes, and schedule adherence the primary measure for all other routes. We would further recommend that modal subcategories be replaced or supplemented by the TEP identified service-types for all service standards where data is already collected at the individual route level:

- A1 On-Time Performance
- A3 Load Factors
- A13 Productivity

Service type subcategories should also be used for the recommended new service standard "Average Speed" and new "Scheduled Trips Delivered" service standards (see recommendations on following pages), if they are adopted. We would further note that use of subcategories based on service type would allow for more refined and relevant standards in some categories. For example, the load factor standard applied to Rapid Network routes might remain 25% of peak trips over 125% of capacity, while the standard applied to Specialized Services – which consist largely of express routes, and on which

there would naturally be a greater customer expectation of finding a seat – might be less lenient.

Consistently use the term "light rail" to include both Metro and F-line operation.

In quarterly service standards reports, the terms "light rail" and "LRV" are sometimes used in a potentially confusing manner. To clarify which standards refer to both historic streetcar operation and light rail operation, and which do not, we recommend using the term "light rail" to refer to both types of rail operations, "Breda LRV" in reference to Muni Metro operations, and "F-Line" in reference to F-Market operations.

Rename section A of the standards to "System Performance" to more accurately reflect the service standards it includes.

In Service Standards Reports, Section A is titled "Operational Efficiency." We recommend broadening the title to "System Performance" to capture all of the elements of effective service delivery measured by Section A service standards.

Add "Average Speed" as a new service standard under System Performance.

In the Quality Review for fiscal years 2003 and 2004, we recommended that average operating speeds, including stops, be reported on both a systemwide and modal basis. Speed was also a primary concern of the TEP, and for good reason: it is important to riders who value their time, as well as being an important measure of system efficiency. Muni average speeds have historically been slower than for peer operators, and they have been declining over time. This standard would be relatively easy to calculate, as data on both revenue miles and revenue hours is already collected. Given the gradual decline in speed, we would recommend that the goal be simply to maintain existing speeds.

Measure-Specific Recommendations

In addition to the general recommendations, a number of recommendations are made below to refine specific measures.

A1 On-Time Performance

Use automated tools and follow best practices to streamline data collection and reporting of on-time performance.

In our previous Quality Review, we recommended that SFMTA consider using NextMuni calculations of arrival times to automatically measure on-time performance, provided that a reasonable level of confidence in the accuracy of NextMuni data could be established. Given Muni's investment in Automated Passenger Counters, or APCs, the system now has a more accurate source of information for arrival times (note: NextMuni data is generally accurate, but the NextMuni system is not designed primarily for reporting of actual arrival times; rather, it is optimized for prediction of arrival times). While the accuracy of APC timestamps should be monitored on an ongoing basis, we believe that relying on APCs as a primary source for on-time data would enable more effective deployment of Muni's team of traffic checkers, as well as providing an accurate source of on-time data.

Moving from traffic checkers to APCs would have one significant drawback: because APC units are not installed on every vehicle, but instead are rotated among the fleet, they cannot be used for measurements of headway adherence. This is because one transit vehicle with an APC unit on-board might be followed by another without an APC unit. However, we do not believe it is essential that headway adherence be reported for all routes; nor do we believe it is essential that schedule adherence be reported on every route. Instead, we believe Muni should follow emerging best practice in the transit industry by relying on headway adherence as the primary measure of on-time performance for routes that operate frequently, and schedule adherence as the primary measure of on-time performance on routes that operate less frequently. This practice reflects riders' actual experiences and expectations: on routes that operate frequently, it is more important that vehicles arrive, say, "every 10 minutes" – consistently, and evenly spaced – than that they arrive according to timetables that users of such frequent services typically do not rely upon. Conversely, on routes that operate less frequently, it is more important to users that vehicles arrive at each location at a predetermined time.

Therefore, we recommend:

- On-time performance should be reported by service type as defined by the TEP, rather than by mode.

- All routes on the TEP-defined Rapid Network should report headway adherence, using data collected by traffic checkers. Schedule adherence on these routes should also continue to be collected with APCs in order to calculate system averages.

- All other routes should report schedule adherence only using APC data.

Transition to a headway adherence standard on high-frequency routes might also lend itself to a move toward headway-based management of high-volume lines. A logical place to begin implementing this practice would be on the Muni Metro, where trains depart outbound from Embarcadero Station in the same order in which they arrive inbound, resulting in the well-known "stutter effect" of multiple trains arriving on a single line before the next arrival on another line. Rerouting trains at Embarcadero could ensure more even spacing, although "perfect" sequencing would not be possible unless one-car trains were sometimes reassigned to lines served primarily by two-car trains, a practice that would be problematic in its own right. In any case, such a limited experiment in headway-based management could go a long way toward solving one of Muni's persistent and highly visible problems.

A2 Service Delivery

Measure the percentage of scheduled trips delivered in addition to scheduled hours delivered.

This service standard includes multiple measures of Muni's ability to provide scheduled service, most notably Scheduled Service Hours Delivered. Scheduled Service Hours Delivered is a straightforward, all-encompassing

measure; it is simply the hours of revenue service provided as a percentage of the hours of revenue service that are scheduled. In Fiscal Years 2007 and 2008, the systemwide averages were 94.3% and 95.9%, respectively. This means that in 2008, Muni was able to deliver about 24 out of every 25 scheduled hours. However, this measure says nothing about where service hours might have been missed, and does not relate directly to the customer's experience waiting to make a "trip." Customers can be expected to care about whether their bus or train arrives – about whether a trip is made, or missed. A measure of Scheduled Trips Delivered, then, would be a useful additional measure. Information would need to be compiled from two sources: the OPS (Operator Dispatching/Timekeeping) module of the Trapeze database, which can provide information about trips that were missed because no operator was available, and Central Control logs, which can provide information about trips that were missed because of mechanical problems. Additional study would need to be conducted of the practicality of combining information from these two sources. Ideally, data would be reported overall and by cause of missed trip (no operator available, or mechanical problem), systemwide, by service-type, and at the route level, so routes on which relatively high numbers of trips are missed can be clearly identified.

A3 Load Factors

Use automated passenger counters (APCs) to collect data on load factors where possible.

APCs have been found to provide accurate passenger counts on most routes. APC counts are less accurate on the busiest routes because spaces near doorways often become crowded with riders entering or exiting the vehicle. Contingent on ongoing "spot checks" and regular monitoring of their performance, APCs should be used to collect data on load factors on all Local Network (except cable car), Community Connector, and Specialized Services routes. The TEP-defined Rapid Network would be checked by traffic checkers for both headway adherence and load factors.

A5 Mean Distance Between Failure

Improve consistency in collection and reporting.

This recommendation builds on a recommendation made in the previous report but which has not yet been implemented: "Create standards by mode and improve consistency in collection and reporting."

This recommendation has mostly been implemented. Goals for average numbers of miles between "roadcalls," or mechanical breakdowns, used to vary by division but have for the most part been standardized by mode. Moreover, there are now maintenance controllers at all divisions but one. This is important because maintenance controllers report to a single individual responsible for ensuring agency-wide consistency in data collection and reporting. We would recommend that a maintenance controller be hired for the last remaining division without one.

We would further recommend that Muni report the rate of disabled vehicles that are removed from the street within 30 minutes of a reported breakdown. This information is already being collected internally. Under an existing pilot program, teams of qualified mechanics – one diesel and one trolley bus mechanic – are stationed at locations based on GIS analysis of previous incidents. This not only allows them to arrive on the scene much faster, but it increases the likelihood that a vehicle can be repaired on-site and returned to service. An expanded program would be somewhat expensive to operate, but has the potential to improve reliability and reduce long-term costs. Finally, the program represents a noteworthy example of Muni proactively using available data to improve performance.

A6 Vacancy Rate for Service Critical Positions

Stop reporting operator vacancies, as the number of positions filled is not an accurate indicator of the number of operators available for driving duty. *Also, provide updated position codes to responsible staff on a regular basis.*

In the previous Quality Review, we noted that Muni consistently reports a vacancy rate of 0% for transit operators, despite continually missing service due to a lack of operators. While it is technically true that the vacancy rate for transit operators has been and remains 0%, this figure is misleading, as no distinction is made between operators who are available for driving duty and those who are not. The current measure is simply a measure of the number of requisitions that are available to fill with a new driver. Drivers who are on "requisitions" but are not able to drive, including those on various types of leave, workers compensation and light duty assignments, special non-driving assignments, etc., effectively reduce the available driver pool, even though they do not technically produce a "vacancy". The number of drivers who are on payroll but are not able to drive is estimated to average between 200 and 300 per day.

In the previous Quality Review, we recommended that Muni instead report "driving drivers," or the percentage of total operators who are available to drive on any given day averaged over time. Both scheduled and unscheduled absences would be subtracted from the total number of operators. While this recommendation was not adopted, Muni developed a supplemental measure of "Effective Systemwide Percentage of Extra Board Operators," or the number of "extra board" (or on-call) operators available on any given day as a percentage of scheduled runs, before absenteeism is measured. Operator availability as a percentage of scheduled hours and rates of unscheduled absenteeism among operators are also reported, and the definition of the latter has recently been expanded and made more accurate. Rather than repeat our recommendation that Muni report numbers of "driving drivers," we are instead recommending that the agency simply stop reporting the overall vacancy rates for drivers, as this is both a misleading and unnecessary figure given the other indicators of how many operators are actually available for driving duty.

Additionally, the auditor noted that an updated list of position codes should be provided to the staff responsible for tracking unscheduled absences to ensure the accuracy of this report.

B1 Ridership

Use automated passenger counters (APCs) to collect data on boardings where feasible.

APCs can accurately count boardings on all but the busiest routes. In the previous Quality Review, we recommended that a deployment plan allowing APCs to be rotated among vehicles on a regular basis be developed. This has been implemented. Muni is now working with the Federal Transit Administration on a plan to report official ridership data to the FTA using APCs rather than teams of traffic checkers. APC boarding data has been shown to be relatively accurate (it is highly accurate on routes with low or moderate ridership, and slightly less so on routes where riders crowd in and out of doors), and expanded use of APCs would allow traffic checkers to supplement APC data on busy routes and to collect data on routes without APC units.

B3 Farebox Performance

Report farebox recovery ratios.

Farebox recovery ratio, or the percentage of operating costs covered by fares, is an important measure because it relates fare collection to operating costs and is not simply a function of ridership and fare levels. Muni should continue to report average fares and total revenues, but supplement this information with farebox recovery ratios, both systemwide and by mode. Additionally, it should set annual goals, perhaps a goal of maintaining existing levels over time. This recommendation is reiterated from a previous Quality Review.

C1 Customer Perceptions

Explore combining SFMTA Ridership Survey with City Survey conducted by Controller's Office.

For budgetary reasons, the SFMTA has not conducted a customer survey since 2007. However, the Controller's Office conducts a biennial City Survey in which respondents grade Muni service in a number of areas, several of which overlap with categories reported in Service Standards Reports. Historically, Muni customer surveys have been conducted annually; however, the potential savings might justify a biennial cycle.

If the Muni survey is to be continued, we would endorse a number of changes already under consideration by staff:

- conduct the survey in multiple languages, not just English;
- broaden its scope beyond customer satisfaction to include questions about customer preferences;
- target not just transit users, but all those impacted by transit, including cyclists and drivers; and
- if possible, supplement telephone surveys with intercept surveys.

We further recommend that questions about vehicle cleanliness be expanded to incorporate stop and station cleanliness.

C2 Operator Complaint Resolution Rate

Change timelines to 60 days for resolution of Americans with Disabilities Act- and product/services-related

Passenger Service Reports (PSRs), and 14 days for non-ADA employee conduct complaints.

Historically, only resolution rates for ADA-related PSRs have been tracked, but starting in Fiscal Year 2010, resolution rates for all PSRs will be reported. While Muni has historically been able to achieve or nearly achieve the goal of resolution of 75% of ADA-related PSRs within 30 days, the process for resolution of ADA PSRs can involve several phases, each of which can by regulation take several weeks. Therefore, a timeline of 60 days seems appropriate. Operators, however, must under labor agreements be notified of non-ADA complaints involving them within 14 days, so a 14-day timeline for resolution of non-ADA operator conduct complaints seems appropriate. This recommendation is consistent with a proposal adopted by staff, which allows 14 days for resolution of employee conduct complaints and 60 days for ADA- and products/services-related PSRs such as criminal activity and service planning complaints. We further endorse staff's proactive approach in redefining PSR categories so that they are more logical and transparent.

C4 Safety

Report systemwide accident rates.

Muni has, as previously recommended, begun reporting accident rates per 100,000 miles, and it reports them in four separate categories: collisions and falls on board for both bus and rail. However, systemwide averages are not being reported, and should be.

C6 Security Incidents

Develop methods to ensure more accurate and complete reporting of security incidents, and report rates of fare evasion.

In the previous Quality Review, we noted a number of problems related to reporting of crime on Muni. In part, these problems were caused by retirements in two positions – one at Muni, and one at the San Francisco Police Department – which together made it difficult to piece together a "paper trail" explaining the methodology for reporting crime on Muni. While a new methodology has since been developed, these problems continued into the audit period.

To some extent, problems in reporting of crime on Muni may be unavoidable. By necessity, data comes from two sources – SFPD reports, and additional incidents tracked internally by Muni – and it can be difficult to reconcile conflicting data. To further complicate matters, until recently three parties were responsible for reporting of crime data: the SFPD, which submits information to the SFMTA, the SFMTA's Security and Enforcement Division, which received and reviewed that information, and Muni's Safety and Training Division, which maintained the TransitSafe database of additional security incidents on Muni that, for a variety of reasons, may not have resulted in a police report (for example, an operator who is assaulted may decide to complete his or her run, rather than take the vehicle out of service in order to file a police report). Auditors found that staff in the Security and Enforcement Division and the Safety and Training Division did not appear to effectively

communicate with staff from the other division; instead, Muni management attempted to reconcile conflicting data from the two divisions. Finally, security incidents on Muni aren't even necessarily reported to TransitSafe, as a separate form is available for "miscellaneous" reports.

For the most part, these problems have been recognized and addressed by Muni staff. The Security and Enforcement Division and Safety and Training Division have been combined into a single Safety, Security and Enforcement Division. Acting in part on a recommendation in the previous Quality Review, a rigorous methodology for reconciling conflicting data has also been developed, as have more easily understandable categories of crime. However, because the transition in staff continued into the audit period, and because the new framework for crime reporting differs significantly from the previous method, analysis of trends in crime on Muni prior to Fiscal Year 2008 has been rendered impractical.

Nonetheless, we feel confident that going forward, crime reporting on Muni should be relatively reliable. We have identified one possible area for improvement: division superintendents should ensure that all "miscellaneous reports" result in a record in the TransitSafe database.

Finally, we are making one recommendation in the area of fare evasion reporting. Rather than simply report total numbers of citations issued, Muni should report fare evasion rates using total numbers of "contacts," which are already tracked by fare enforcement officers. This would serve to measure whether, in addition to raising revenues through citations, the program is succeeding in improving rates of fare compliance. The goal for this measure might be an annual improvement of 1.5%.

D1 Grievances

Report by division.

In previous Quality Reviews, we have recommended that grievances be reported not just for operators and miscellaneous employees, but by operating division (e.g., Green and Potrero). This could help to make superintendents more accountable for the prevention and resolution of grievances.

A Operational Efficiency

Service standards in this category have primarily to do with service reliability, including Muni's ability to deliver all of its scheduled service. In Fiscal Years 2007 and 2008, performance in this category remained mixed, with Muni continuing to fall short of goals in the key areas of On-Time Performance (A1) and Service Delivery (A2), although some improvement was shown in the latter area.

Many of the factors contributing to Muni's on-time performance problems are beyond its direct control, including increased levels of congestion and schedules that have, as a result, become less realistic over time (congestion is not, however, entirely beyond the control of the Department of Parking and Traffic, which is part of SFMTA). Ongoing service delivery problems, meanwhile, can be attributed in large part to a perpetual shortage of available operators, which in turn has historically been and continues to be driven by high rates of Unscheduled Absences (A4).

On the following page are brief summaries of Muni's Fiscal Year 2007-2008 performance for each of the Operational Efficiency service standards, including arrows indicating general trends (up for "positive," facing right for "neutral," and turned down for "negative") in terms of both historic patterns and performance over the course of the audit period. More detailed information about each service standard can be found on the following pages, including historic trends and data from recent quarters, since the end of the audit period. Recommendations and issues identified in the data collection and reporting processes can be found at the end of the sections for some service standards.

A Operational Efficiency

A1 On-Time Performance

Schedule Adherence

In Fiscal Year 2007-2008, Muni remained well below the systemwide goal of 85% adherence to a standard of no more than 1 minute early or 4 minutes early, continuing to come in around 70%. In FY08, there was a notable decline in light rail performance, while electric trolley bus lines continued to outperform other routes.

A1 On-Time Performance

Headway Adherence

A secondary measure of on-time performance, headway adherence, is based on a standard of vehicles operating within 30% or 10 minutes, whichever is less, of their scheduled headway (or frequency). Performance in this area declined to below 60% in Fiscal Year 2006, and improved only slightly during the audit period.

A2 Service Delivery

Scheduled Service Hours Delivered, Operator Availability, and Late Pull-Outs

A mid-decade decline in both Service Hours Delivery and Operator Availability was reversed during the audit period, although Muni remained below its goals of 98.5% delivery of scheduled service hours and 98.5% availability of operators for scheduled service. These two measures have been and remain closely linked. Late "pull-outs" from yards at the beginnings of peak periods, meanwhile, remained relatively rare.

A2 Service Delivery

AM/PM Peak Vehicle Availability

Availability of equipment for assignment to operators at the beginning of the AM and PM peak periods improved over the course of the audit period, reaching 100% at one point and remaining well above the goal of 98.5%.

A Operational Efficiency

A3 Load Factors

The number of Muni routes experiencing overcrowding, as measured by an average load of 85% of seated and standing capacity, has remained relatively constant at around 15 to 20%.

A4 Unscheduled Absences

While rates of unscheduled absenteeism for most positions have remained close to 5%, rates for operators have consistently been higher than 10%. This trend continued during the audit period, and is a key contributor to Operator Availability rates below 100% – which in turn, result in rates for Scheduled Service Hours Delivered that are below 100%.

A5 Mean Distance Between Failure

Average miles between "roadcalls" for mechanical problems disrupting service increased significantly at several Muni divisions, including light rail.

A6 Vacancy Rate for Service Critical Positions

The vacancy rate for positions in operations fell during the audit period from close to 4% to around 2%. However, this remains a misleading measure, as operator vacancies have always been 0% – meaning that all budgeted operator positions are filled, but not that there are enough operators to provide all scheduled service.

A13 Productivity

Numbers of boardings onto Muni vehicles per hour of service increased slightly between Fiscal Years 2007 and 2008.

A1 On-Time Performance (Schedule Adherence)

Goal *> 85%*

FY07-08 Performance 

Goal Not Achieved

Trend 

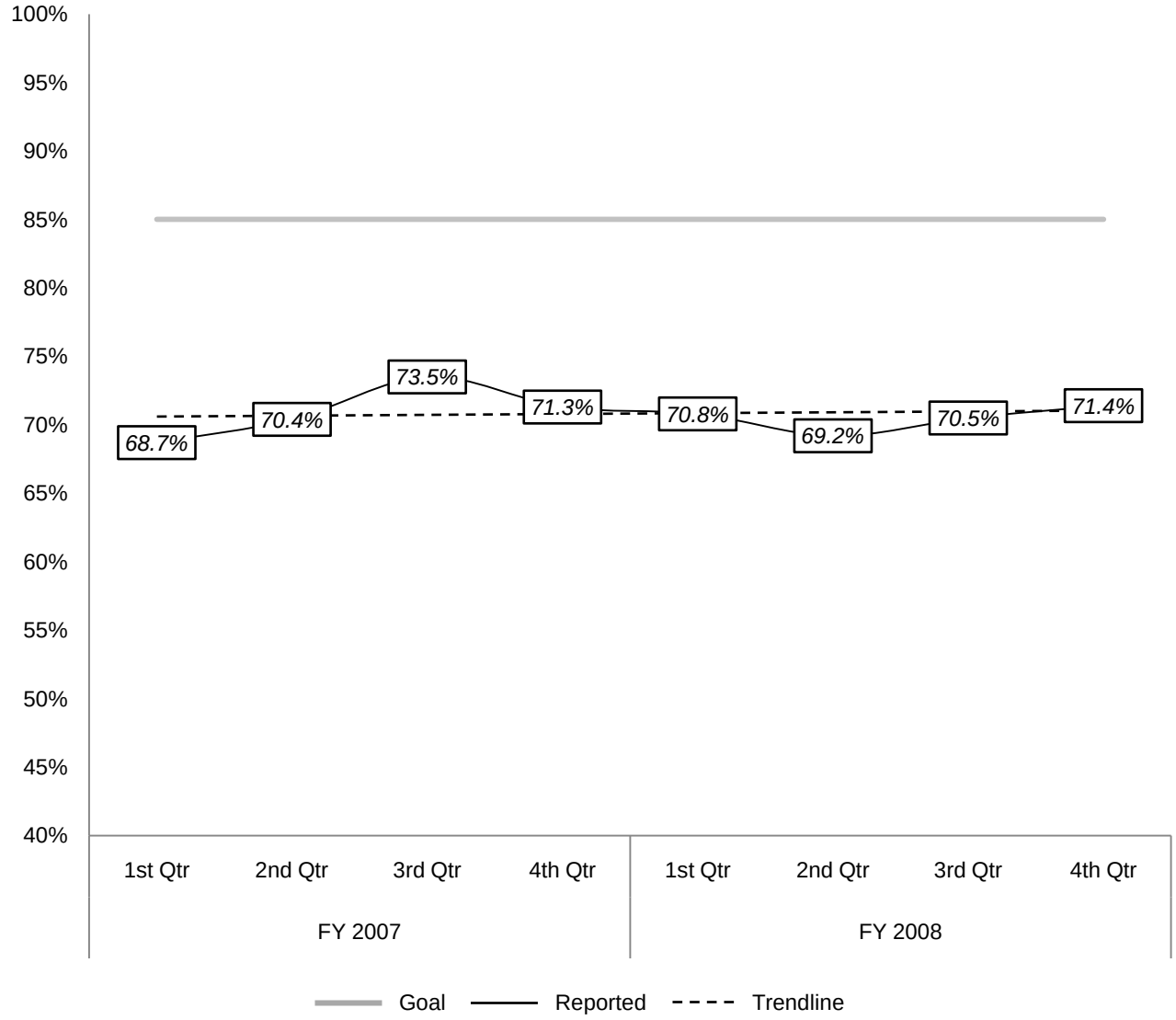
Neutral

Purpose To measure schedule adherence.

Definition Each line will be checked at least once in each six month period. Such checks shall be conducted no less often than 10 weekdays and weekends per check. An annual checking schedule shall be established for the routes. The order in which the routes are checked will be determined monthly through a random selection process. To the extent automated systems can be substituted at less cost for such checks, or the measurement of any performance standard, such systems must be used.

Method Check the designated lines using criteria of -1/+4 minutes. Periods of time includes morning rush (6 a.m.-9 a.m.), midday (9 a.m.-4 p.m.), evening rush (4 p.m.-7 p.m.), and night (7 p.m.-1 a.m.). Supervisors shall conduct a one-hour, on time, and load standard check at a point at mid-route during all four time periods stated above.

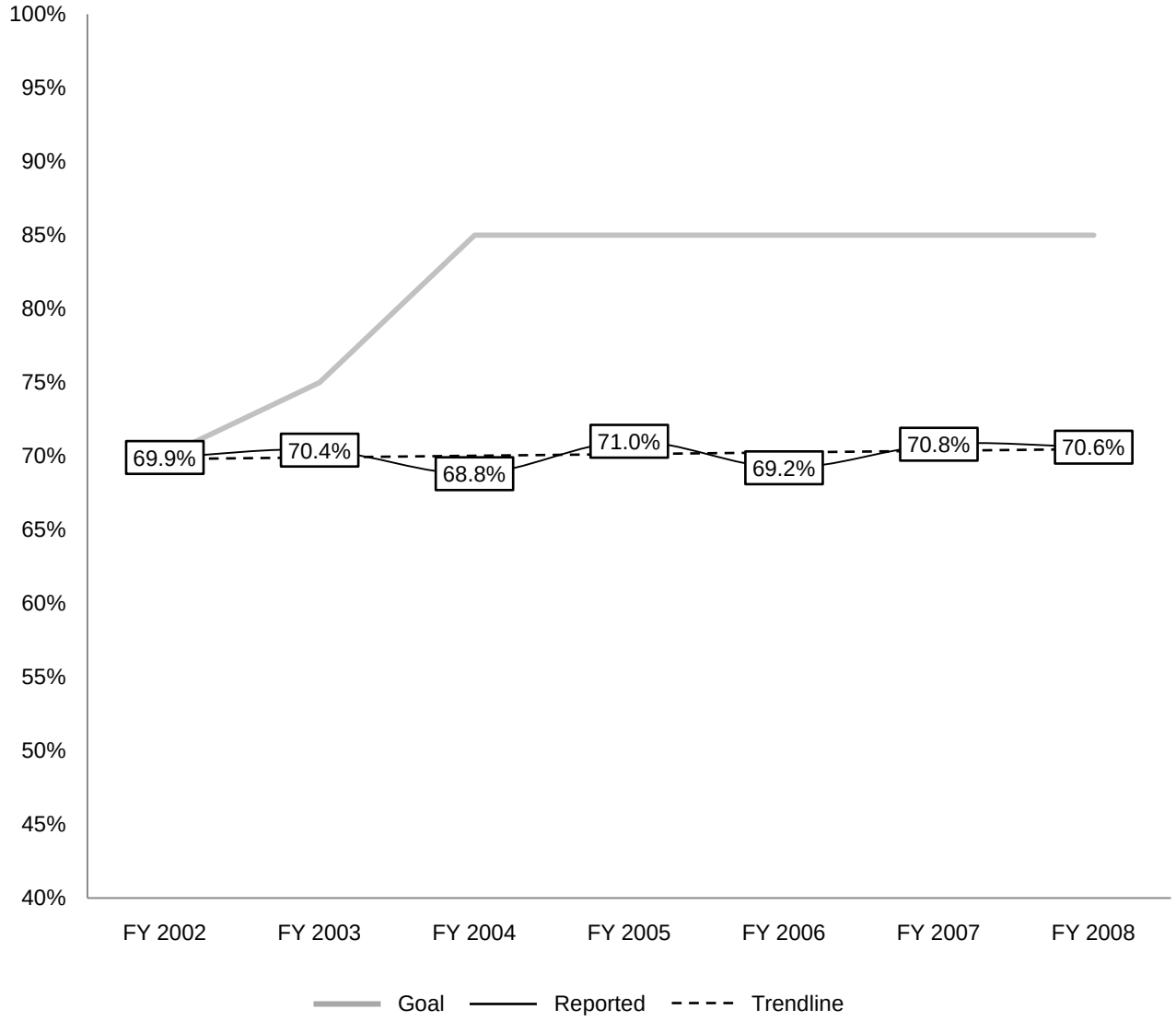
A1 On-Time Performance (Schedule Adherence)



Systemwide (Audit Period)

Historically, systemwide schedule adherence – no more than 1 minute early or 4 minutes late – has remained at around 70%. This trend continued more or less unchanged during the audit period, although since then, performance has begun to improve slightly. Please see the recommendation at the end of subsection A1 for a more detailed explanation of schedule and headway adherence.

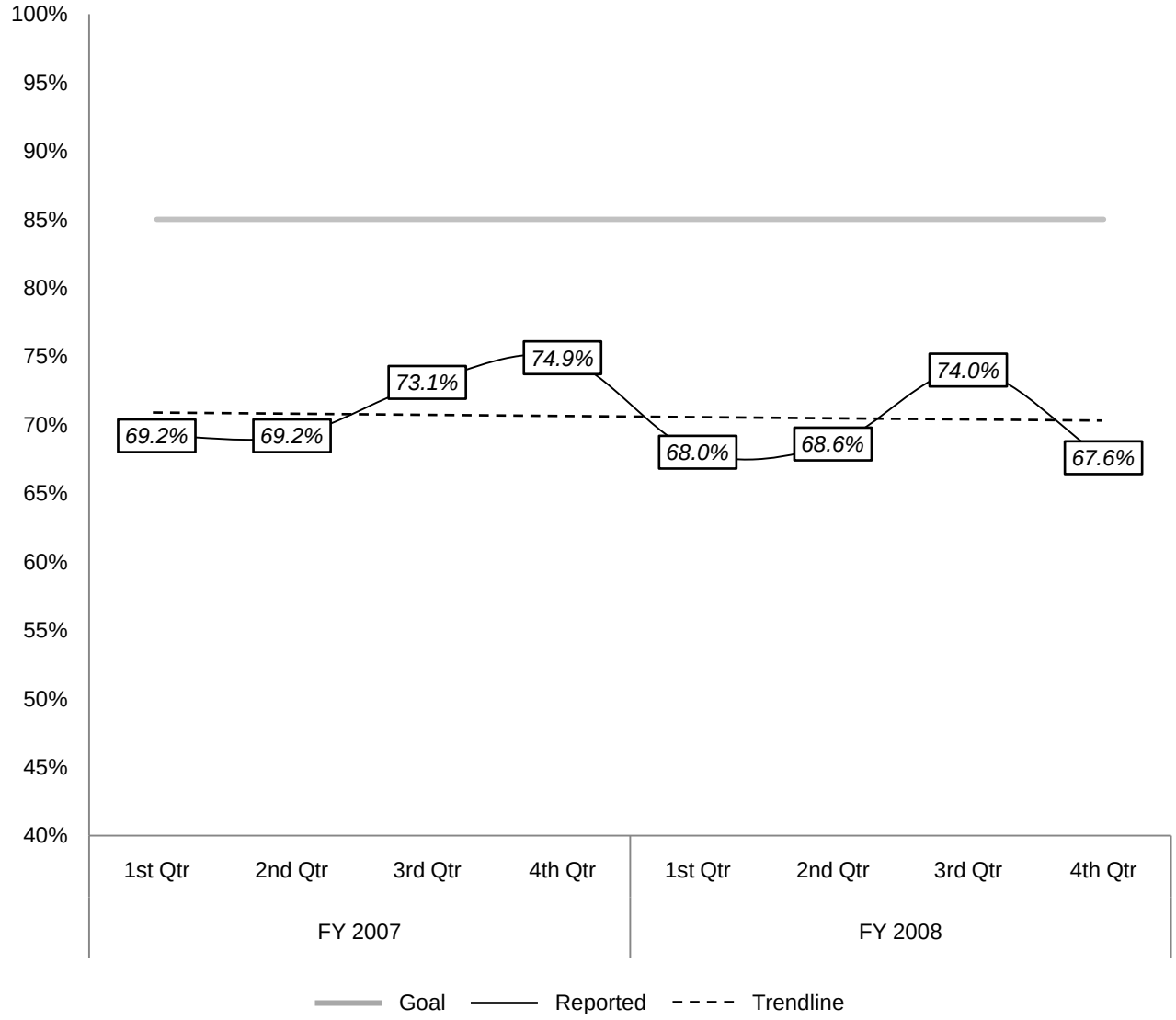
A1 On-Time Performance (Schedule Adherence)



Systemwide (Historic)

Between 2001 and 2004, schedule adherence goals were increased from 65% to 85%. Systemwide adherence, however, has remained at around 70%, although performance has begun to improve slightly in recent quarters.

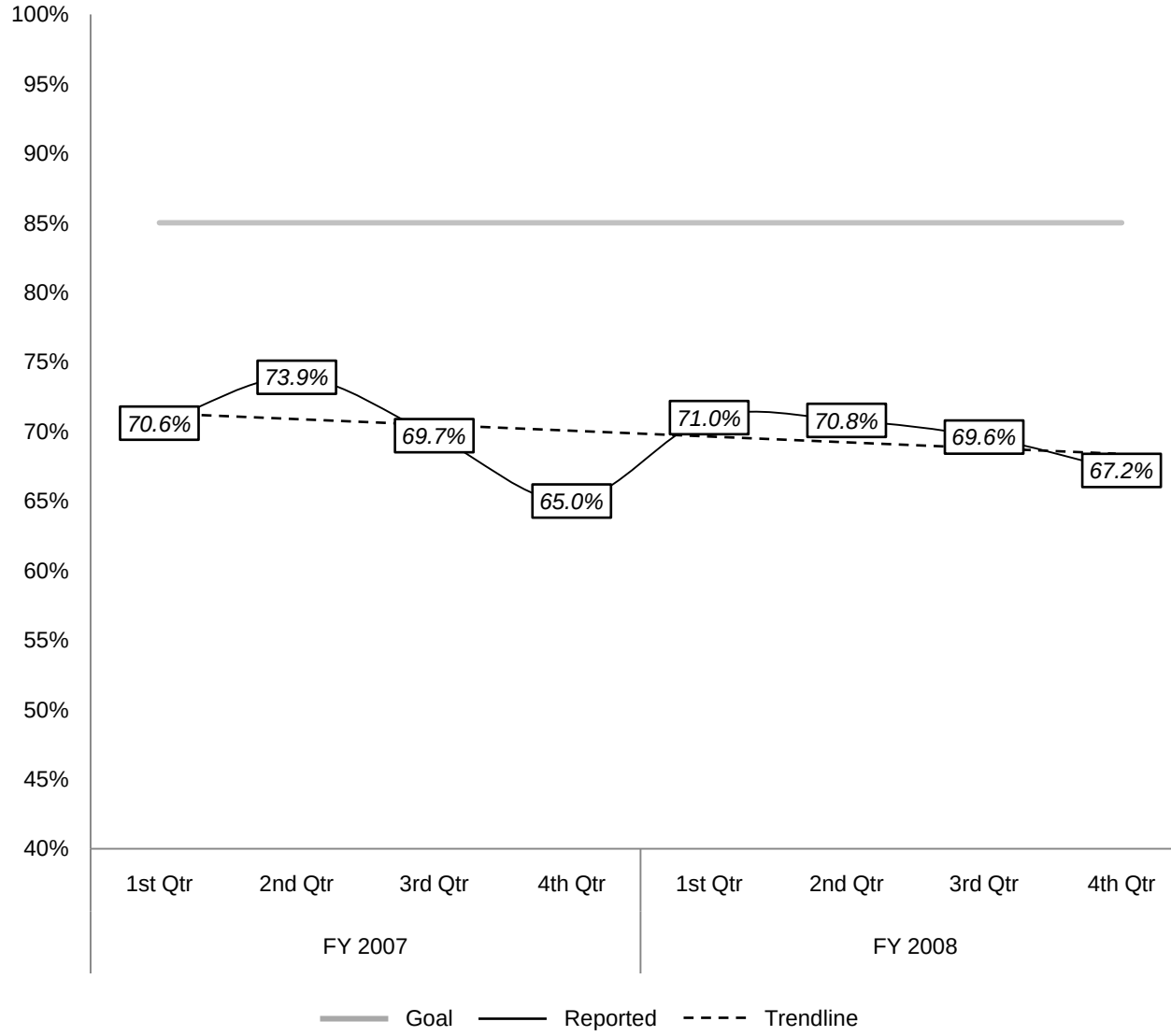
A1 On-Time Performance (Schedule Adherence)



Light Rail (Audit Period)

Notably, schedule adherence for Muni Metro light rail vehicles and F-Market line historic streetcars was at its highest in the 4th Quarter of Fiscal Year 2007, when the T-Third Street began regular service and experienced a number of well-publicized problems. In the following quarter, however, it declined significantly, and remained below 70% for three of four quarters in Fiscal Year 2008. Average schedule adherence for Fiscal Year 2007 was 72.1%, and for Fiscal Year 2008, 69.4%.

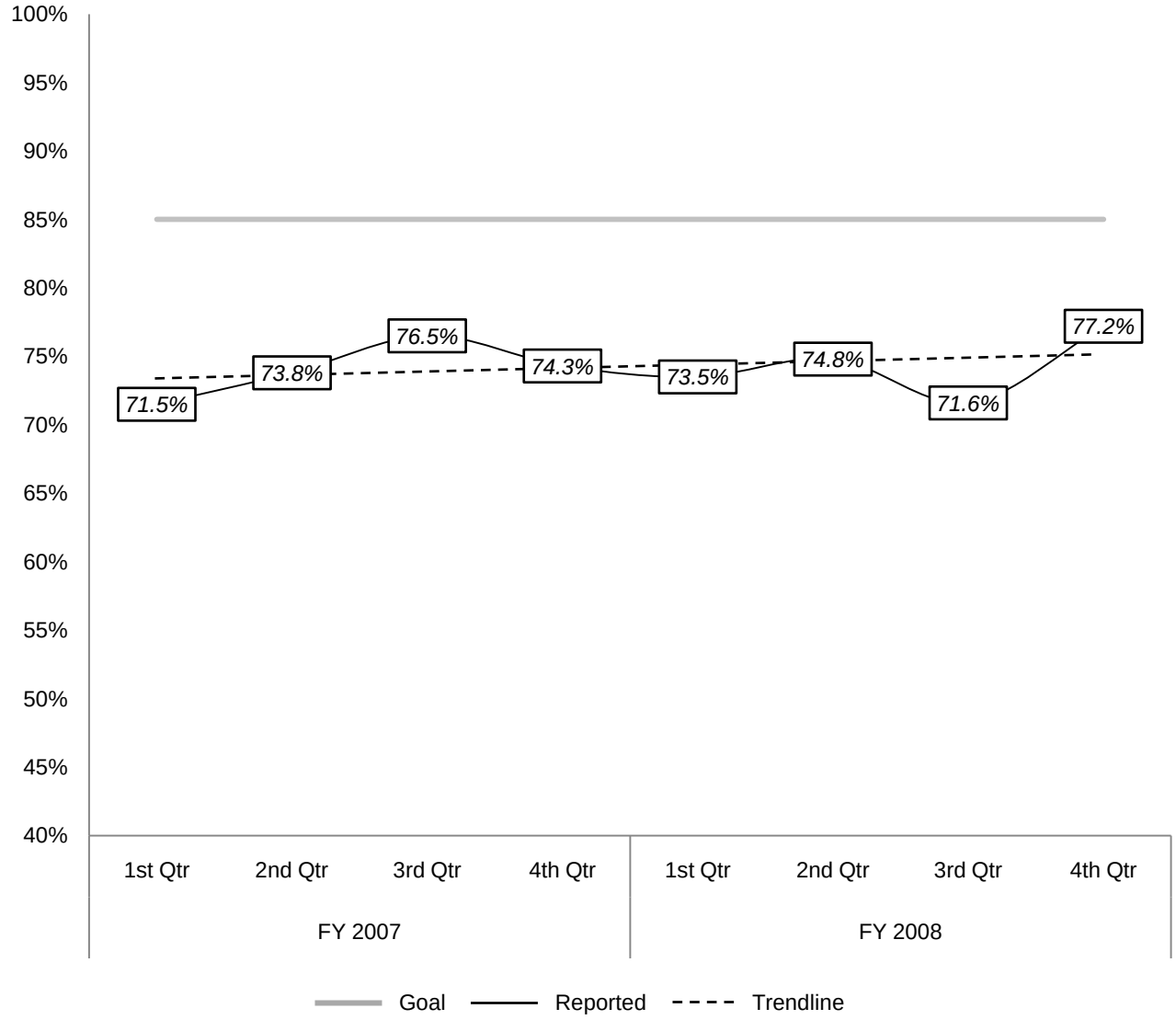
A1 On-Time Performance (Schedule Adherence)



Cable Car (Audit Period)

Cable car schedule adherence declined slightly over the audit period, but remained more or less in line with systemwide schedule adherence. Average schedule adherence for Fiscal Year 2007 was 69.3%, and for Fiscal Year 2008, 69.2%.

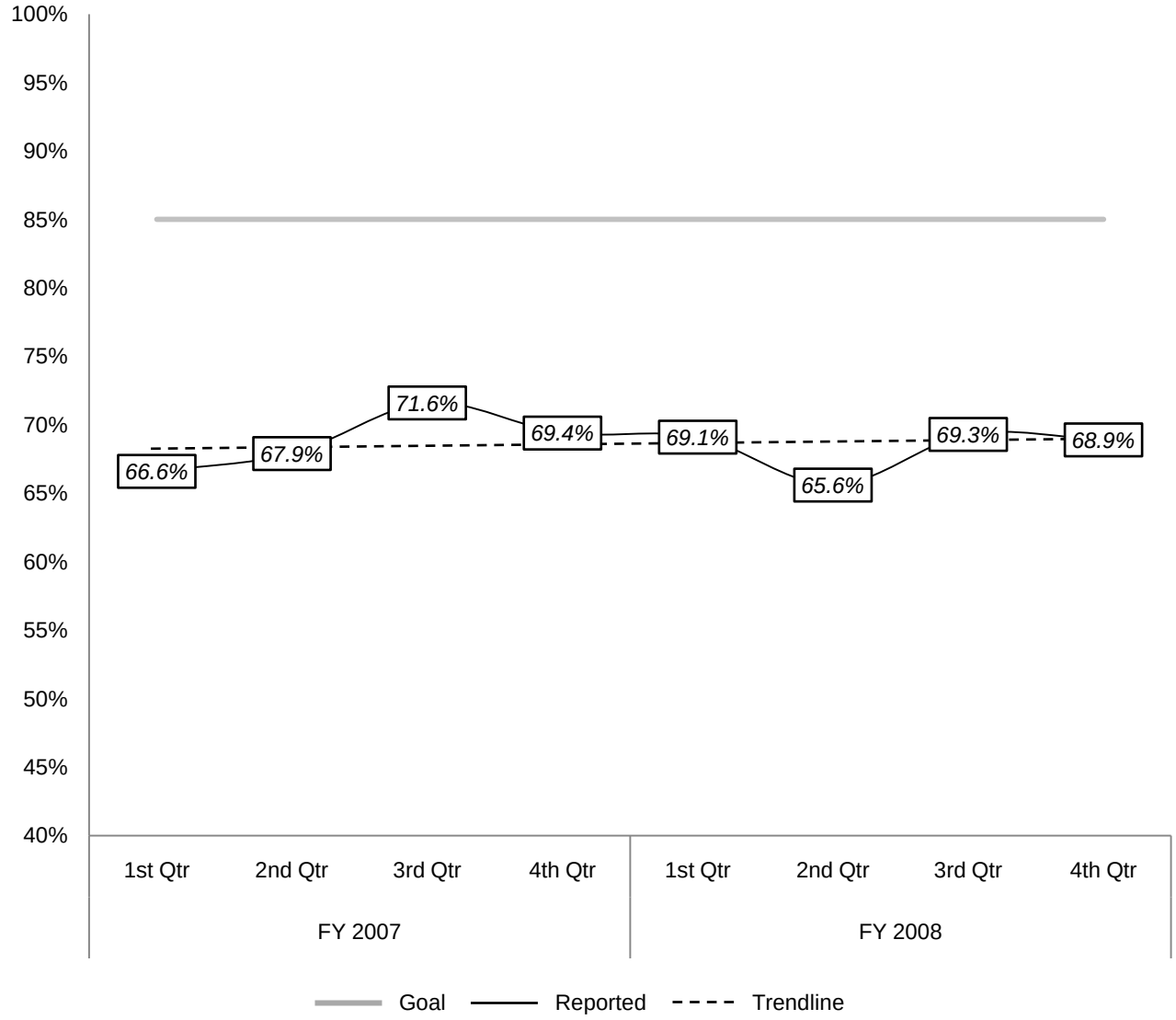
A1 On-Time Performance (Schedule Adherence)



Trolley Coach (Audit Period)

Schedule adherence on electric trolley bus lines has historically been somewhat higher than schedule adherence for other modes. This trend continued through the audit period. Average schedule adherence for Fiscal Year 2007 was 73.9%, and for Fiscal Year 2008, 74.2%.

A1 On-Time Performance (Schedule Adherence)



Motor Coach (Audit Period)

Most Muni service is provided by diesel buses, so it is unsurprising that schedule adherence on these lines has always been close to the systemwide average. Average schedule adherence for Fiscal Year 2007 was 68.7%, and for Fiscal Year 2008, 68.4%.

A1 On-Time Performance (Schedule Adherence)

	FY 2008	FY 2009		
Category	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr
Systemwide	71.4%	71.3%	72.7%	74.5%
Light Rail	67.6%	64.5%	69.5%	70.7%
Cable Car	67.2%	64.4%	67.2%	68.6%
Trolley Coach	77.2%	76.0%	76.7%	80.4%
Motor Coach	68.9%	69.9%	71.0%	70.7%

Since the Audit Period

The table at left shows observed schedule adherence since the end of the audit period (to better illustrate recent trends, it also includes data from the 4th Quarter of Fiscal Year 2008). All post-audit period data has not yet been audited by the Quality Review team, but is included for purposes of timeliness. Post-audit period trends in schedule adherence have been positive: in the Third Quarter of Fiscal Year 2009 (Jan. 1-March 31, 2009), systemwide schedule adherence, which for years has remained at around 70%, increased to nearly 75%. Schedule adherence on electric trolley bus lines increased to over 80%, near the goal of 85%.

A1 On-Time Performance (Headway Adherence)

Goal *> 85%*

FY07-08 Performance 

Goal Not Achieved

Trend 

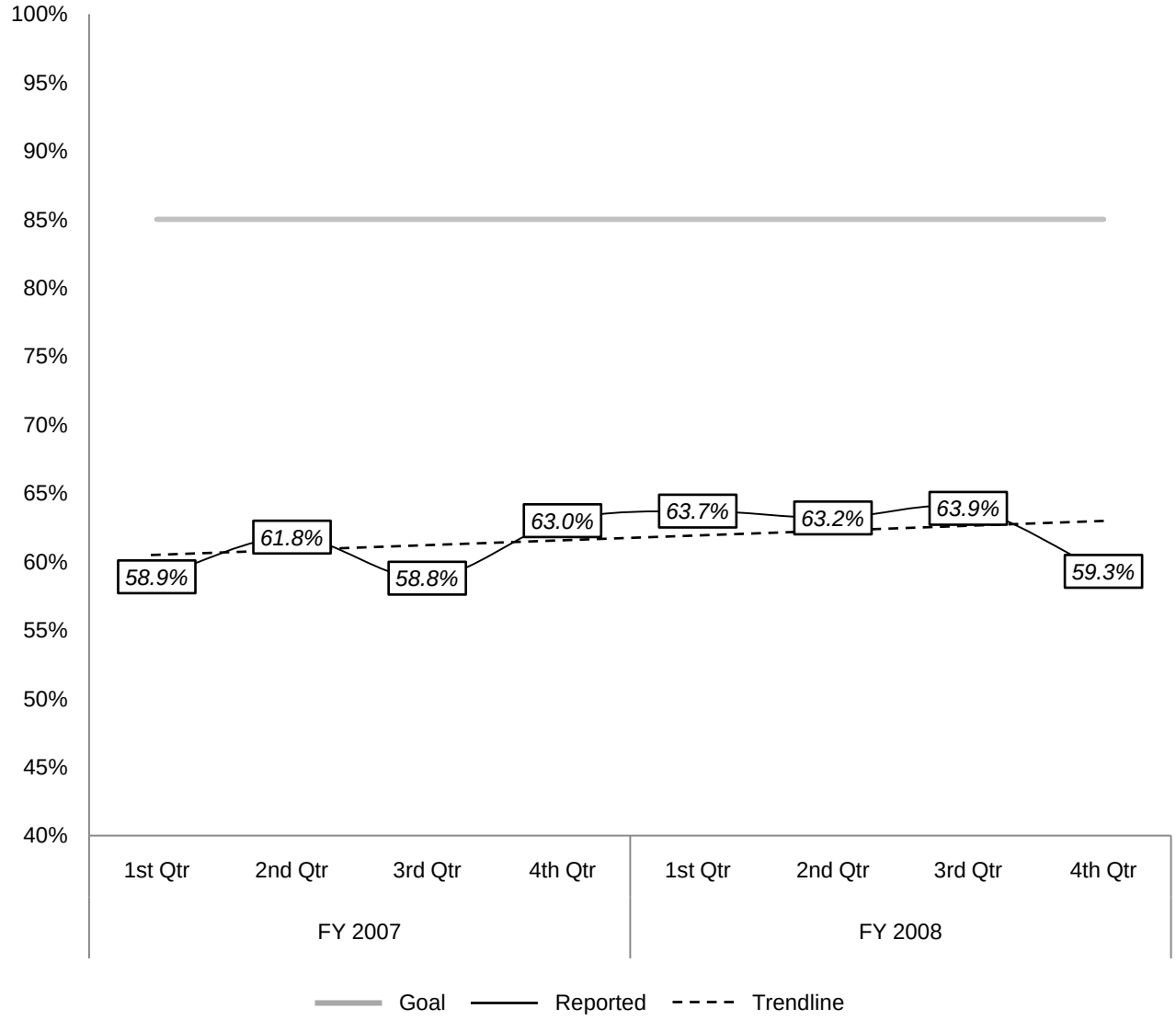
Neutral

Purpose To measure scheduled headways against actual headways.

Definition Actual headways against scheduled headways on all radial express, cross-town, secondary, and feeder lines during all time periods. Each line will be checked twice a year. Such checks shall be conducted no less often than 10 weekdays and weekends per period. An annual checking schedule shall be established for the routes. The order in which the routes are checked will be determined monthly through a random selection process. To the extent automated systems can be substituted at less cost for such checks, or the measurement of any performance standard, such systems must be used.

Method Check the designated lines using criteria of +/- 30% or 10 minutes of scheduled headway, whichever is less. Periods of time include morning rush (6am-9am), midday (9am-4pm), evening rush (4pm-7pm), and night (7pm-1am). Supervisors shall conduct a one hour, on time, and load standard check at a maximum load point at mid-route during all four time periods stated above.

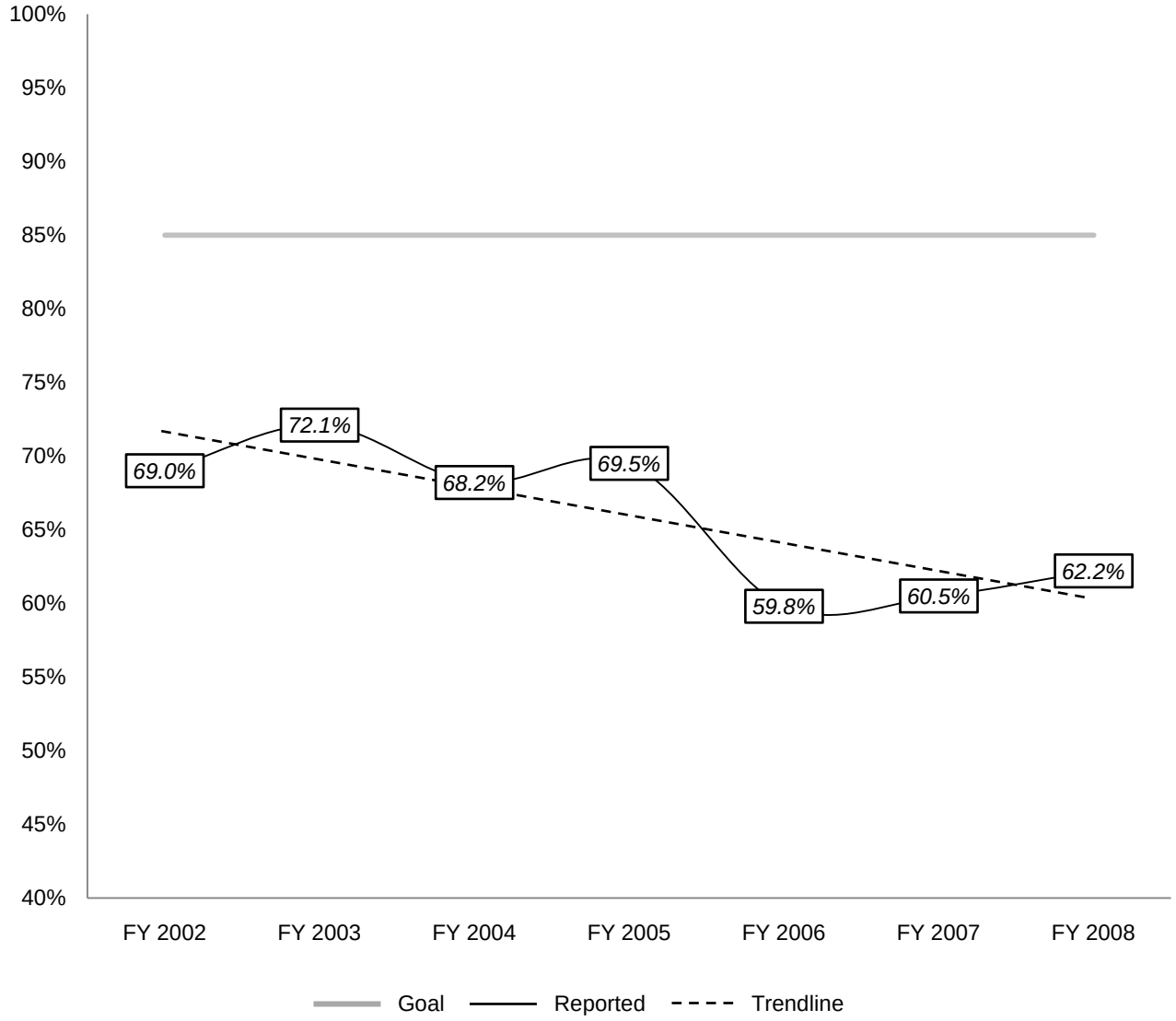
A1 On-Time Performance (Headway Adherence)



Systemwide (Audit Period)

Until Fiscal Year 2006, headway adherence tracked closely with schedule adherence. Since then, however, systemwide headway adherence has declined significantly, and now remains consistently below 65%. Please see the recommendation at the end of subsection A1 for a more detailed explanation of schedule and headway adherence.

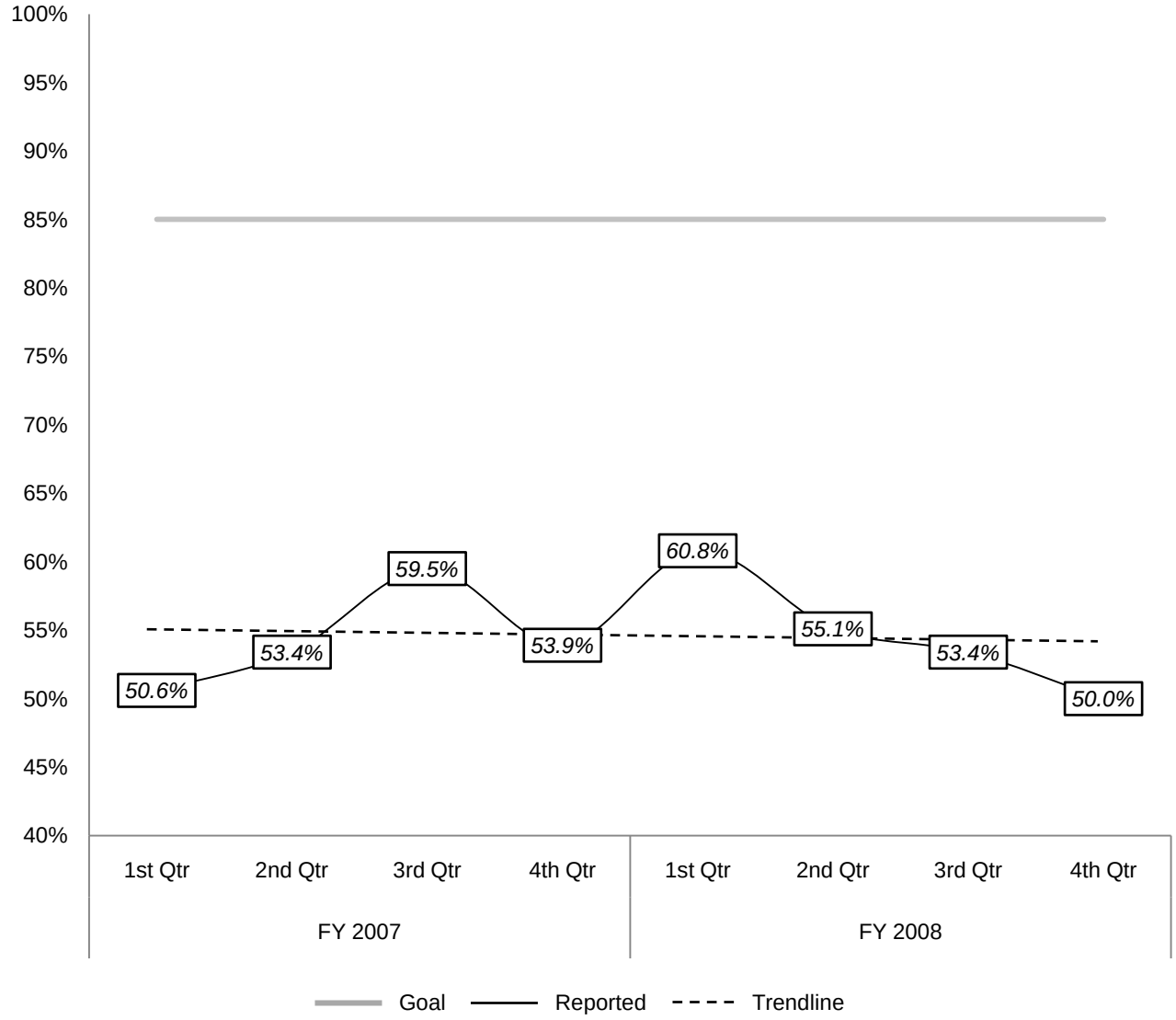
A1 On-Time Performance (Headway Adherence)



Systemwide (Historic)

Until Fiscal Year 2006, headway adherence tracked closely with schedule adherence. Since then, however, systemwide headway adherence has declined significantly, and now remains consistently below 65%. Please see the recommendation at the end of subsection A1 for a more detailed explanation of schedule and headway adherence.

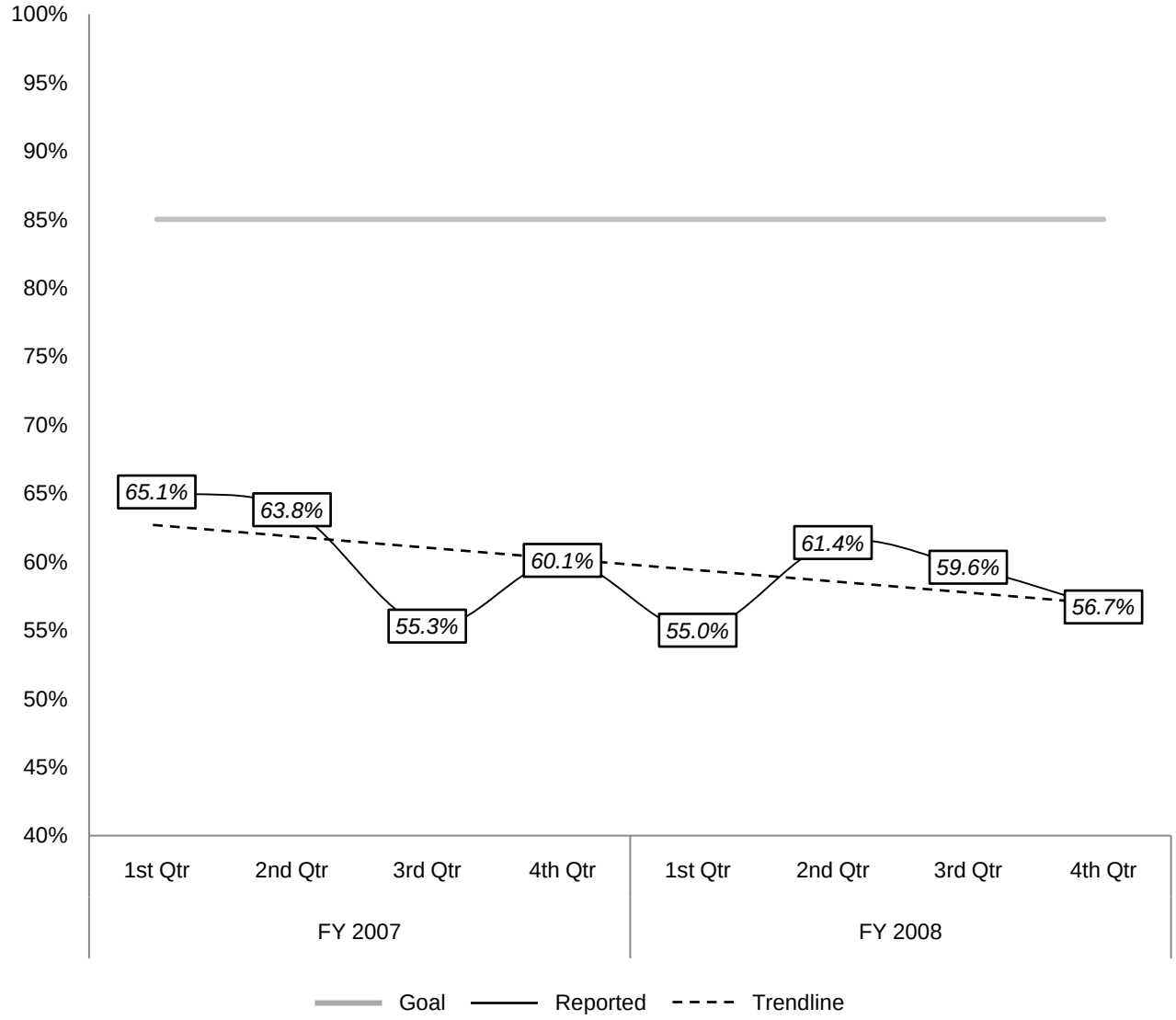
A1 On-Time Performance (Headway Adherence)



Light Rail (Audit Period)

Notably, in the 4th Quarter of Fiscal Year 2007, when the T-Third Street began regular service and experienced a number of well-publicized problems, Light Rail schedule adherence did not decline but headway adherence did. Nonetheless, performance fell even further in the last two quarters of Fiscal Year 2008, to just 50% in the 4th Quarter.

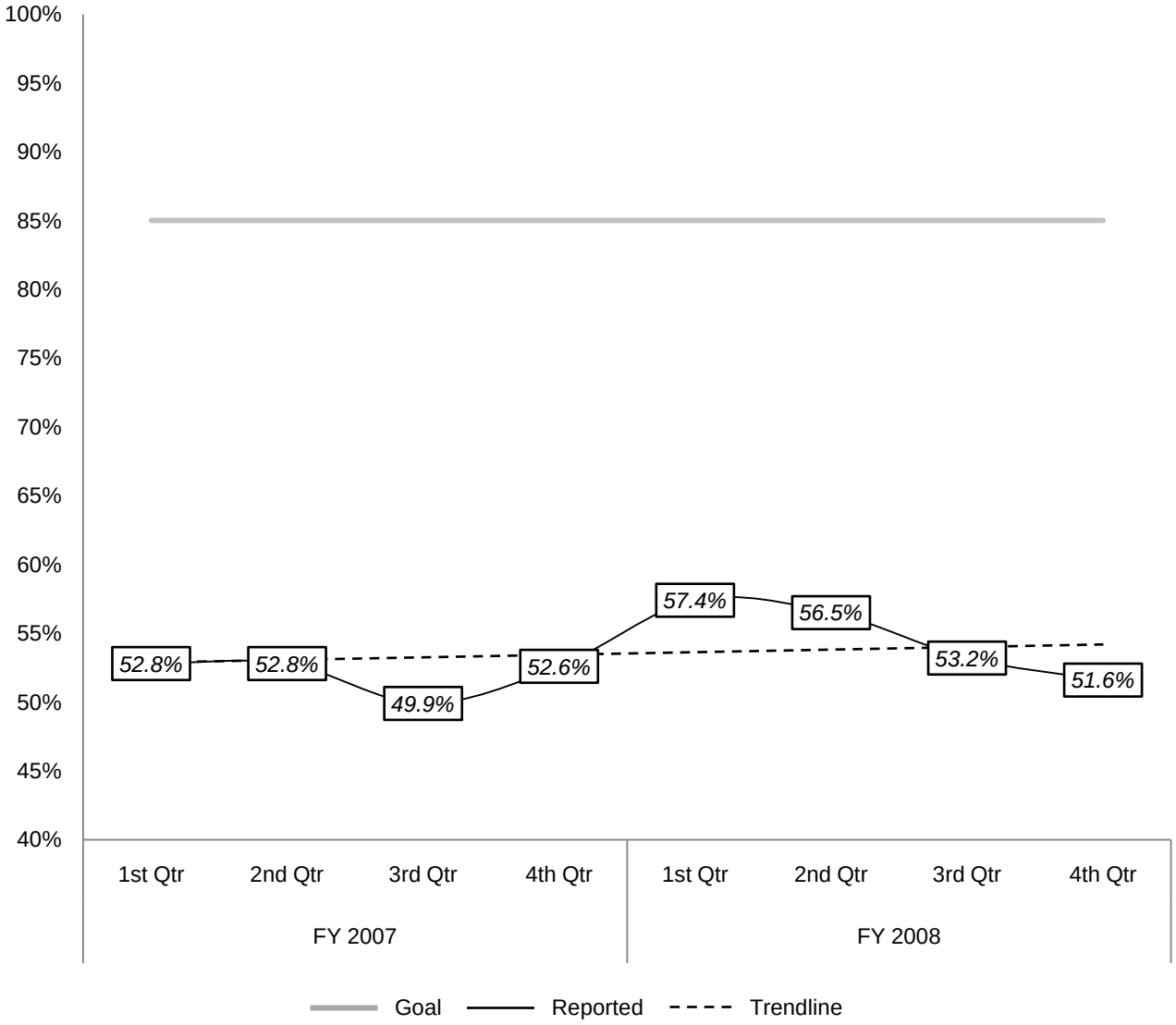
A1 On-Time Performance (Headway Adherence)



Cable Car (Audit Period)

Cable car headway adherence, like cable car schedule adherence, declined slightly over the audit period.

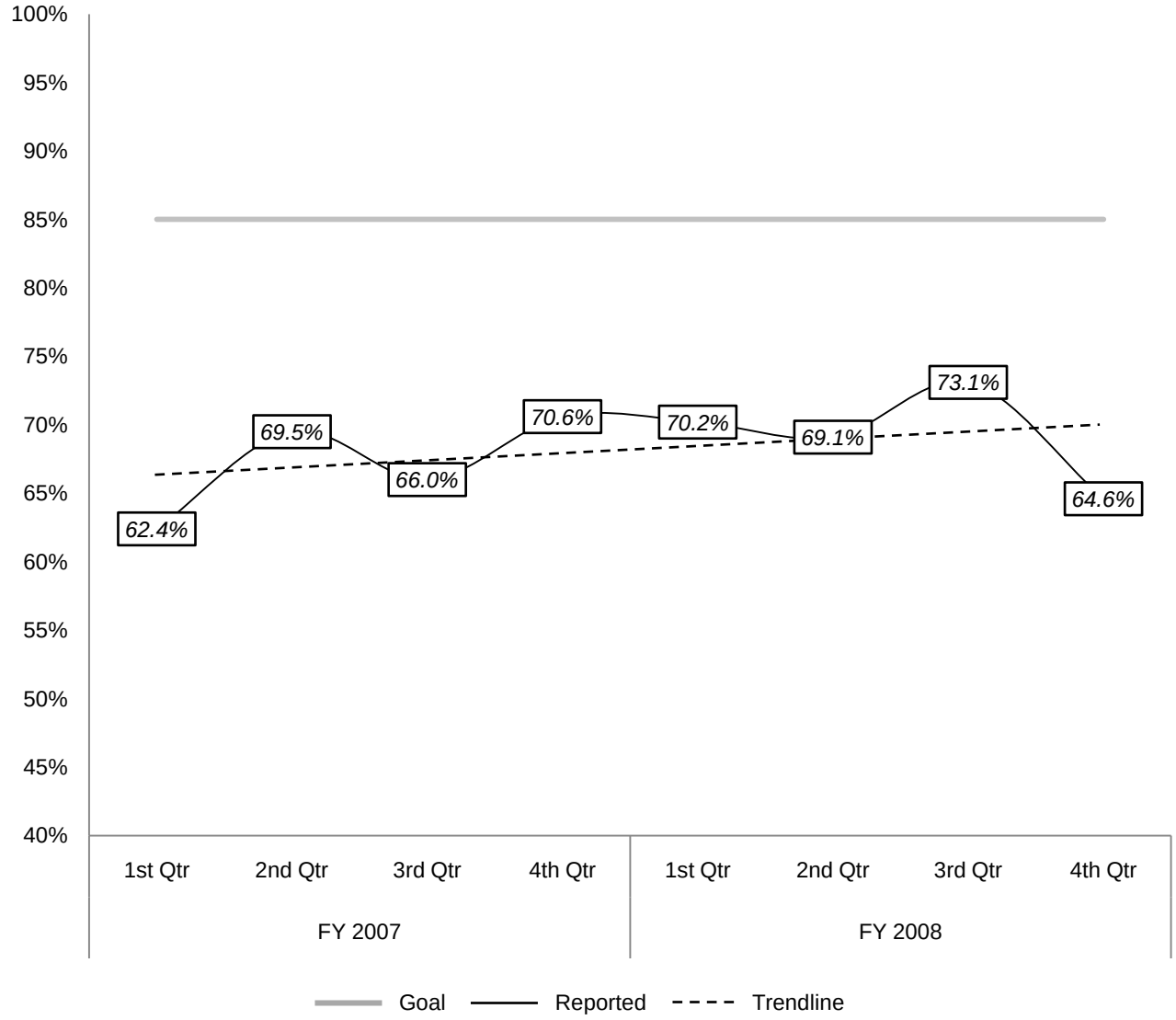
A1 On-Time Performance (Headway Adherence)



Trolley Coach (Audit Period)

Interestingly, while trolley coach schedule adherence was above the average for other modes, headway adherence on electric bus lines is lower than the systemwide average.

A1 On-Time Performance (Headway Adherence)



Motor Coach (Audit Period)

Also of interest is that motor coach headway adherence is significantly higher than the systemwide average, despite the fact that diesel buses account for a majority of Muni service. This is because headway adherence on both light rail and trolley coach lines is significantly below that of other modes.

A1 On-Time Performance (Headway Adherence)

	FY 2008	FY 2009		
Category	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr
Systemwide	59.3%	58.3%	58.6%	58.5%
Light Rail	50.0%	40.9%	50.9%	45.3%
Cable Car	56.7%	61.2%	57.9%	61.0%
Trolley Coach	51.6%	52.3%	52.2%	49.9%
Motor Coach	64.6%	65.0%	66.1%	68.2%

Since the Audit Period

The table at left shows observed headway adherence since the end of the audit period (to better illustrate recent trends, it also includes data from the 4th Quarter of Fiscal Year 2008). All post-audit period data has not yet been audited by the Quality Review team, but is included for purposes of timeliness. Since falling below 60% in the 4th Quarter of FY08, systemwide schedule adherence has remained at around 58.5%. High levels of variability in light rail and cable car headway adherence are to be expected, as only a handful of lines are checked per quarter, resulting in a limited sample size.

A1 On-Time Performance

By Line (Since the Audit Period)

The tables on the following pages list schedule adherence and headway adherence by line for the most recent quarter during which each was observed (all are Fiscal Year 2009 except for Route 108, which was last observed in the 4th Quarter of Fiscal Year 2008). Lines are organized by service category, as this report recommends be done for several service standards (see "Recommendations" in the first section of this report). As is further recommended in the measure-specific recommendation at the end of this section, headway adherence should be considered the primary measure of On-Time Performance for Rapid Network routes, and schedule adherence for all other routes. Fiscal Years 2007 and 2008 on-time performance for each line can be found in the quarterly reports at: http://www.sfmta.com/cms/rstd/sstdindx.htm.

Rapid Network							
Line	Quarter Observed	Schedule Adherence	Headway Adherence	Line	Quarter Observed	Schedule Adherence	Headway Adherence
F Market & Wharves	Q1	66.0%	40.8%	9X San Bruno Express	Q3	63.2%	55.3%
J Church	Q3	71.6%	53.0%	14L Mission Limited	Q3	73.1%	69.6%
K Ingleside/T-Third Street	Q1	61.0%	40.3%	22 Fillmore	Q3	81.4%	52.8%
L Taraval	Q3	73.0%	53.6%	28L 19th Avenue Limited	Q3	84.1%	86.8%
M Ocean View	Q2	62.5%	48.9%	30 Stockton	Q1	80.2%	46.5%
N Judah	Q3	68.3%	34.9%	38L Geary Limited	Q3	77.0%	52.8%
1 California	Q3	86.6%	33.8%	47 Van Ness	Q2	75.6%	48.8%
5 Fulton	Q3	78.4%	72.4%	49 Van Ness/Mission	Q1	74.3%	49.7%
9 San Bruno	Q3	72.3%	59.4%	71/71L Haight/Noriega & Limited	Q3	60.3%	63.4%

A1 On-Time Performance

By Line (Since the Audit Period)

Local Network							
Line	Quarter Observed	Schedule Adherence	Headway Adherence	Line	Quarter Observed	Schedule Adherence	Headway Adherence
California Cable Car	Q2	69.6%	67.5%	24 Divisadero	Q3	78.3%	66.2%
Powell-Hyde Cable Car	Q2	65.3%	50.6%	26 Valencia	Q3	65.9%	86.1%
Powell-Mason Cable Car	Q3	68.6%	61.0%	27 Bryant	Q3	83.0%	77.3%
2 Clement	Q1	69.0%	63.1%	28 19th Avenue	Q3	69.9%	63.8%
3 Jackson	Q1	83.9%	88.1%	29 Sunset	Q2	67.4%	59.5%
4 Sutter	Q1	87.5%	80.4%	31 Balboa	Q2	73.9%	66.5%
6 Parnassus	Q3	79.1%	77.8%	33 Stanyan	Q3	68.0%	67.7%
10 Townsend	Q1	76.5%	76.0%	38 Geary	Q1	76.2%	46.1%
12 Folsom	Q2	75.3%	71.4%	43 Masonic	Q1	76.6%	62.3%
14 Mission	Q3	77.1%	41.3%	44 O'Shaughnessy	Q1	58.6%	53.3%
18 46th Avenue	Q3	88.0%	92.7%	45 Union/Stockton	Q1	71.1%	58.6%
19 Polk	Q3	72.3%	59.1%	48 Quintara/24th Street	Q1	70.5%	69.7%
20 Columbus	Q3	96.9%	93.1%	54 Felton	Q3	50.0%	80.7%
21 Hayes	Q2	71.1%	72.2%	108 Treasure Island	Q4	84.1%	91.8%
23 Monterey	Q3	72.9%	73.3%				

A1 On-Time Performance

By Line (Since the Audit Period)

Community Connectors							
Line	Quarter Observed	Schedule Adherence	Headway Adherence	Line	Quarter Observed	Schedule Adherence	Headway Adherence
17 Parkmerced	Q3	68.0%	87.7%	52 Excelsior	Q1	70.3%	88.8%
35 Eureka	Q1	92.0%	100.0%	53 Southern Heights	Q2	74.2%	78.8%
36 Teresita	Q2	62.5%	94.5%	56 Rutland	Q3	83.3%	100.0%
37 Corbett	Q1	90.1%	92.3%	66 Quintara	Q3	68.2%	91.8%
39 Coit	Q2	65.8%	85.7%	67 Bernal Heights	Q3	83.5%	97.3%

Owl Network							
Line	Quarter Observed	Schedule Adherence	Headway Adherence	Line	Quarter Observed	Schedule Adherence	Headway Adherence
90 Owl	Q2	94.4%	100.0%	91 Owl	Q1	62.5%	92.9%

A1 On-Time Performance

By Line (Since the Audit Period)

Specialized Services							
Line	Quarter Observed	Schedule Adherence	Headway Adherence	Line	Quarter Observed	Schedule Adherence	Headway Adherence
1AX California "A" Express	Q3	55.3%	70.6%	31BX Balboa "B" Express	Q2	60.0%	33.3%
1BX California "B" Express	Q3	85.0%	44.6%	38AX Geary "A" Express	Q2	72.7%	65.0%
7 Haight	Q3	66.2%	78.5%	38BX Geary "B" Express	Q2	82.6%	76.2%
9AX San Bruno "A" Express	Q3	57.1%	48.9%	41 Union	Q1	74.0%	39.7%
9BX San Bruno "B" Express	Q3	75.5%	69.4%	76 Marin Headlands	Q1	54.5%	100.0%
14X Mission Express	Q3	70.7%	60.5%	80X Gateway Express	Q3	100.0%	N/A
16AX Noriega "A" Express	Q2	71.7%	57.1%	81X Caltrain Express	Q3	90.0%	100.0%
16BX Noriega "B" Express	Q2	62.8%	61.5%	82X Presidio & Wharves Express	Q3	50.0%	80.0%
30X Marina Express	Q1	78.0%	73.6%	88 BART Shuttle	Q1	76.2%	52.6%
31AX Balboa "A" Express	Q2	66.7%	52.6%	89 Laguna Honda	Q1	79.2%	90.0%

A1 On-Time Performance

Recommendation

Use automated tools and follow best practices to streamline data collection and reporting of on-time performance.

In our previous Quality Review, we recommended that SFMTA consider using NextMuni calculations of arrival times to automatically measure on-time performance, provided that a reasonable level of confidence in the accuracy of NextMuni data could be established. Given Muni's investment in Automated Passenger Counters, or APCs, the system now has a more accurate source of information for arrival times (note: NextMuni data is generally accurate, but the NextMuni system is not designed primarily for reporting of actual arrival times; rather, it is optimized for prediction of arrival times). While the accuracy of APC timestamps should be monitored on an ongoing basis, we believe that relying on APCs as a primary source for on-time data would enable more effective deployment of Muni's team of traffic checkers, as well as providing an accurate source of on-time data.

Moving from traffic checkers to APCs would have one significant drawback: because APC units are not installed on every vehicle, but instead are rotated among the fleet, they cannot be used for measurements of headway adherence. This is because one transit vehicle with an APC unit on-board might be followed by another without an APC unit. However, we do not believe it is essential that headway adherence be reported for all routes; nor do we believe it is essential that schedule adherence be reported on every route. Instead, we believe Muni should follow emerging best practice in the transit industry by relying on headway adherence as the primary measure of on-time performance for routes that operate frequently, and schedule adherence as the primary measure of on-time performance on routes that operate less frequently. This practice reflects riders' actual experiences and expectations: on routes that operate frequently, it is more important that vehicles arrive, say, "every 10 minutes" – consistently, and evenly spaced – than that they arrive according to timetables that users of such frequent services typically do not rely upon. Conversely, on routes that operate less frequently, it is more important to users that vehicles arrive at each location at a predetermined time.

(Continued on next page)

A1 On-Time Performance

Recommendation

(Continued from previous page)

Therefore, we recommend:

- On-time performance should be reported by service type as defined by the TEP, rather than by mode.
- All routes on the TEP-defined Rapid Network should report headway adherence, using data collected by traffic checkers. Schedule adherence on these routes should also continue to be collected with APCs in order to calculate system averages.
- All other routes should report schedule adherence only using APC data.

Transition to a headway adherence standard on high-frequency routes might also lend itself to a move toward headway-based management of high-volume lines. A logical place to begin implementing this practice would be on the Muni Metro, where trains depart outbound from Embarcadero Station in the same order in which they arrive inbound, resulting in the well-known “stutter effect” of multiple trains arriving on a single line before the next arrival on another line. Rerouting trains at Embarcadero could ensure more even spacing, although “perfect” sequencing would not be possible unless one-car trains were sometimes reassigned to lines served primarily by two-car trains, a practice that would be problematic in its own right. In any case, such a limited experiment in headway-based management could go a long way toward solving one of Muni’s persistent and highly visible problems.

A2 Service Delivery (Scheduled Service Hours Delivered / Operator Availability / Late Pull-Outs)

Goal *> 98.5% (Scheduled Service Hours Delivered, Operator Availability)*

< 1.5% (Late Pull-Outs)

FY07-08 Performance ▼ *Goal Not Achieved*

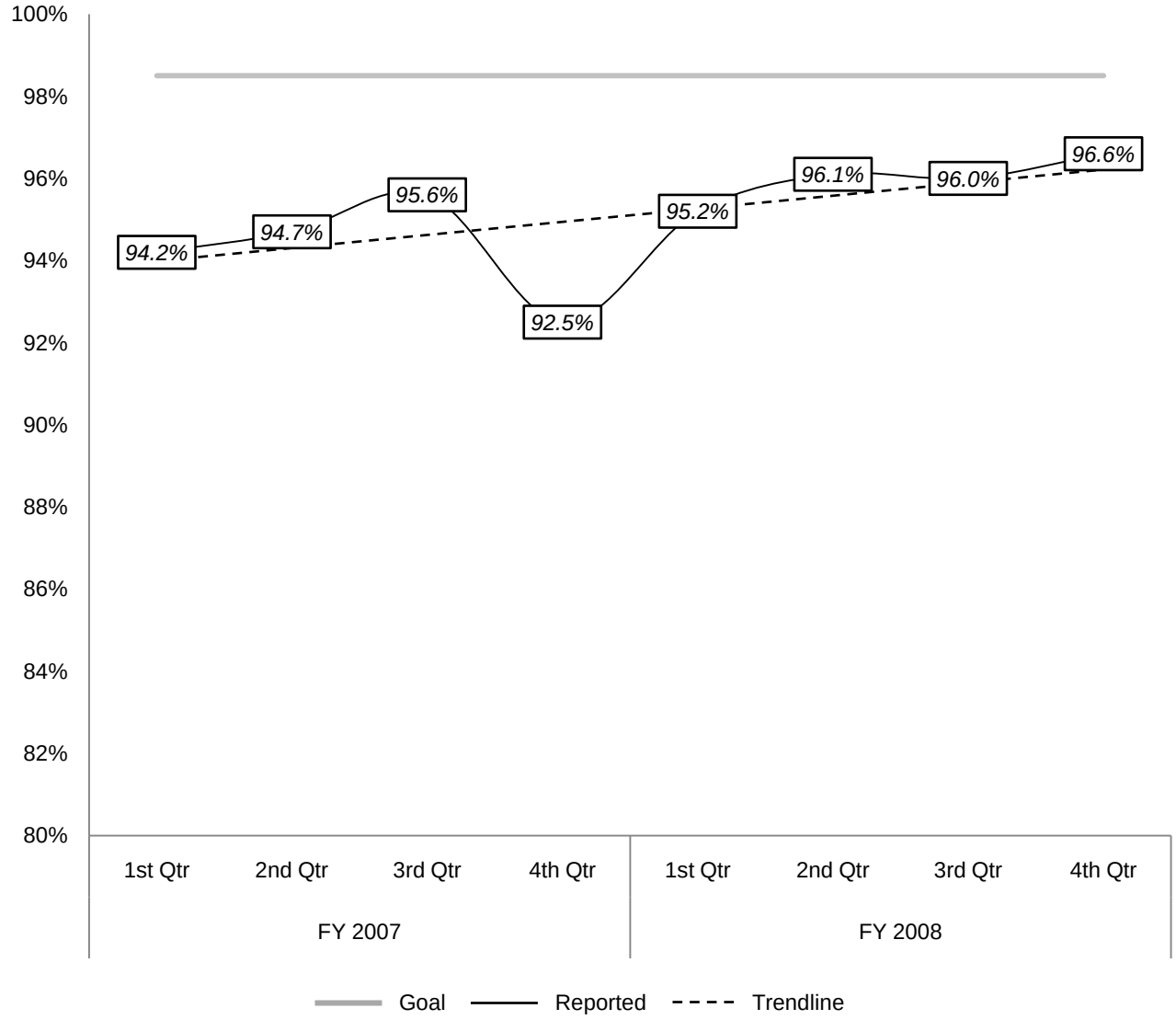
Trend ▲ *Positive*

Purpose To measure service hours through available operators and equipment deployed in revenue service, along with the percentage of equipment available for service. *(Note: Equipment Availability is no longer reported, and thus is not included in this report. Availability of equipment is expressed using AM/PM Peak Vehicle Availability.)*

Definition Monthly measurement of the percent of total available hours for service measuring operators and equipment and percentage of equipment available daily.

Method Both operators and equipment are measured as to the total number of hours in service as a percentage of the total scheduled hours. Data come from the online dispatching system. Measurement of the vehicles that begin service at the scheduled time will be provided from the 8 a.m. and 6 p.m. “Not-Out Report” generated by Central Control and will show the percent of vehicles that went out at the scheduled time for both the AM and PM pullout.

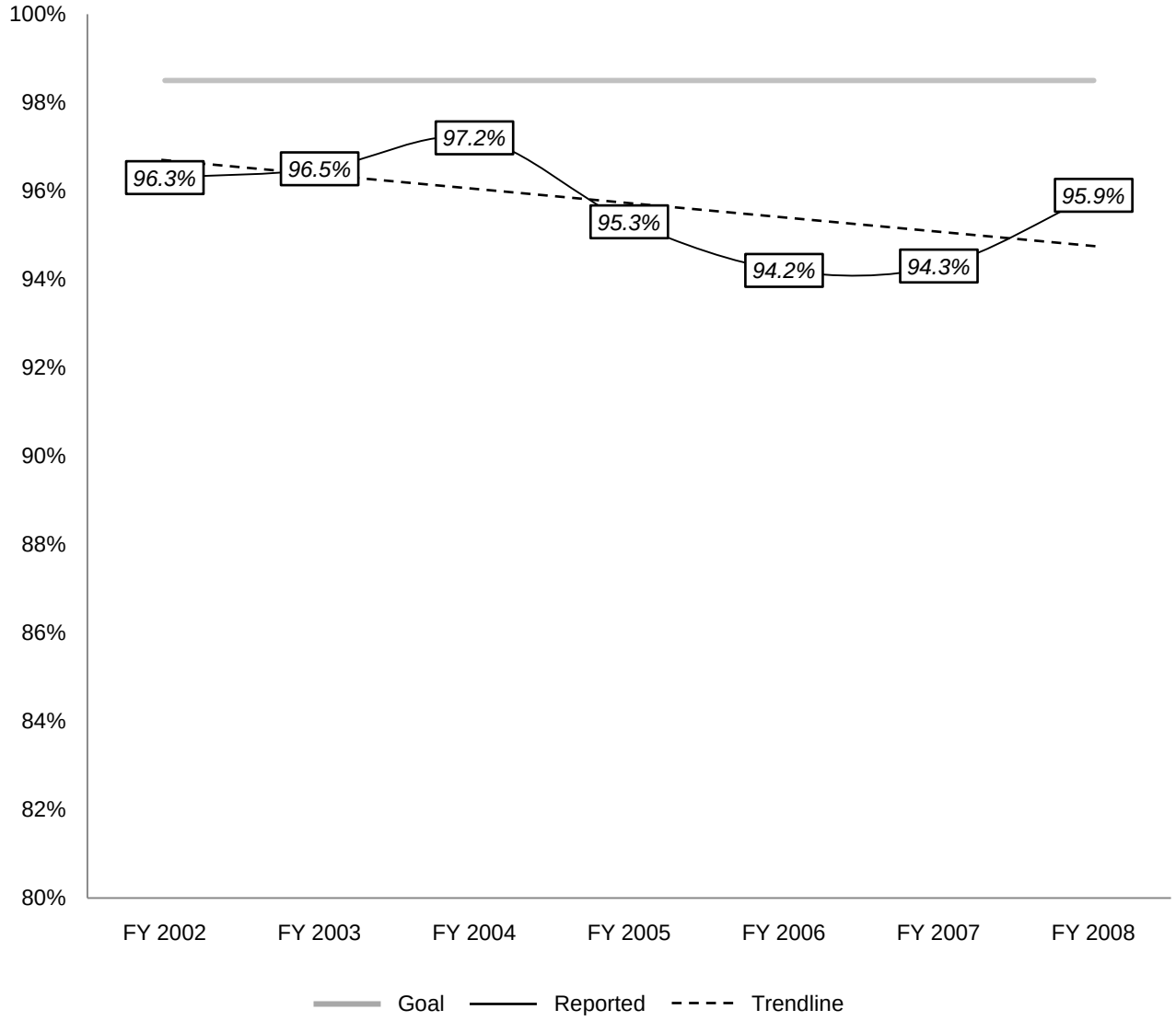
A2 Service Delivery (Scheduled Service Hours Delivered)



Systemwide (Audit Period)

While the percentage of total scheduled service hours delivered declined precipitously in the 4th Quarter of Fiscal Year 2007, when there was a significant decline in the number of operators available, it fully recovered in the following quarter and the general trend over the audit period was up.

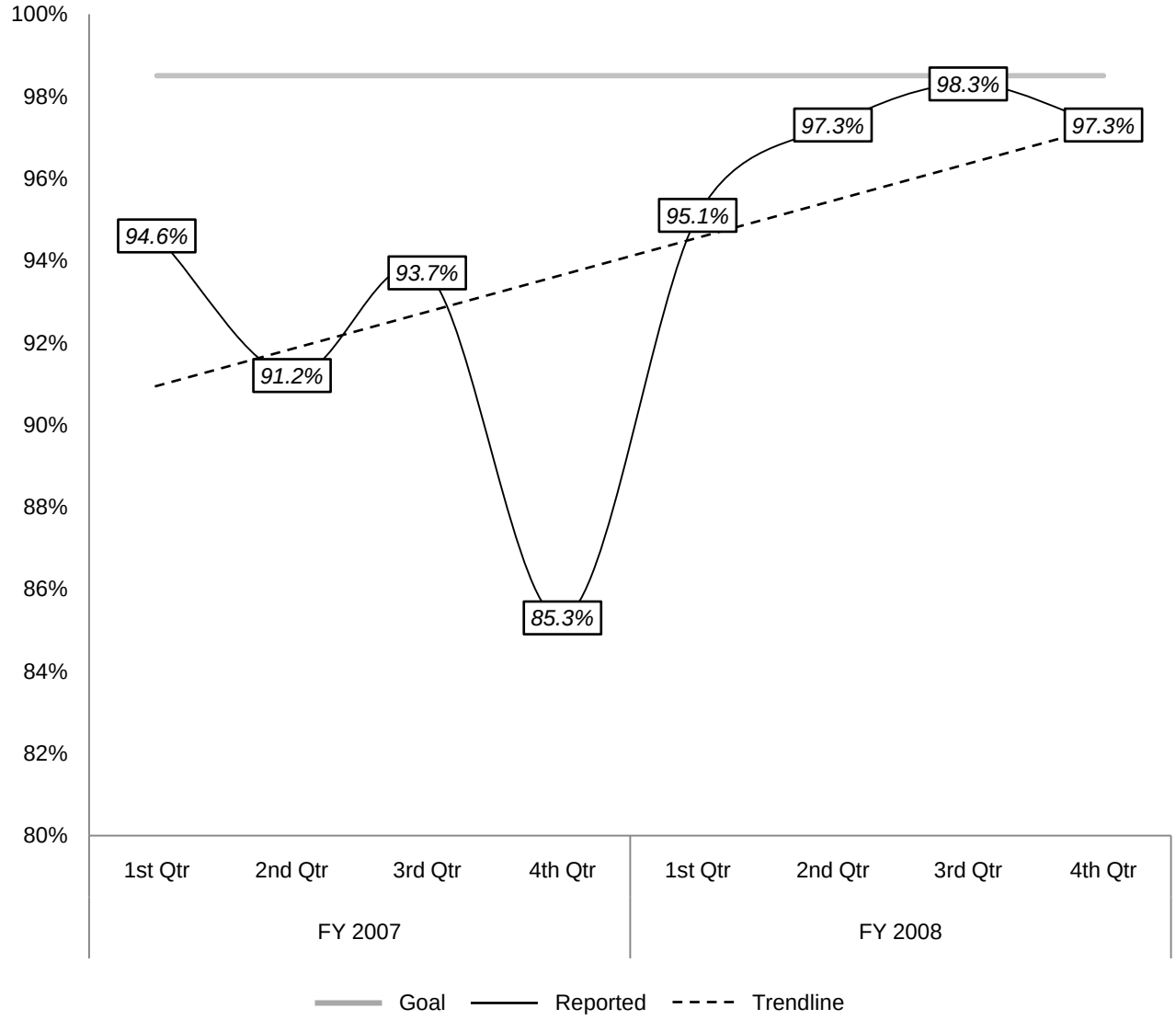
A2 Service Delivery (Scheduled Service Hours Delivered)



Systemwide (Historic)

While the systemwide percentage of service hours delivered remains below the levels reached in Fiscal Years 2002 through 2004, the decline experienced in 2005 and 2006 has been reversed.

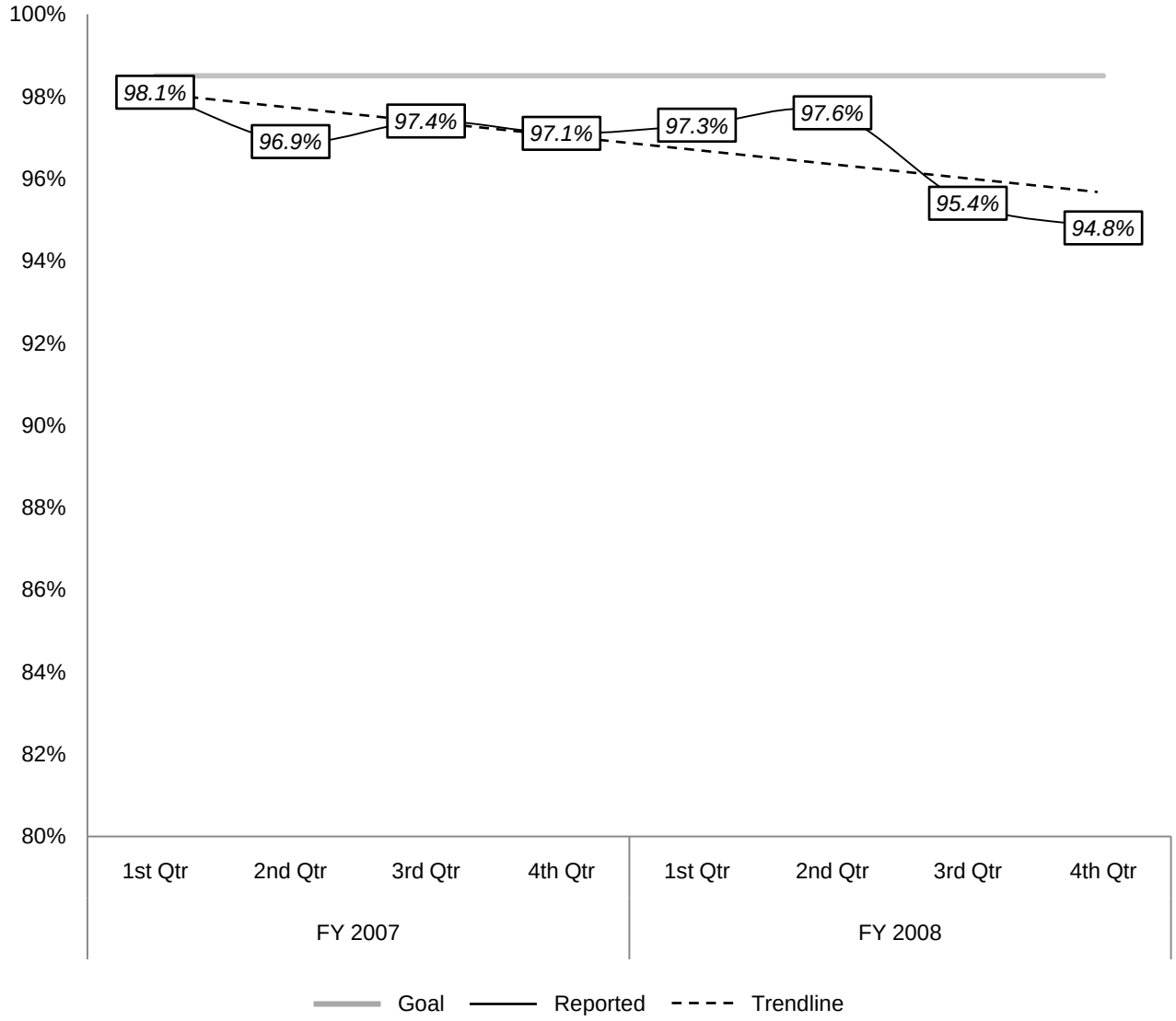
A2 Service Delivery (Scheduled Service Hours Delivered)



Light Rail (Audit Period)

While service hours delivered by light rail and historic streetcar vehicles declined precipitously in the 4th Quarter of Fiscal Year 2007, when there was a significant decline in the number of operators available, it fully recovered in the following quarter and for the final three quarters of the audit period was near the goal of 98.5%. The general trend over the audit period was up.

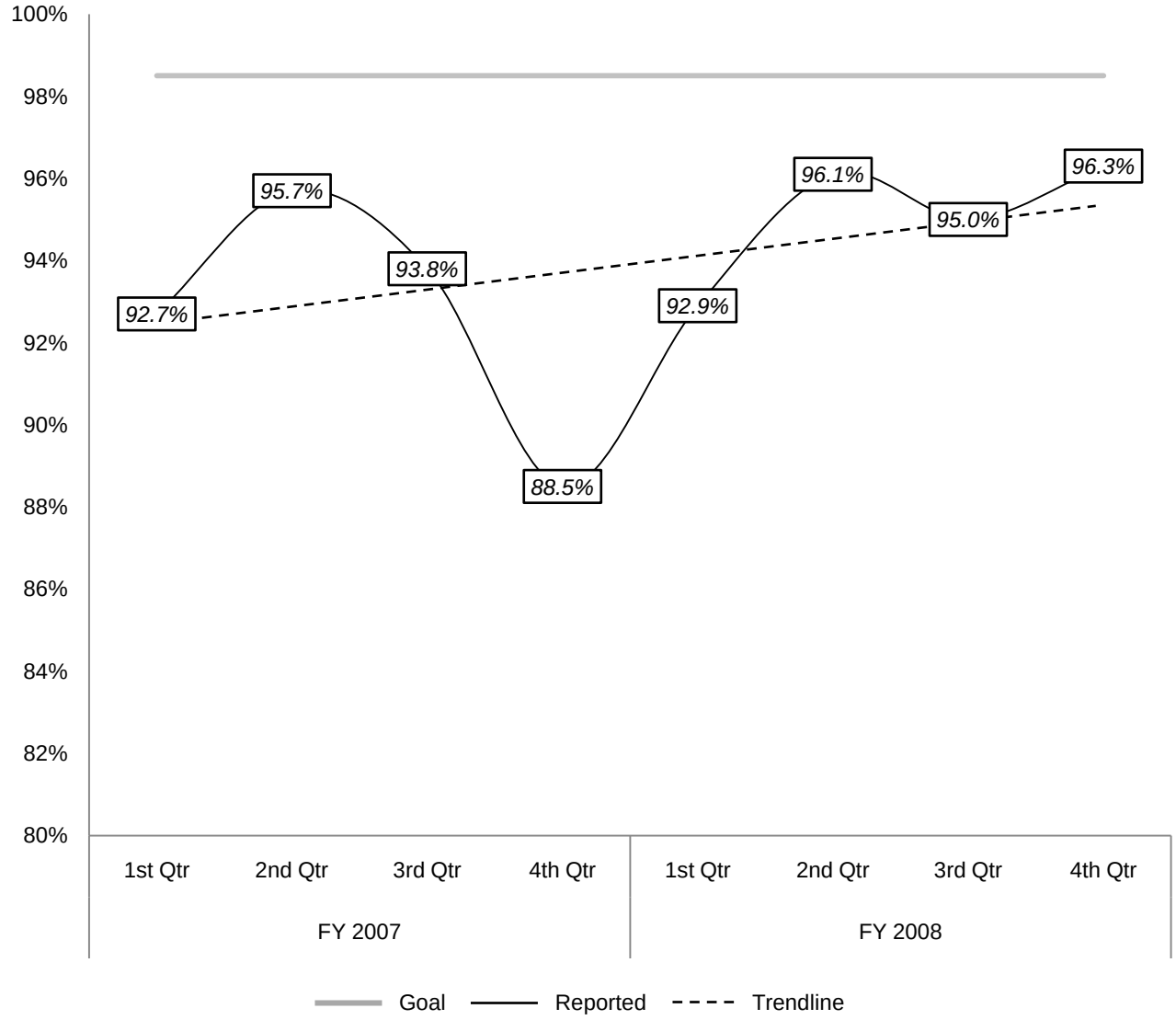
A2 Service Delivery (Scheduled Service Hours Delivered)



Cable Car (Audit Period)

Service hours delivered by cable cars were near the goal of 98.5% of scheduled service in the first six quarters of the audit period, but fell in the final two quarters.

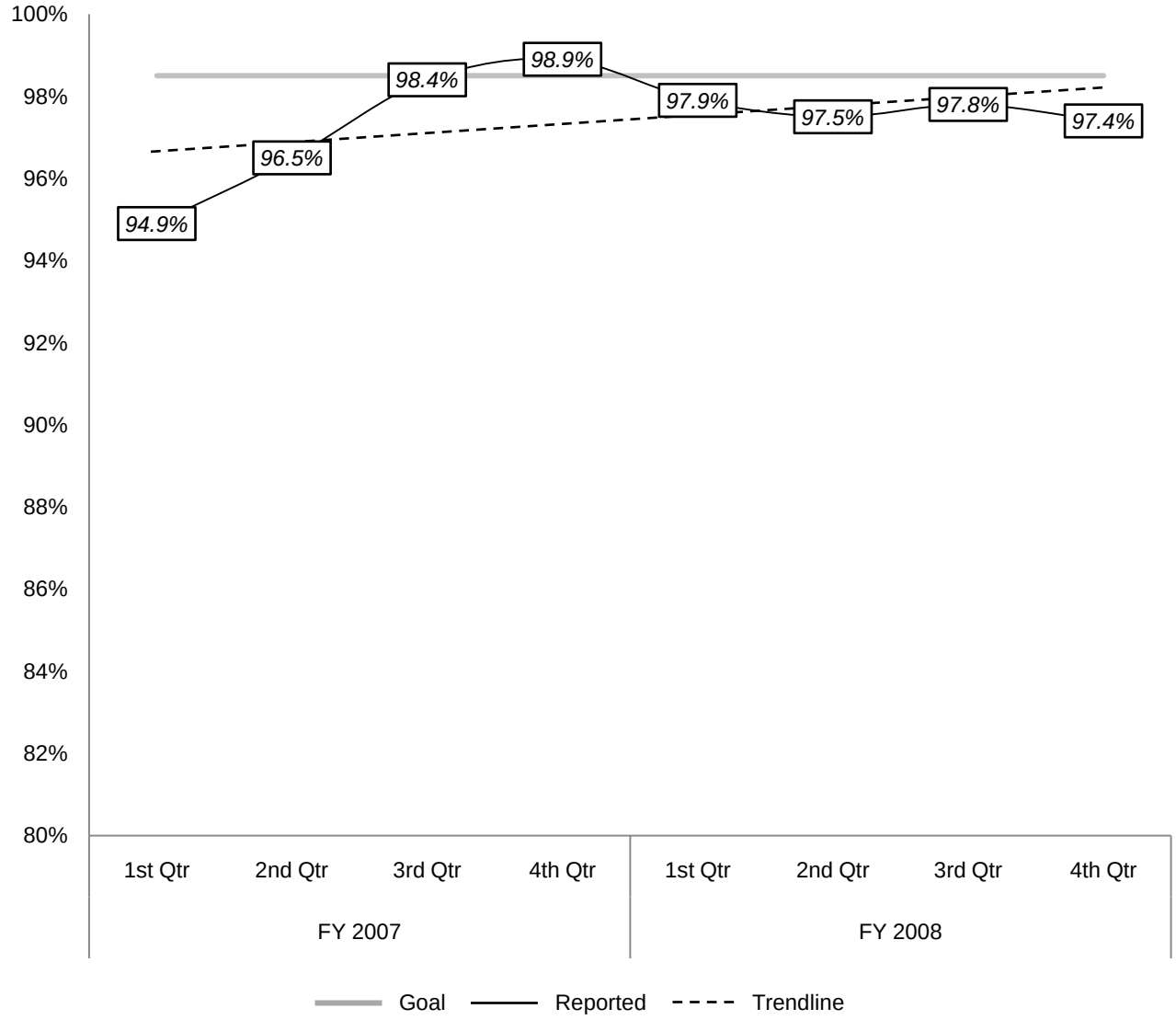
A2 Service Delivery (Scheduled Service Hours Delivered)



Potrero Trolley (Audit Period)

The pattern experienced by electric trolley buses operated out of Potrero Division was similar to that for light rail: a generally positive trend, with the notable exception of the 4th Quarter of Fiscal Year 2007.

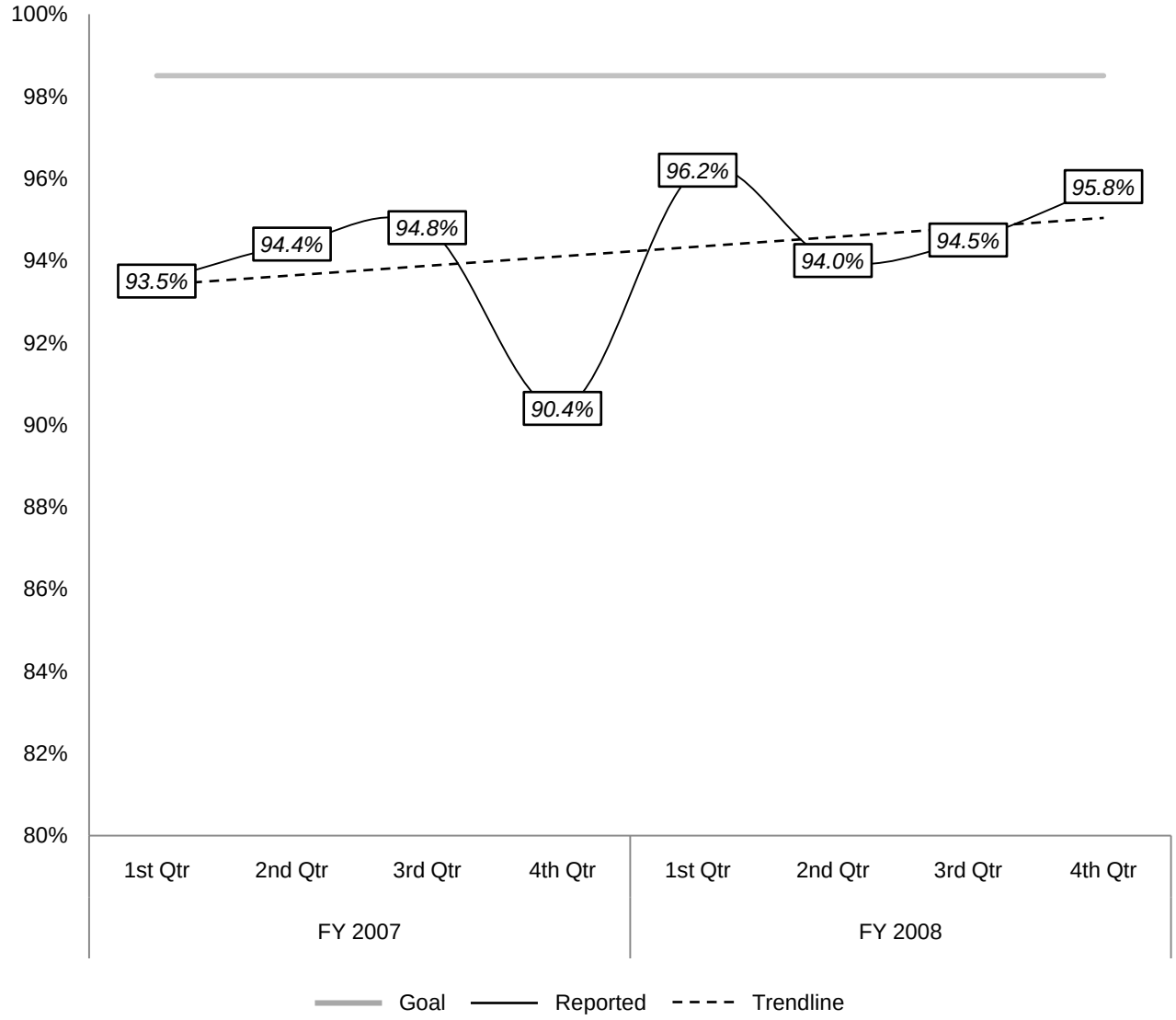
A2 Service Delivery (Scheduled Service Hours Delivered)



Presidio Trolley (Audit Period)

Presidio Trolley generally outperformed other divisions, most notably in the 4th Quarter of Fiscal Year 2007 when several experienced steep declines.

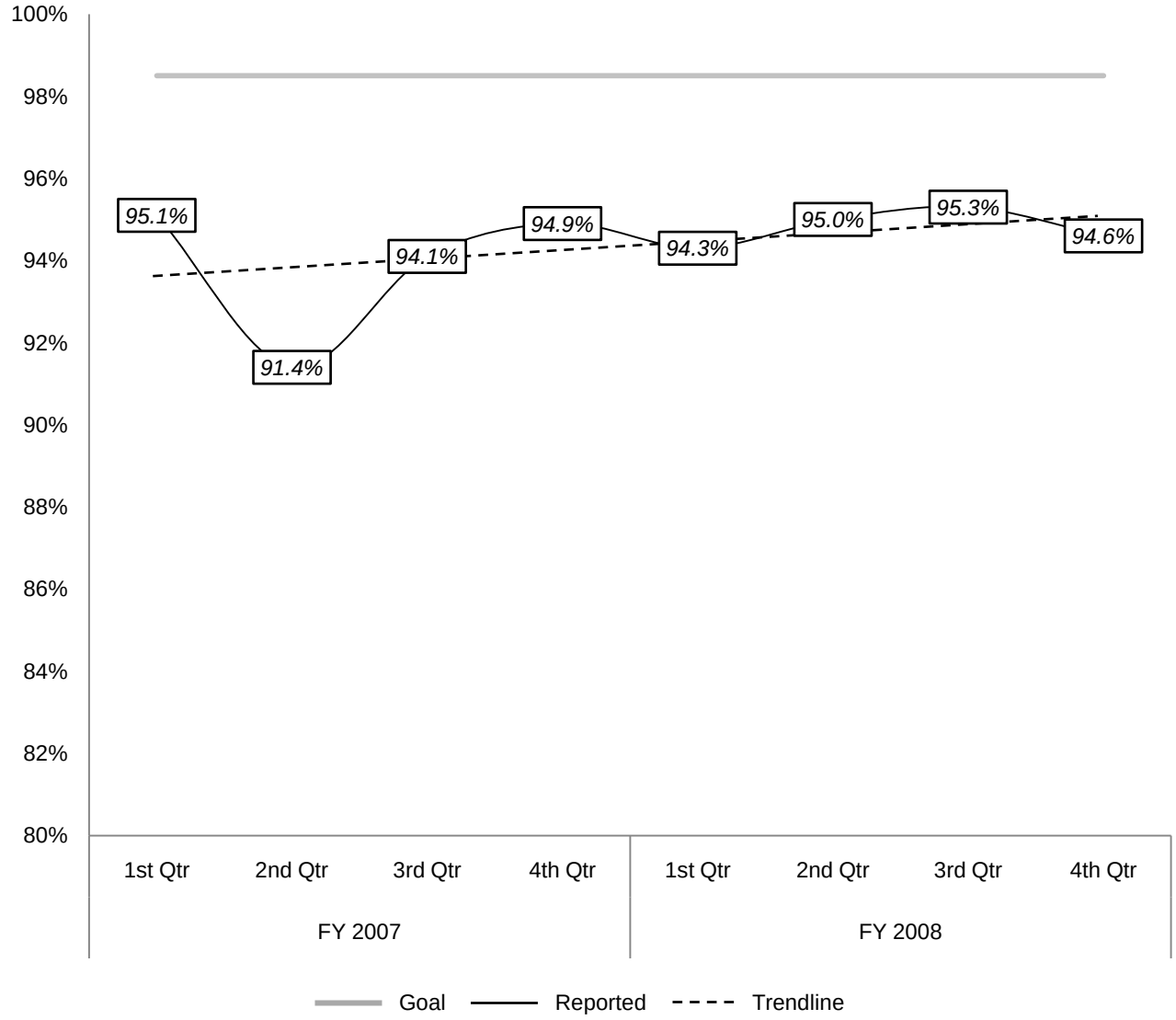
A2 Service Delivery (Scheduled Service Hours Delivered)



Flynn Motor Coach (Audit Period)

The pattern experienced by diesel buses operated out of Flynn Division was similar to that for light rail: a generally positive trend, with the notable exception of the 4th Quarter of Fiscal Year 2007.

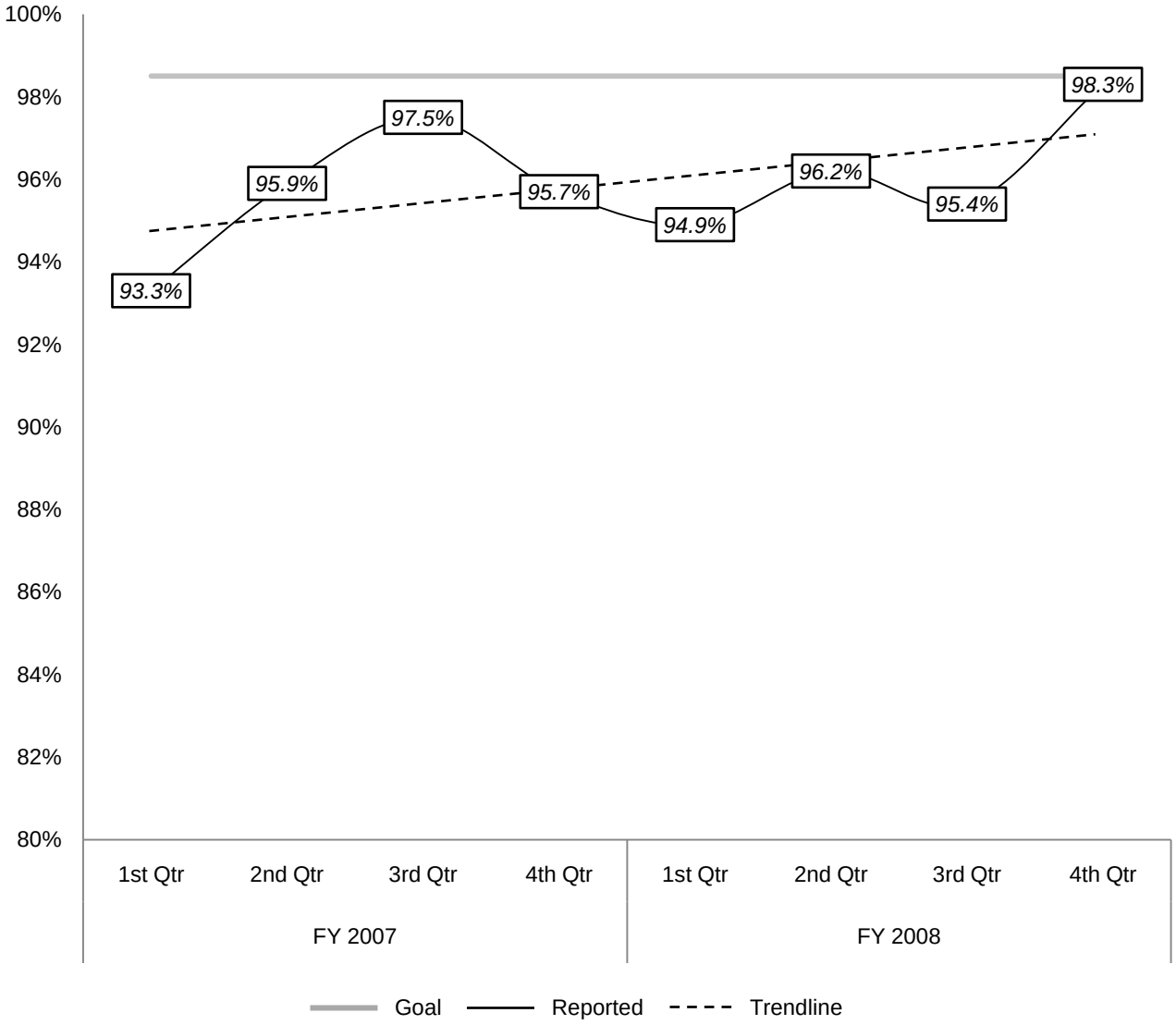
A2 Service Delivery (Scheduled Service Hours Delivered)



Kirkland Motor Coach (Audit Period)

Performance at Kirkland Division was relatively constant and near the average for other divisions.

A2 Service Delivery (Scheduled Service Hours Delivered)



Woods Motor Coach (Audit Period)

Performance by Woods Division improved noticeably over the audit period, nearly attaining the goal of 98.5% in the 4th Quarter of Fiscal Year 2008.

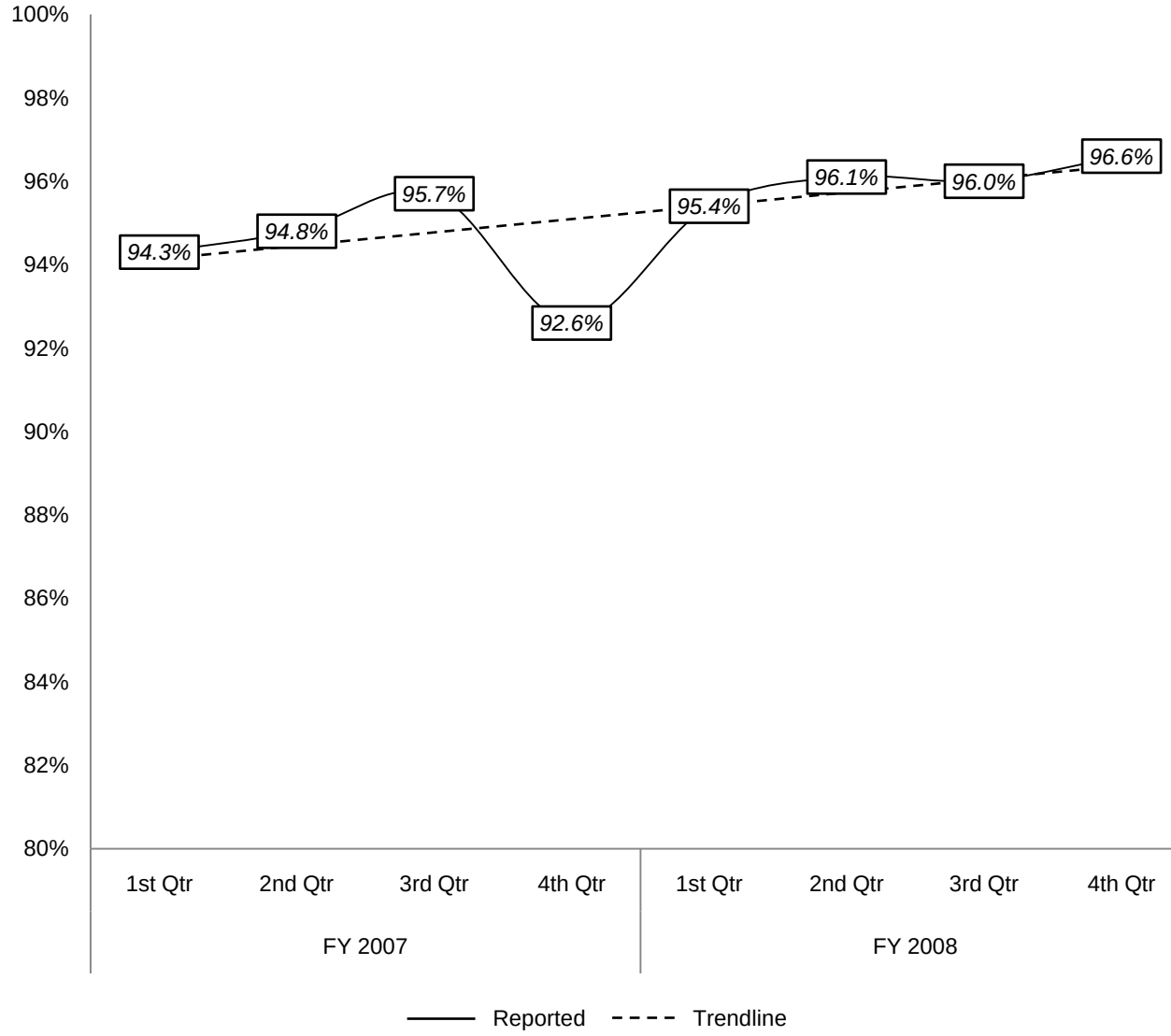
A2 Service Delivery (Scheduled Service Hours Delivered)

	FY 2008	FY 2009		
Category	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr
Systemwide	96.6%	96.3%	96.8%	96.5%
Light Rail	97.3%	93.4%	96.2%	95.6%
Cable Car	94.8%	98.4%	96.0%	96.9%
Trolley Coach	96.8%	97.1%	97.5%	95.4%
Motor Coach	96.2%	96.4%	96.6%	97.3%

Since the Audit Period

Since increasing to 96.6% in the 4th Quarter of Fiscal Year 2008, systemwide delivery of scheduled service hours has remained relatively constant. In the 1st Quarter of Fiscal Year 2009, there was a noticeable decline in light rail performance, but it has since returned to near previous levels.

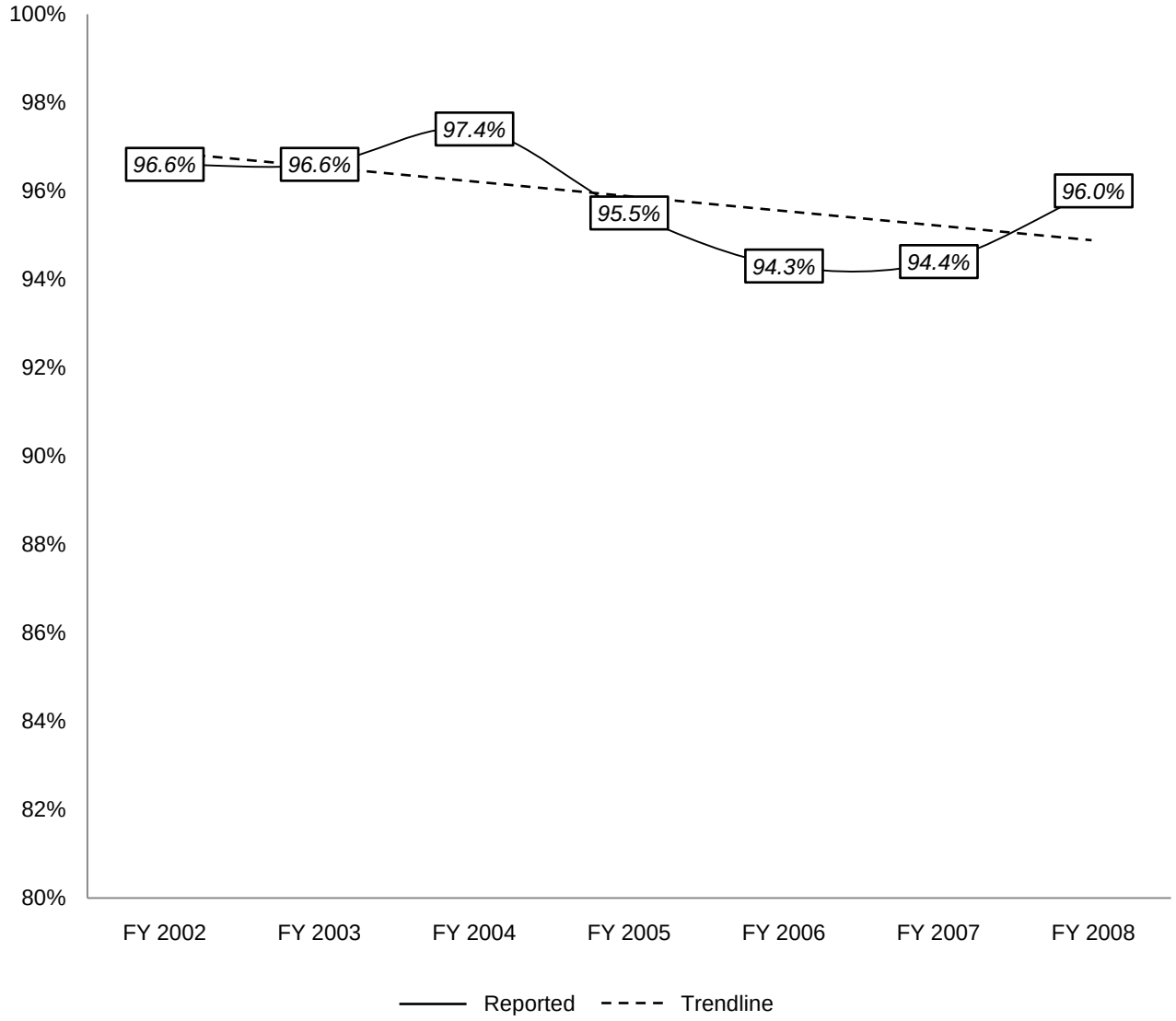
A2 Service Delivery (Operators Available)



Systemwide (Audit Period)

At Muni, the percentage of scheduled service hours delivered has historically been a function of the percentage of operators available to provide that service. This pattern persisted during the audit period, with operator availability figures nearly exactly matching those for service hours delivered.

A2 Service Delivery (Operators Available)



Systemwide (Historic)

At Muni, the percentage of scheduled service hours delivered has historically primarily been a function of the percentage of operators available to provide that service. This pattern has persisted over time, with operator availability figures nearly exactly matching those for service hours delivered.

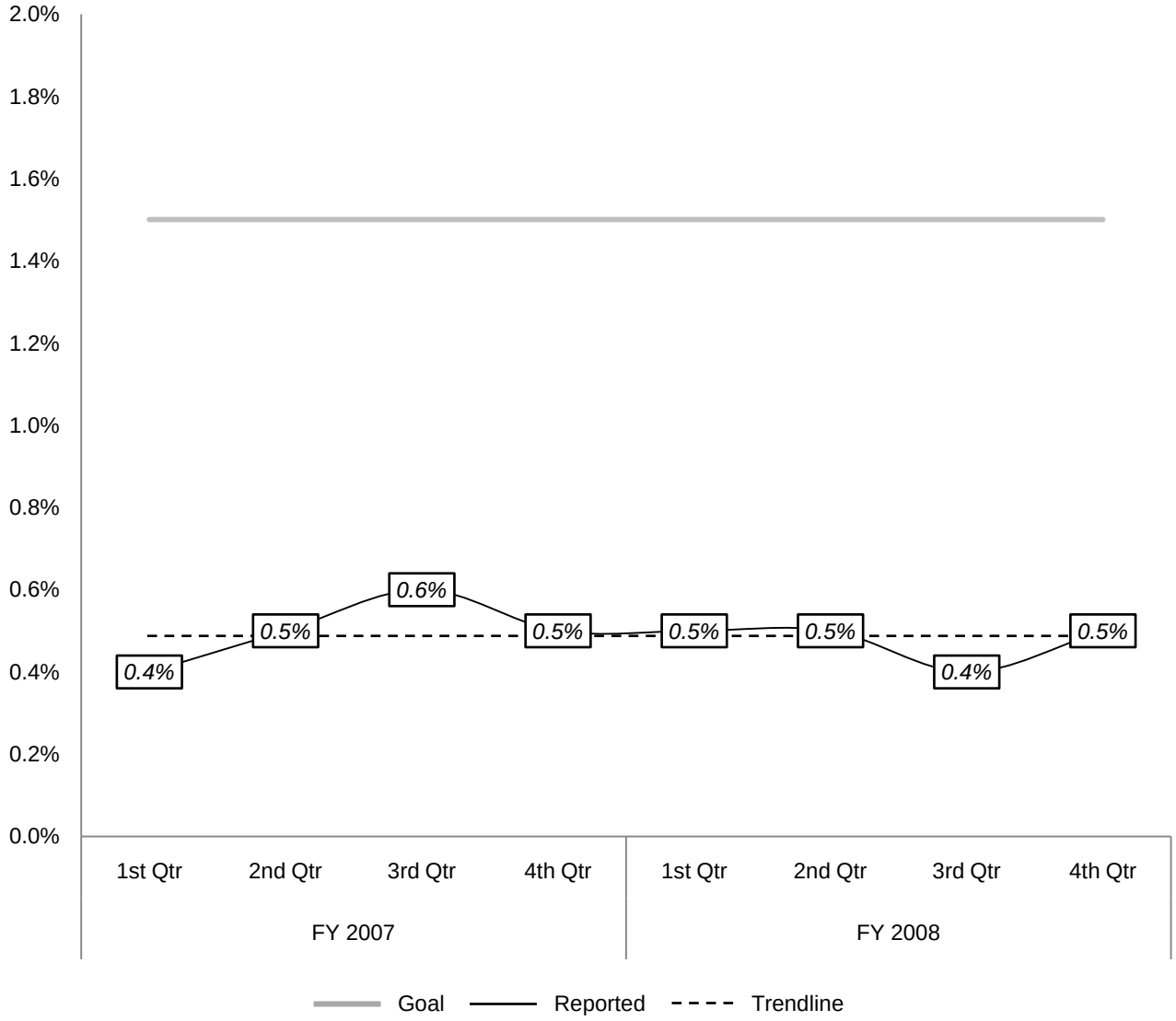
A2 Service Delivery (Operators Available)

	FY 2008	FY 2009		
Category	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr
Systemwide	96.6%	96.3%	96.8%	96.5%

Since the Audit Period

The historic pattern of Operator Availability more or less matching scheduled service hours delivered has continued since the audit period.

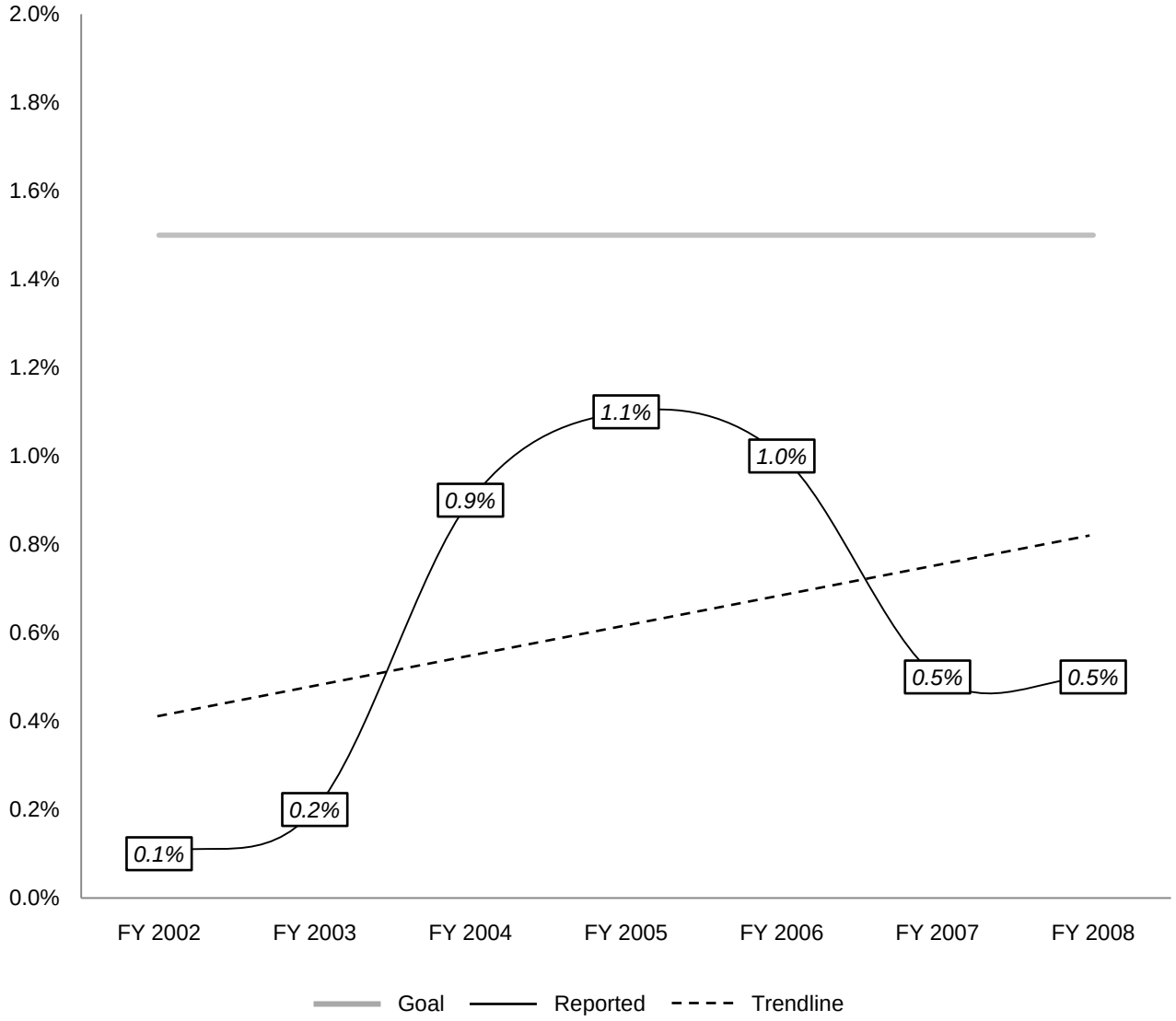
A2 Service Delivery (Late Pull-Outs)



Systemwide (Audit Period)

Late Pull-Outs is a measure of how many vehicles entering into service fail to do so at their scheduled times during AM and PM peak periods. While Muni has always achieved this goal, annual averages increased significantly in Fiscal Years 2004 through 2006. During this most recent audit period, however, they returned to a relatively low level. (Note that unlike most service standards, the goal for Late Pull-Outs is *below* a target level – 1.5% – rather than above it.)

A2 Service Delivery (Late Pull-Outs)



Systemwide (Historic)

Late Pull-Outs is a measure of how many vehicles entering into service fail to do so at their scheduled times during AM and PM peak periods. While Muni has always achieved this goal, annual averages increased significantly in Fiscal Years 2004 through 2006. During this most recent audit period, however, they returned to a relatively low level. (Note that unlike most service standards, the goal for Late Pull-Outs is *below* a target level – 1.5% – rather than above it.)

A2 Service Delivery (Late Pull-Outs)

	FY 2008	FY 2009		
Category	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr
Systemwide	0.5%	0.5%	0.4%	0.4%

Since the Audit Period

Since the audit period, peak-period late pull-outs have remained at around 1 out of 200 vehicles entering into service.

A2 Service Delivery (AM/PM Peak Vehicle Availability)

Goal *> 99%*

FY07-08 Performance

Goal Achieved

Trend

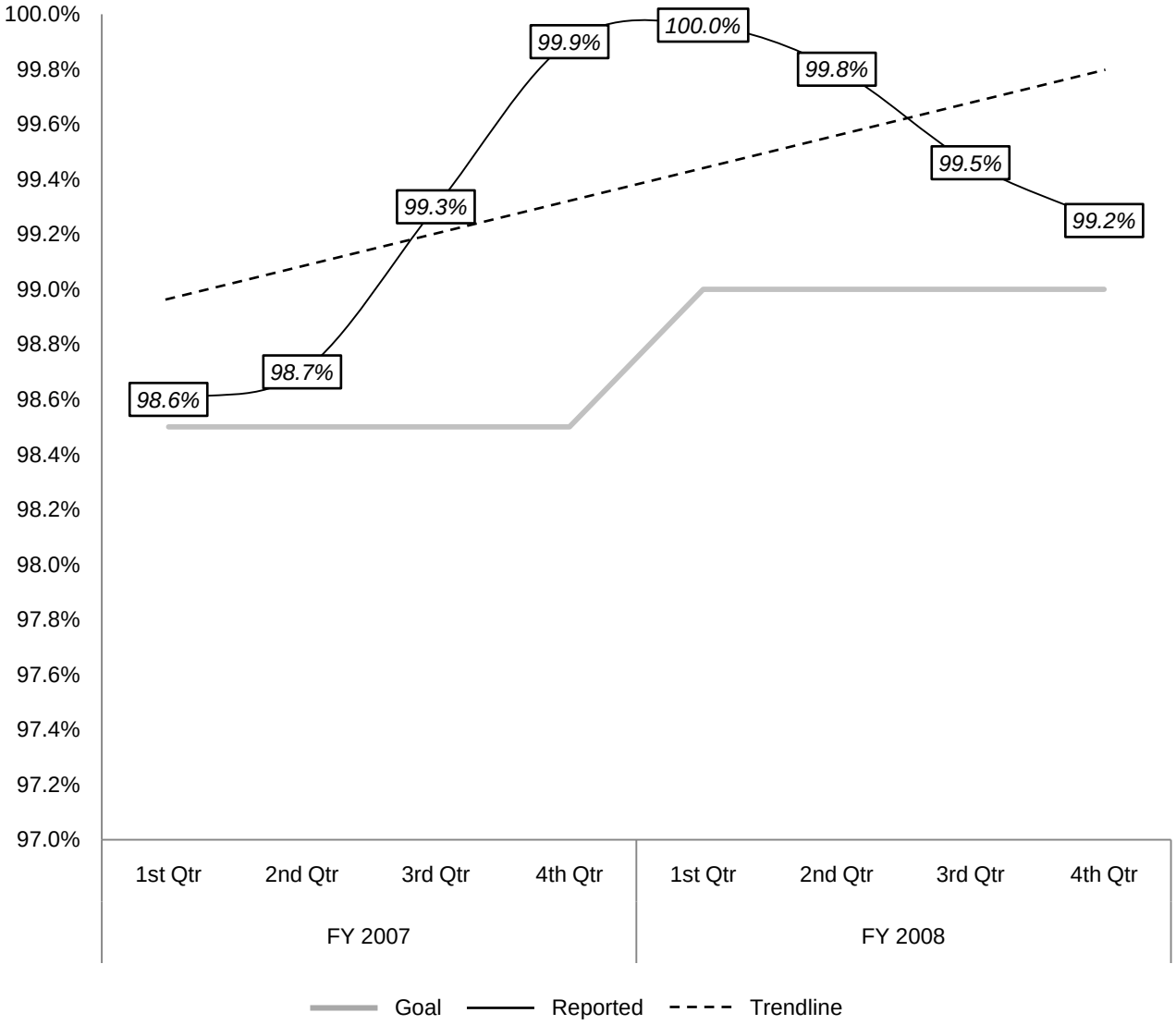
Positive

Purpose To measure the percentage of equipment available for service.

Definition Measurement of availability as a percentage of vehicles at each facility available at 7 a.m./4 p.m. on non-holiday weekdays against peak demand requirements.

Method The Shop History and Online Parts System (SHOPS) provides the data. A vehicle is considered available for service if it is available for assignment to an operator no later than 7 a.m. and 4 p.m.

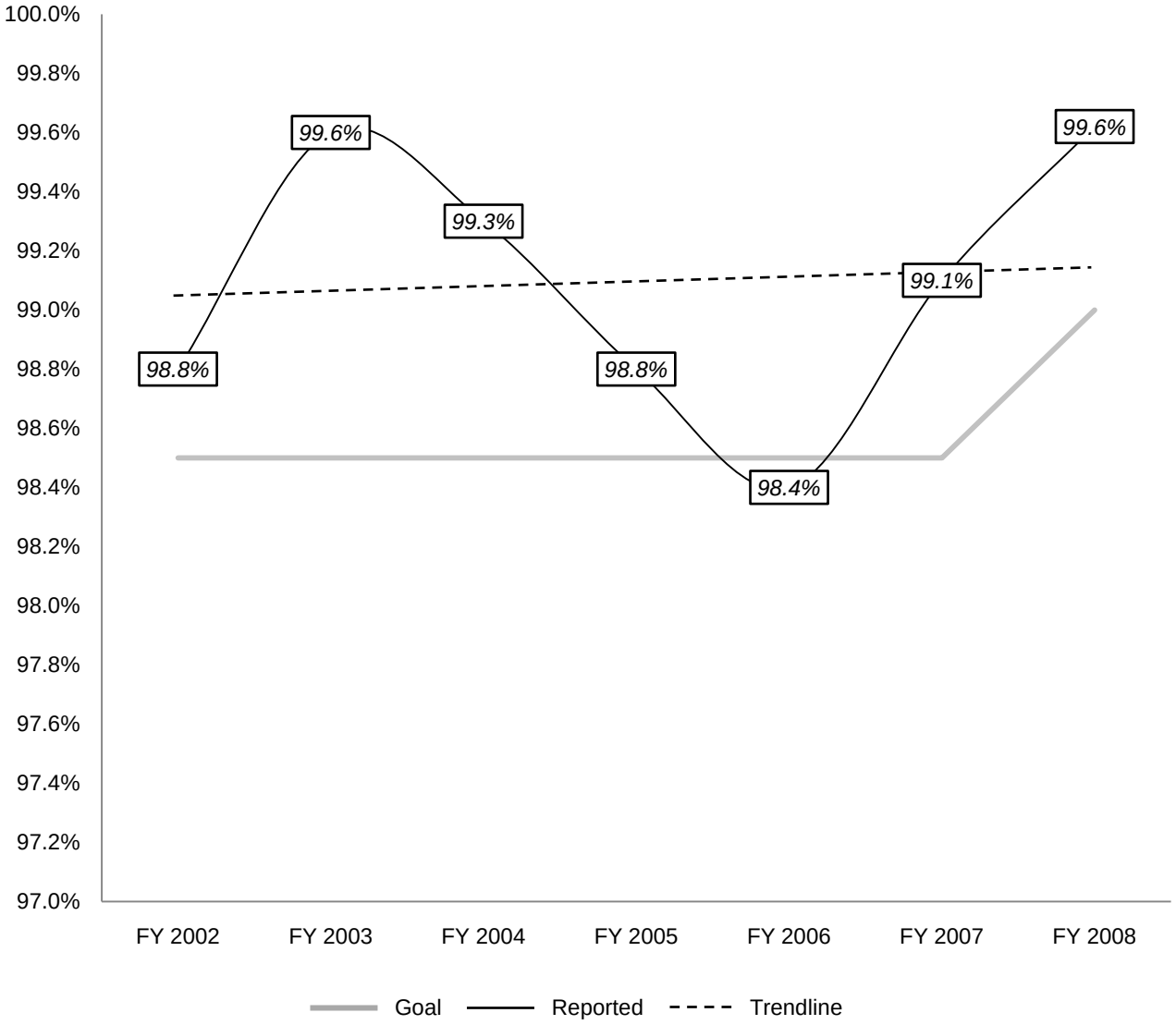
A2 Service Delivery (AM/PM Peak Vehicle Availability)



Systemwide AM (Audit Period)

While vehicle availability in both the AM and PM periods declined somewhat after reaching a peak of 100% in the 1st Quarter of Fiscal Year 2008, the long-term trend is up.

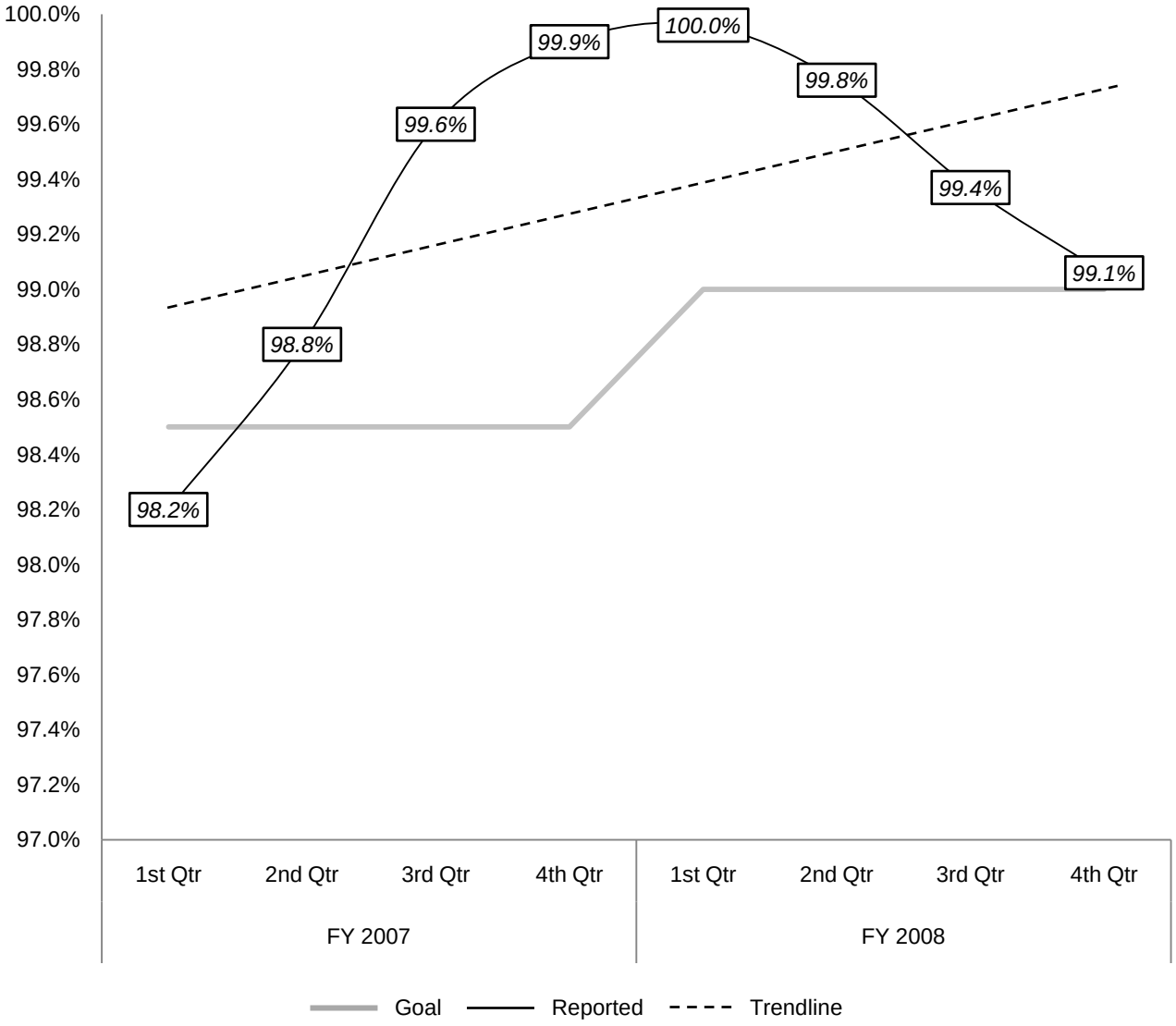
A2 Service Delivery (AM/PM Peak Vehicle Availability)



Systemwide AM (Historic)

Both AM and PM Peak Vehicle Availability were up significantly during the audit period, to levels not reached since Fiscal Year 2003.

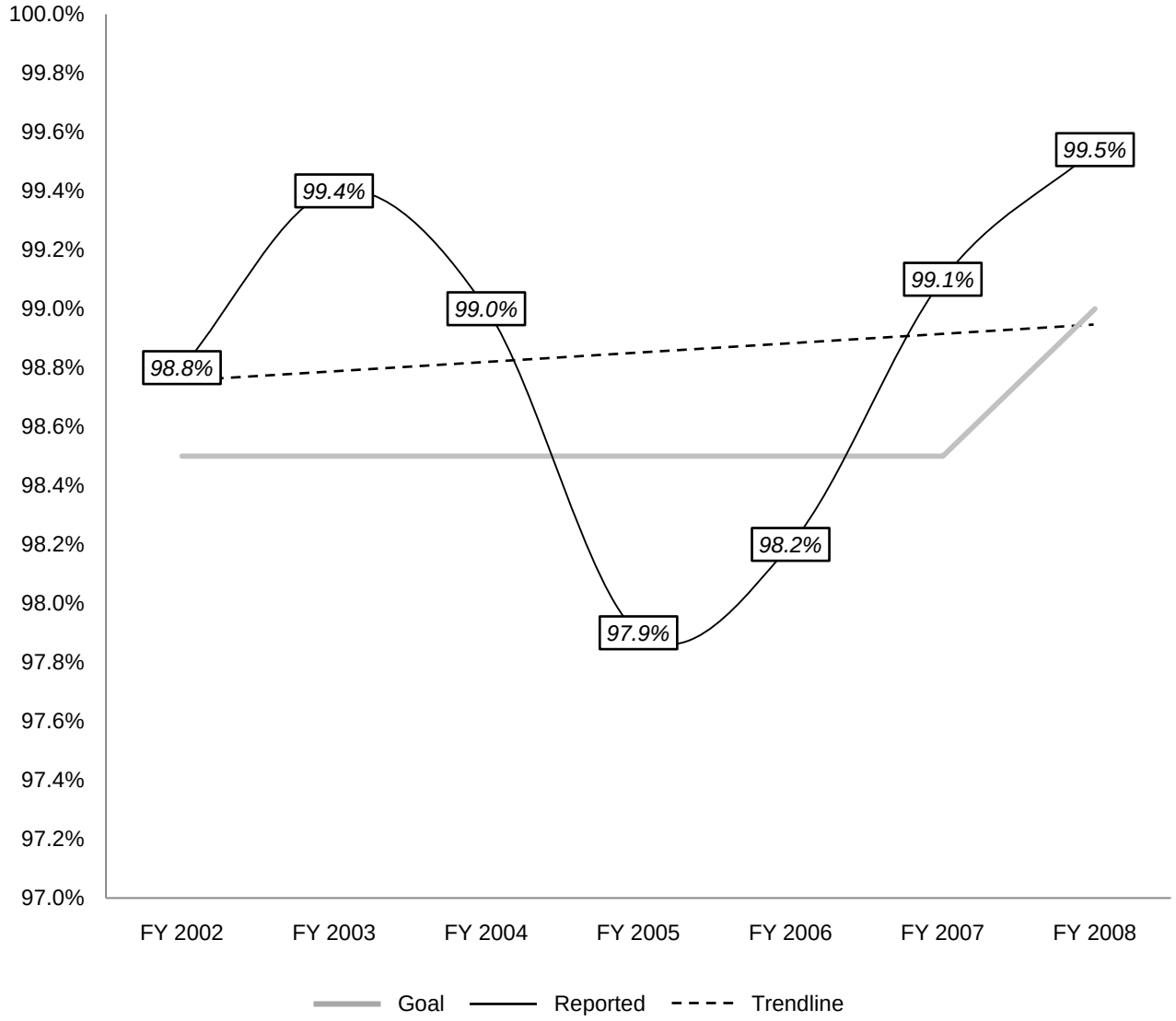
A2 Service Delivery (AM/PM Peak Vehicle Availability)



Systemwide PM (Audit Period)

While vehicle availability in both the AM and PM periods declined somewhat after reaching a peak of 100% in the 1st Quarter of Fiscal Year 2008, the long-term trend is up.

A2 Service Delivery (AM/PM Peak Vehicle Availability)



Systemwide PM (Historic)

Both AM and PM Peak Vehicle Availability were up significantly during the audit period, to levels not reached since Fiscal Year 2003.

A2 Service Delivery (AM/PM Peak Vehicle Availability)

		FY 2008		FY 2009	
Category	Period	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr
Systemwide	AM	99.25%	99.36%	98.82%	98.42%
	PM	99.06%	99.54%	99.12%	98.57%
Rail	AM	98.5%	98.0%	98.2%	97.0%
	PM	98.9%	98.9%	99.2%	98.6%
Bus	AM	99.5%	99.8%	99.8%	98.8%
	PM	99.1%	99.7%	99.1%	98.5%

Since the Audit Period

In Fiscal Year 2009, Muni began reporting AM and PM peak vehicle availability by bus and rail routes. Since reaching 100% in the 1st Quarter of Fiscal Year 2008, peak-period vehicle availability has declined slightly in all quarters except the 1st Quarter of Fiscal year 2009, although it remains near the goal of 99%. AM rail availability fell to 97% in the 3rd Quarter of Fiscal Year 2009.

A2 Service Delivery (AM/PM Peak Vehicle Availability)

AM/PM Peak Vehicle Availability is also reported by division (for more detailed information, see quarterly reports at http://www.sfmta.com/cms/rstd/sstdindx.htm). In 2008, SFMTA reported numbers of days during which each division failed to achieve 100% availability. These figures are repeated below. Notably, problems appear to have been concentrated at Green (including both Light Rail and historic streetcar operations) and Woods divisions, and to a lesser extent at Potrero Trolley. At Green and Woods, problems were worst in the 3rd and 4th quarters.

FY 2008				
Division	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
Green Breda LRV	5	5	25	41
Green F-Line	8	22	1	0
Cable Car	0	0	0	0
Potrero Trolley	0	17	7	2
Presidio Trolley	0	0	0	0
Flynn Motor Coach	0	0	0	0
Kirkland Motor Coach	0	1	0	0
Woods Motor Coach	0	9	36	37

A2 Service Delivery

Recommendation

Measure percentages of scheduled trips delivered in addition to percentages of scheduled hours delivered.

This service standard includes multiple measures of Muni's ability to provide scheduled service, most notably Scheduled Service Hours Delivered. Scheduled Service Hours Delivered is a straightforward, all-encompassing measure; it is simply the hours of revenue service provided as a percentage of the hours of revenue service that are scheduled. In Fiscal Years 2007 and 2008, the systemwide averages were 94.3% and 95.9%, respectively. This means that in 2008, Muni was able to deliver about 24 out of every 25 scheduled hours. However, this measure says nothing about where service hours might have been missed, and does not relate directly to the customer's experience waiting to make a "trip." Customers can be expected to care about whether their bus or train arrives – about whether a trip is made, or missed. A measure of Scheduled Trips Delivered, then, would be a useful additional measure. Information would need to be compiled from two sources: the OPS (Operator Dispatching/Timekeeping) module of the Trapeze database, which can provide information about trips that were missed because no operator was available, and Central Control logs, which can provide information about trips that were missed because of mechanical problems. Additional study would need to be conducted of the practicality of combining information from these two sources. Ideally, data would be reported overall and by cause of missed trip (no operator available, or mechanical problem), systemwide, by service-type, and at the route level, so routes on which relatively high numbers of trips are missed can be clearly identified.

A3 Load Factors

Goal *Reduction*

FY07-08 Performance 

Near Goal

Trend 

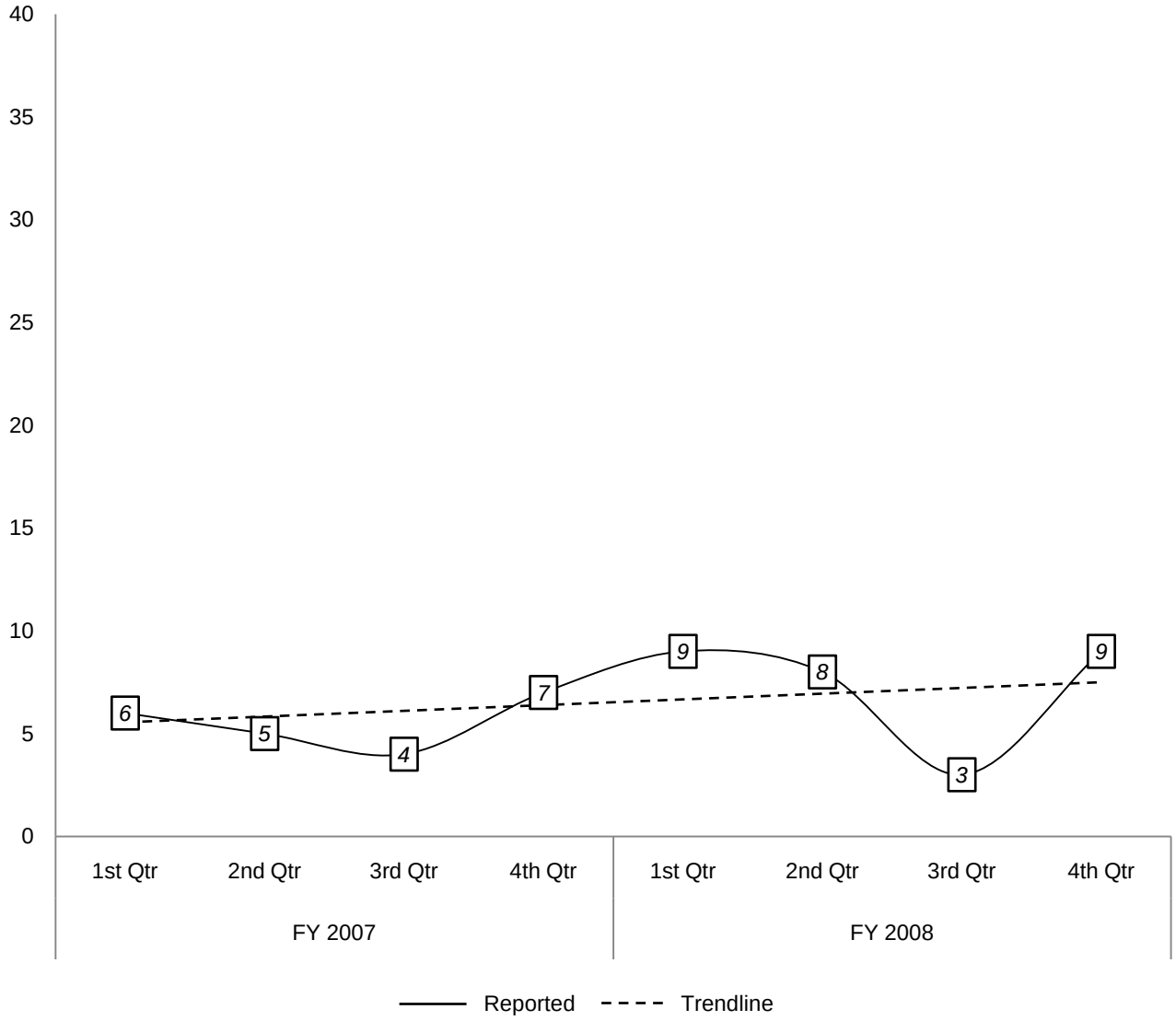
Neutral

Purpose To measure load factors at peak periods. *(Note: Prior to Fiscal Year 2009, reported load factors were an average of factors observed during all four peak and off-peak periods listed below, under "Method".)*

Definition Each line is checked twice a year. Checks are conducted at least 10 weekdays and weekends per period. A checking schedule is established for the routes. The order in which the routes are checked is determined monthly through a random selection process. To the extent automated systems can be substituted at less cost for checks, or the measurement of any standard, such systems are used. The maximum target load factor is 85% of seating/standing capacity. *(Note: The definition of this Service Standard was changed for Fiscal Year 2009. The last sentence now reads: "The maximum target load factor is 125% of seating/standing capacity during peak periods and 85% overall.")*

Method Periods of time includes morning rush (6 a.m.-9 a.m.), midday (9 a.m.-4 p.m.) afternoon rush (4 p.m.-7 p.m.), and night (7 p.m.-1 a.m.). Supervisors conduct a one-hour, on time, and load standard check at a maximum load point at mid-route during all four time periods stated above.

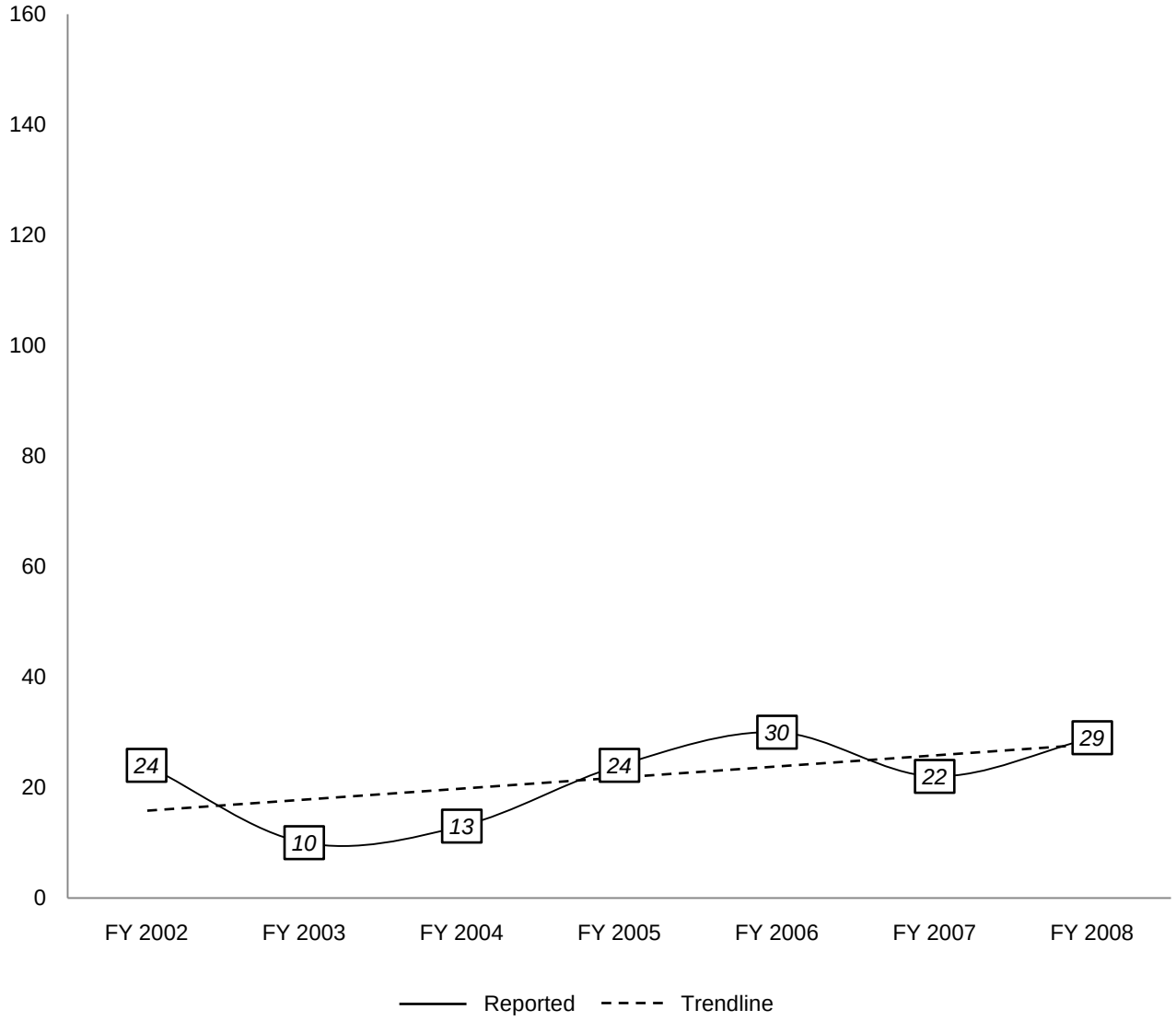
A3 Load Factors



Number of Lines Exceeding 85% Load Factor (Audit Period)

Different Muni routes are checked for overcrowding every quarter, and most routes are checked twice a year. In Fiscal Year 2007, a total of 141 checks were conducted, and 22 of those checks, or 15.6%, found average load factors on a line of greater than 85% of seated and standing capacity. In Fiscal Year 2008, a total of 157 checks were conducted, and 29 of them, or about 18.5%, found overcrowding. The chart at left shows numbers of routes found to be overcrowded.

A3 Load Factors



Number of Lines Exceeding 85% Load Factor (Historic)

The total number of lines found to be overcrowded during checks in Fiscal Years 2007 and 2008 was roughly equivalent to the number of lines found to be overcrowded during the previous audit period, but significantly higher than the number of lines found to be overcrowded in Fiscal Years 2003 and 2004.

A3 Load Factors

FY 2009			
Category	1st Qtr	2nd Qtr	3rd Qtr
AM	7.9%	4.3%	2.6%
PM	5.9%	3.6%	2.4%

Percentage of Trips Exceeding 125% (Since the Audit Period)

In Fiscal Year 2009, Muni introduced a new, more meaningful standard for measurement of overcrowding: the percentage of AM and PM peak period trips with loads over 125% of seated and standing capacity*. In the first quarter, a significant percentage of trips – nearly 8% in the AM peak – were found to be severely overloaded, but overcrowding has since declined. *(* capacities are: LRV, 119; historic streetcar, 60; cable car, 63; 60' bus, 94; 40' bus, 63; 30' bus, 45)*

A3 Load Factors

By Line (Since the Audit Period)

The tables on the following pages list load factors by line for the most recent quarter during which each was observed (all are Fiscal Year 2009). Lines are organized by service category, as this report recommends be done for several service standards (see "Recommendations" in the first section of this report). Fiscal Years 2007 and 2008 on-time performance for each line can be found in the quarterly reports at: http://www.sfmta.com/cms/rstd/sstdindx.htm. In Fiscal Year 2009, Muni introduced a new, more meaningful standard for measurement of overcrowding: the percentage of AM and PM peak period trips with loads over 125% of seated and standing capacity. The previous standard was numbers of lines with average loads greater than 85% of capacity over the course of the day, including off-peak periods when crowding is less of a problem.

Rapid Network							
Line	Quarter Observed	% of AM Peak Trips > 125%	% of PM Peak Trips > 125%	Line	Quarter Observed	% of AM Peak Trips > 125%	% of PM Peak Trips > 125%
F Market & Wharves	Q1	0.0%	4.0%	9X San Bruno Express	Q3	0.0%	0.0%
J Church	Q3 (AM) / Q1 (PM)	2.4%	0.0%	14L Mission Limited	Q3	0.0%	0.0%
K Ingleside/T-Third Street	Q1	33.3%	0.0%	22 Fillmore	Q3	0.0%	0.0%
L Taraval	Q3 (AM) / Q2 (PM)	3.6%	1.6%	28L 19th Avenue Limited	Q3	5.9%	0.0%
M Ocean View	Q2	0.0%	11.1%	30 Stockton	Q1	33.3%	10.5%
N Judah	Q3 (AM) / Q2 (PM)	3.6%	0.0%	38L Geary Limited	Q3	11.1%	0.0%
1 California	Q3	0.0%	0.8%	47 Van Ness	Q2	0.0%	0.0%
5 Fulton	Q3	0.0%	6.4%	49 Van Ness/Mission	Q1	0.0%	20.0%
9 San Bruno	Q3	6.7%	2.6%	71/71L Haight/Noriega & Limited	Q3	4.3%	2.2%

A3 Load Factors

By Line (Since the Audit Period)

Local Network							
Line	Quarter Observed	% of AM Peak Trips > 125%	% of PM Peak Trips > 125%	Line	Quarter Observed	% of AM Peak Trips > 125%	% of PM Peak Trips > 125%
California Cable Car	Q2	0.0%	0.0%	24 Divisadero	Q3	0.0%	20.0%
Powell-Hyde Cable Car	Q2	0.0%	3.8%	26 Valencia	Q3	0.0%	0.0%
Powell-Mason Cable Car	Q3	0.0%	0.0%	27 Bryant	Q3	0.0%	0.0%
2 Clement	Q1	0.0%	0.0%	28 19th Avenue	Q3	0.0%	25.0%
3 Jackson	Q1	0.0%	0.0%	29 Sunset	Q3	8.0%	3.8%
4 Sutter	Q1	0.0%	0.0%	31 Balboa	Q2	0.0%	3.1%
6 Parnassus	Q3	0.0%	2.2%	33 Stanyan	Q3	0.0%	0.0%
10 Townsend	Q1	0.0%	10.0%	38 Geary	Q1	0.0%	1.4%
12 Folsom	Q1	4.5%	4.3%	43 Masonic	Q1	18.2%	16.7%
14 Mission	Q3	0.0%	0.0%	44 O'Shaughnessy	Q1	33.3%	41.7%
18 46th Avenue	Q3	0.0%	0.0%	45 Union/Stockton	Q1	33.3%	24.0%
19 Polk	Q3	0.0%	0.0%	48 Quintara/24th Street	Q1	0.0%	26.3%
20 Columbus	Q3	0.0%	N/A	54 Felton	Q3	0.0%	0.0%
21 Hayes	Q2	6.7%	0.0%	108 Treasure Island		-	-
23 Monterey	Q3	0.0%	0.0%				

A3 Load Factors

By Line (Since the Audit Period)

Community Connectors							
Line	Quarter Observed	% of AM Peak Trips > 125%	% of PM Peak Trips > 125%	Line	Quarter Observed	% of AM Peak Trips > 125%	% of PM Peak Trips > 125%
17 Parkmerced	Q3	0.0%	0.0%	52 Excelsior	Q1	0.0%	0.0%
35 Eureka	Q1	0.0%	0.0%	53 Southern Heights	Q2	14.3%	0.0%
36 Teresita	Q2	0.0%	0.0%	56 Rutland	Q3	0.0%	0.0%
37 Corbett	Q1	0.0%	0.0%	66 Quintara	Q3	0.0%	0.0%
39 Coit	Q2	0.0%	0.0%	67 Bernal Heights	Q3	0.0%	0.0%

A3 Load Factors

By Line (Since the Audit Period)

Specialized Services							
Line	Quarter Observed	% of AM Peak Trips > 125%	% of PM Peak Trips > 125%	Line	Quarter Observed	% of AM Peak Trips > 125%	% of PM Peak Trips > 125%
1AX California "A" Express	Q3	0.0%	0.0%	31BX Balboa "B" Express	Q2	11.1%	0.0%
1BX California "B" Express	Q3	10.3%	6.7%	38AX Geary "A" Express	Q2	0.0%	0.0%
7 Haight	Q3	0.0%	0.0%	38BX Geary "B" Express	Q2	0.0%	0.0%
9AX San Bruno "A" Express	Q3	10.0%	4.8%	41 Union	Q1	8.3%	0.0%
9BX San Bruno "B" Express	Q3	0.0%	0.0%	76 Marin Headlands		N/A	N/A
14X Mission Express	Q3	4.0%	9.1%	80X Gateway Express	Q3	0.0%	0.0%
16AX Noriega "A" Express	Q2	0.0%	0.0%	81X Caltrain Express	Q3	0.0%	N/A
16BX Noriega "B" Express	Q2	0.0%	0.0%	82X Presidio & Wharves Express	Q3	0.0%	N/A
30X Marina Express	Q1	5.0%	0.0%	88 BART Shuttle	Q1	0.0%	0.0%
31AX Balboa "A" Express	Q2	0.0%	0.0%	89 Laguna Honda	Q1	0.0%	0.0%

A3 Load Factors

Recommendation

Use automated passenger counters (APCs) to collect data on load factors where possible.

APCs have been found to provide accurate passenger counts on most routes. APC counts are less accurate on the busiest routes because spaces near doorways often become crowded with riders entering or exiting the vehicle. Contingent on ongoing "spot checks" and regular monitoring of their performance, APCs should be used to collect data on load factors on all Local Network (except cable car), Community Connector, and Specialized Services routes. The TEP-defined Rapid Network will be checked by traffic checkers for both headway adherence and load factors.

A4 Unscheduled Absences

Goal *Varies by category and from year to year (see following pages)*

FY07-08 Performance 

Near Goal

Trend 

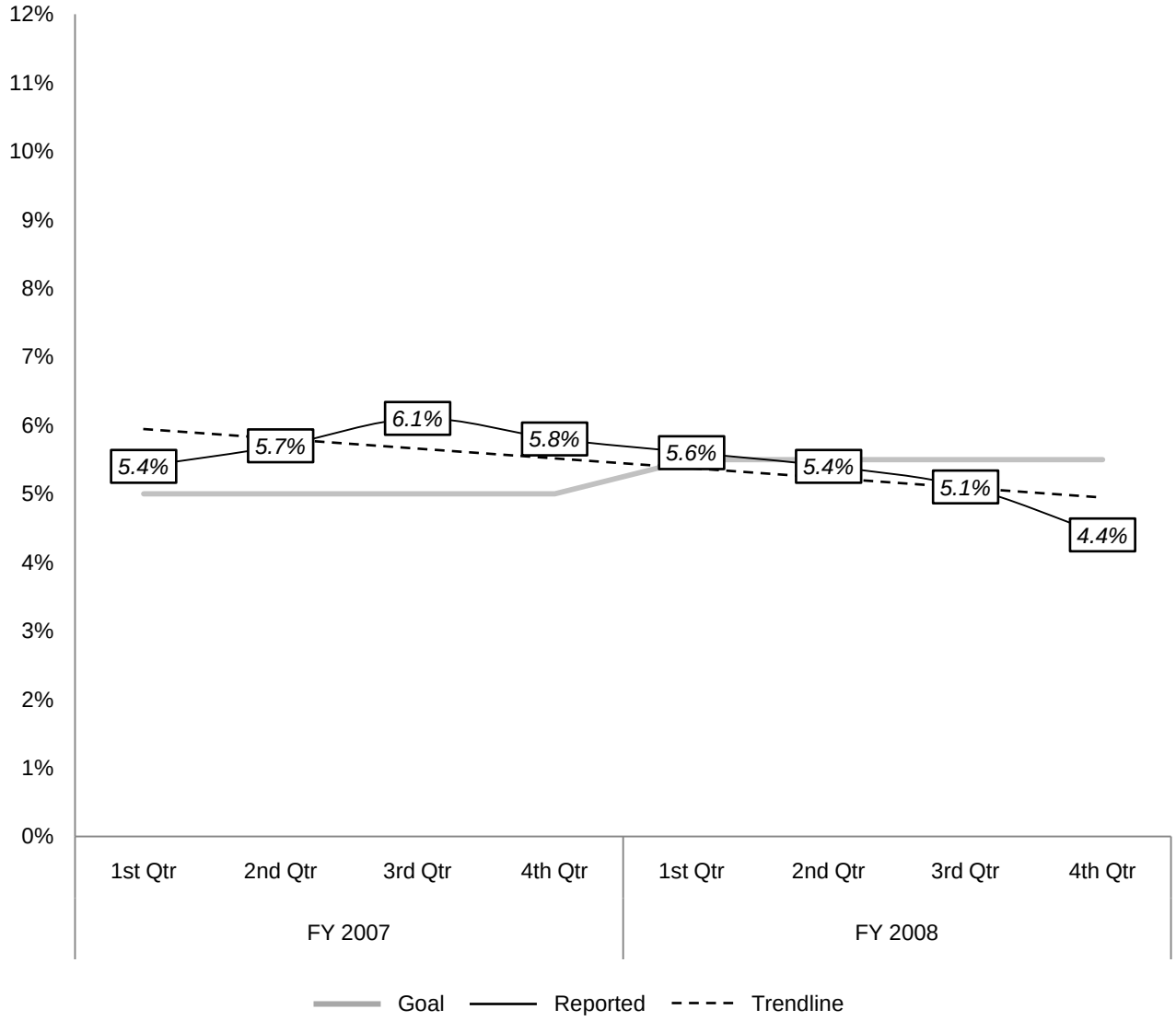
Neutral

Purpose To measure unscheduled absences.

Definition Monthly measurement of unscheduled absences is defined as time that is not scheduled in advance and includes the following payroll categories: Sick pay (with pay), Sick Leave (without pay), AWOL, Worker's Comp, SDI, and Assault Pay.

Method TESS and the Attendance Tracking System currently provide the data as a calculation of scheduled hours available against unscheduled hours for Municipal Railway employees.

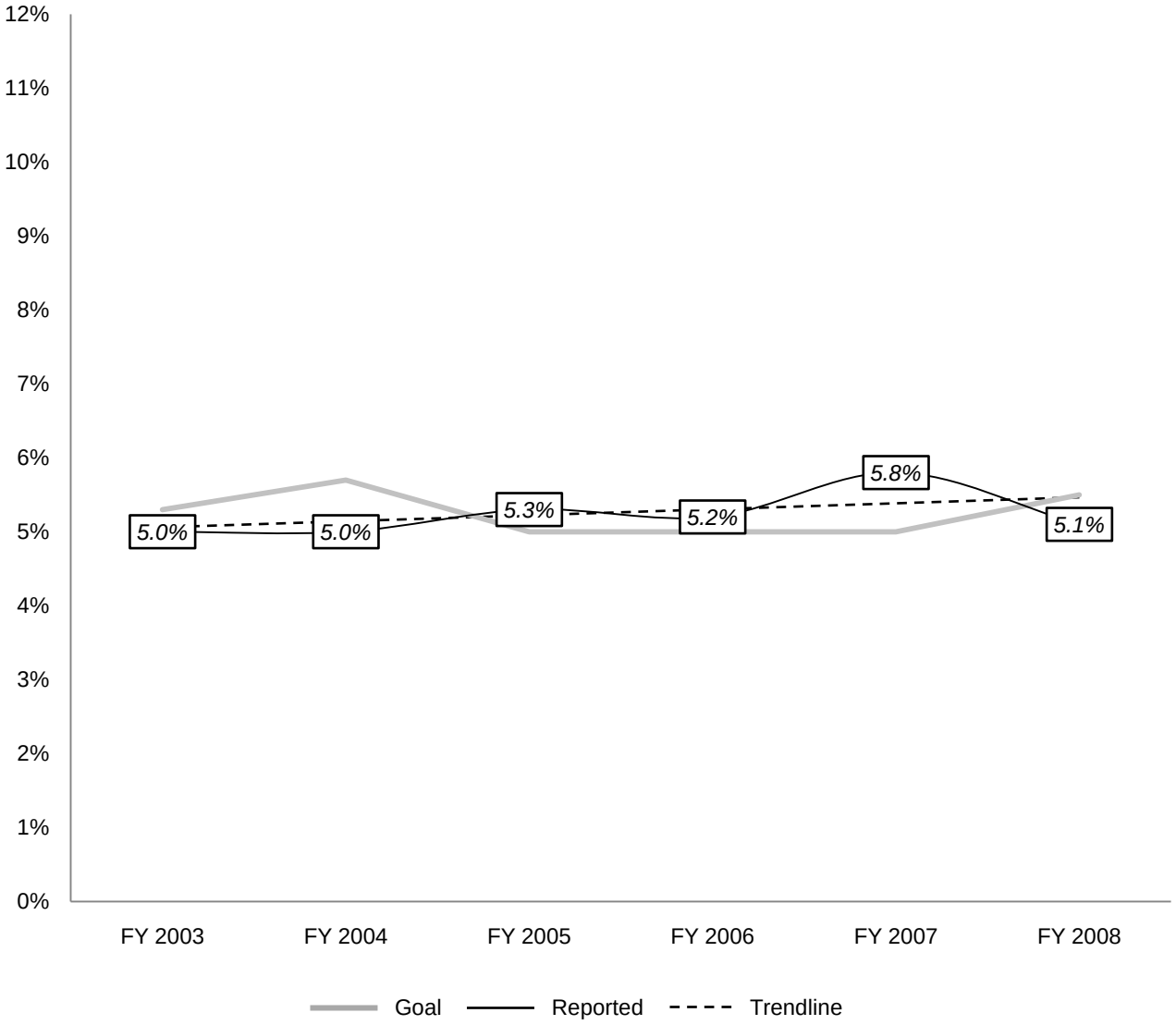
A4 Unscheduled Absences



Administration (Audit Period)

The annual goal for Unscheduled Absences in Administration is a 5% reduction over the previous year, or 5%, whichever is higher. Like other departments, Administration did not achieve its Unscheduled Absences goal in Fiscal Year 2007 (5%, and its average for the year was 5.8%), but did achieve its goal in Fiscal Year 2008 (5.5%, and its average for the year was 5.1%.) (Note that unlike most service standards, the goal for Unscheduled Absences is *below* a target level rather than above it.)

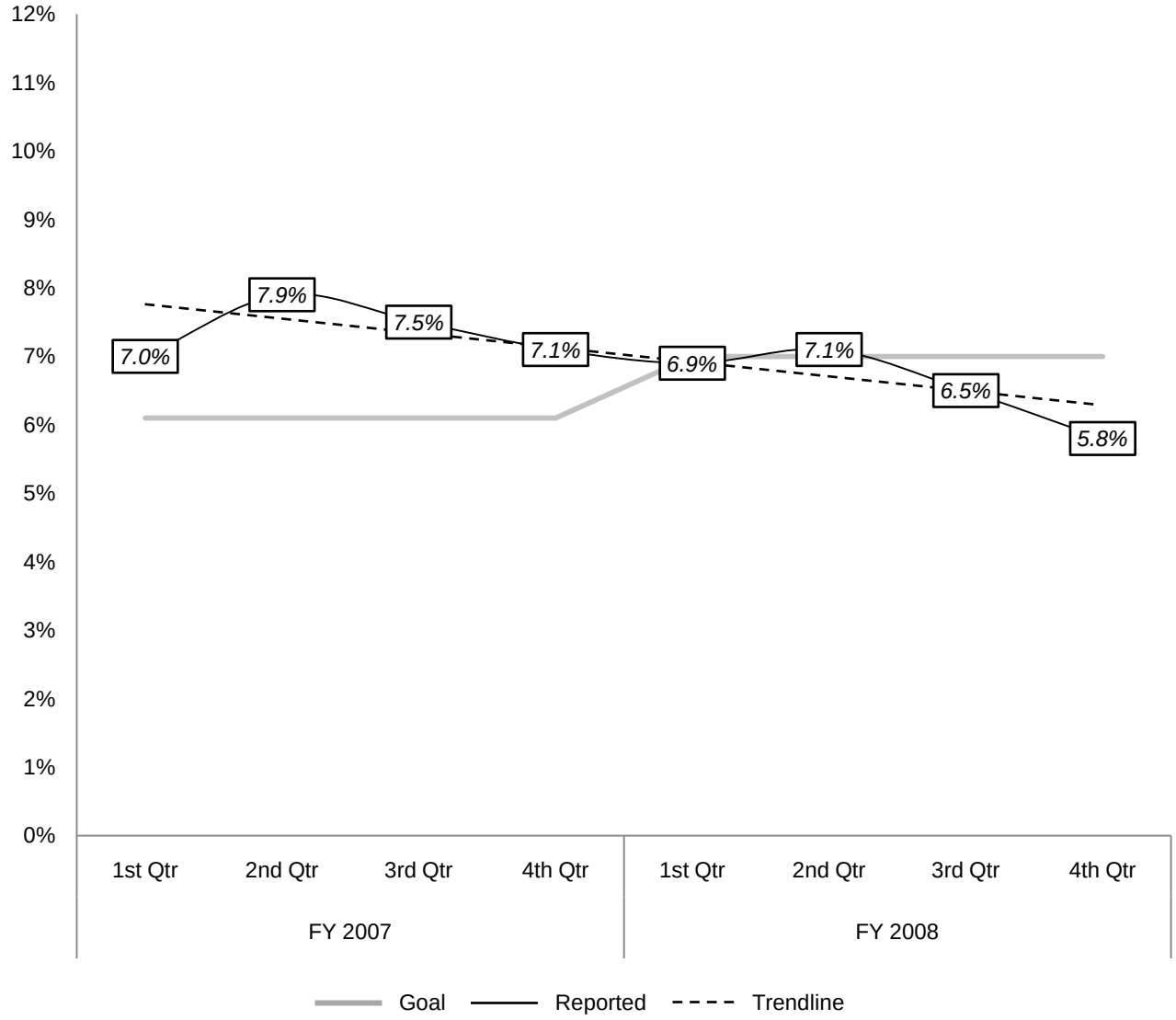
A4 Unscheduled Absences



Administration (Historic)

Fiscal Year 2008 was the first since 2004 in which Administration achieved its Unscheduled Absences goal. It should be noted, however, that goals for Administration have historically been lower – and thus harder to achieve – than the goals for other departments. (Note that unlike most service standards, the goal for Unscheduled Absences is *below* a target level rather than above it.)

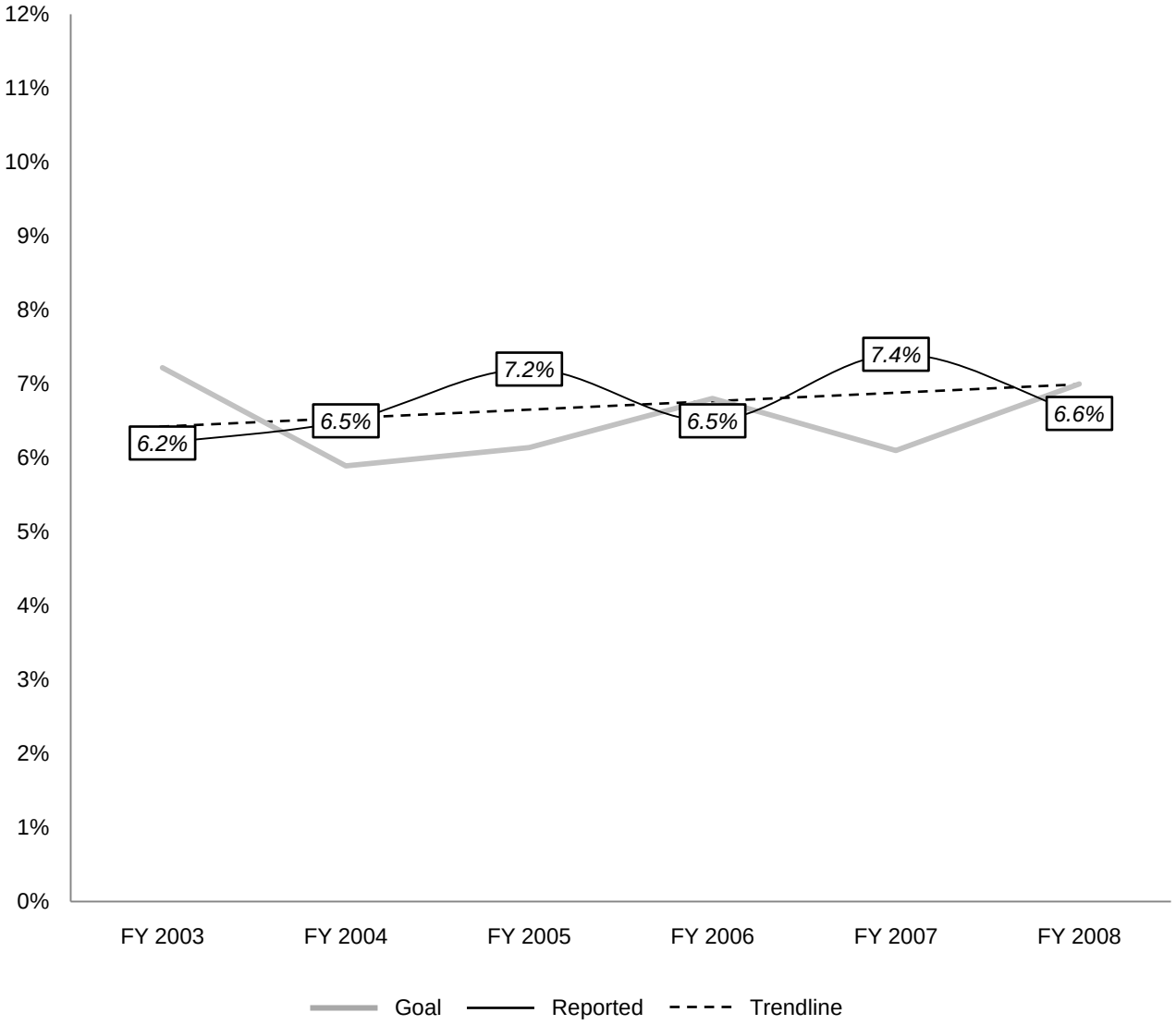
A4 Unscheduled Absences



Maintenance (Audit Period)

The annual goal for Unscheduled Absences in Maintenance is a 5% reduction over the previous year, or 5%, whichever is higher. Like other departments, Maintenance did not achieve its Unscheduled Absences goal in Fiscal Year 2007 (6.1%, and its average for the year was 7.4%), but did achieve its goal in Fiscal Year 2008 (7%, and its average for the year was 6.6%.) (Note that unlike most service standards, the goal for Unscheduled Absences is *below* a target level rather than above it.)

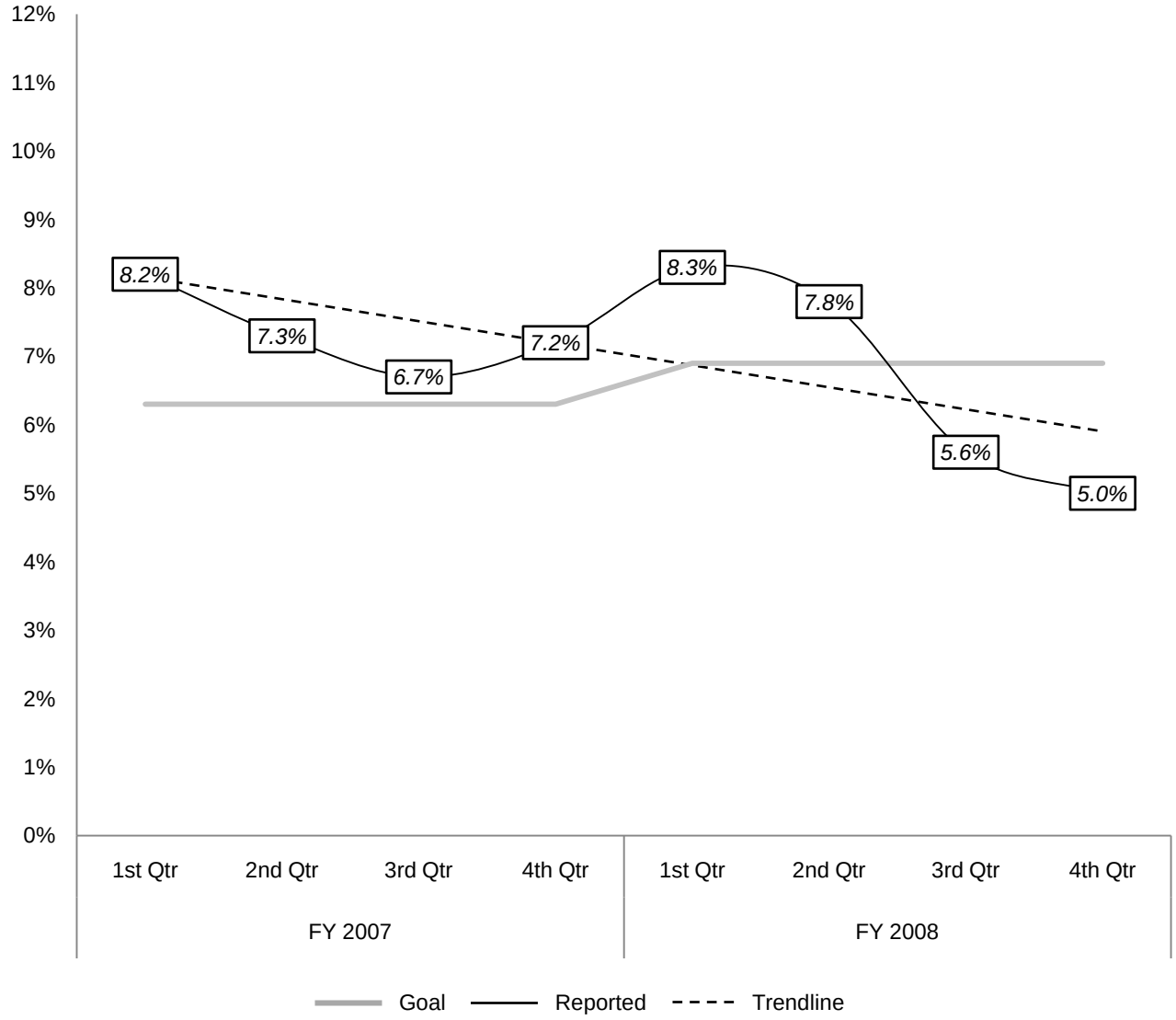
A4 Unscheduled Absences



Maintenance (Historic)

Annual averages for Unscheduled Absences in Maintenance have fluctuated somewhat over time, but have remained relatively constant. (Note that unlike most service standards, the goal for Unscheduled Absences is *below* a target level rather than above it.)

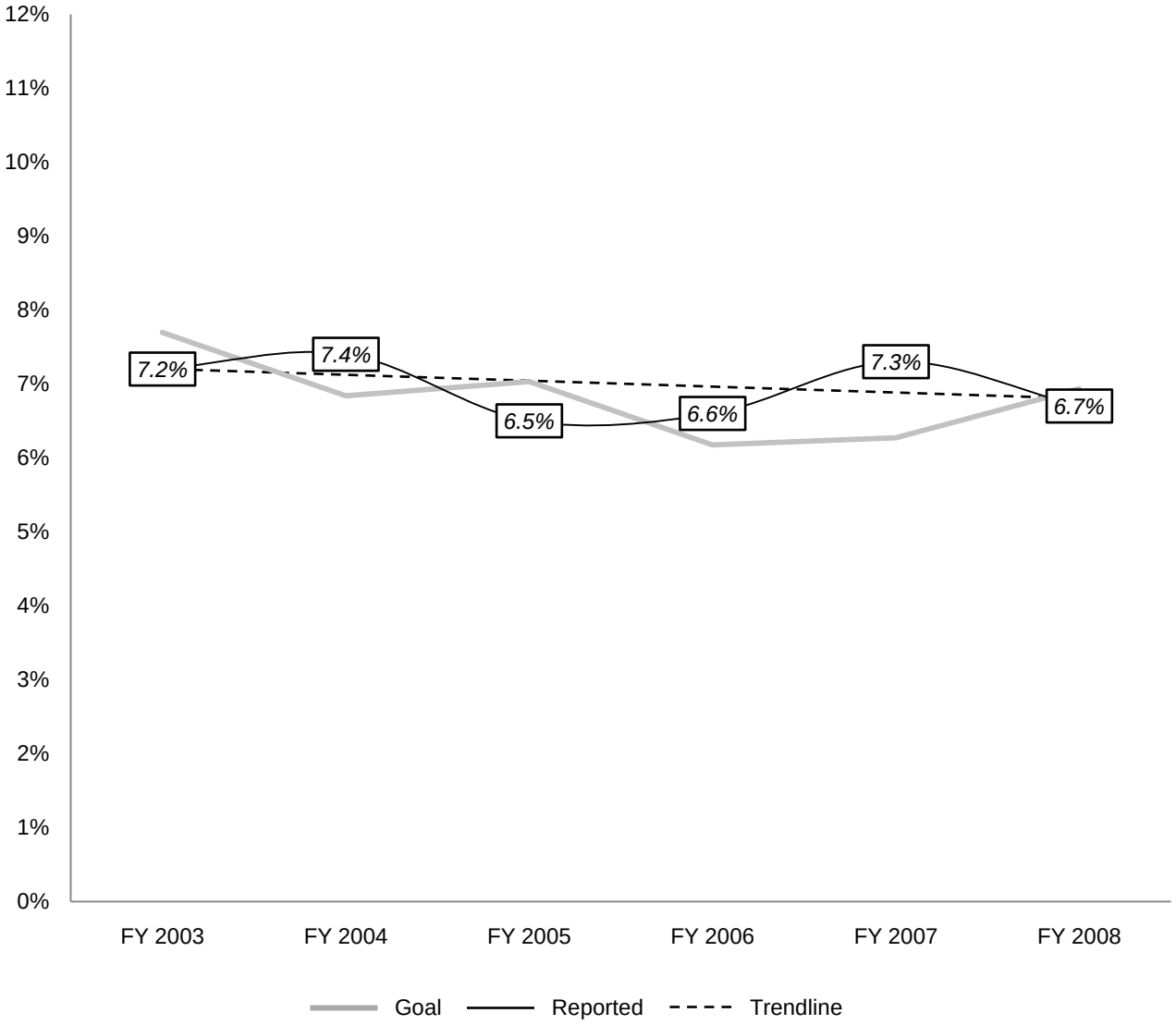
A4 Unscheduled Absences



Operations (Audit Period)

The annual goal for Unscheduled Absences in Operations is a 5% reduction over the previous year, or 5%, whichever is higher. Like other departments, Operations did not achieve its Unscheduled Absences goal in Fiscal Year 2007 (6.3%, and its average for the year was 7.3%), but did achieve its goal in Fiscal Year 2008 (6.9%, and its average for the year was 6.7%.) (Note that unlike most service standards, the goal for Unscheduled Absences is *below* a target level rather than above it.)

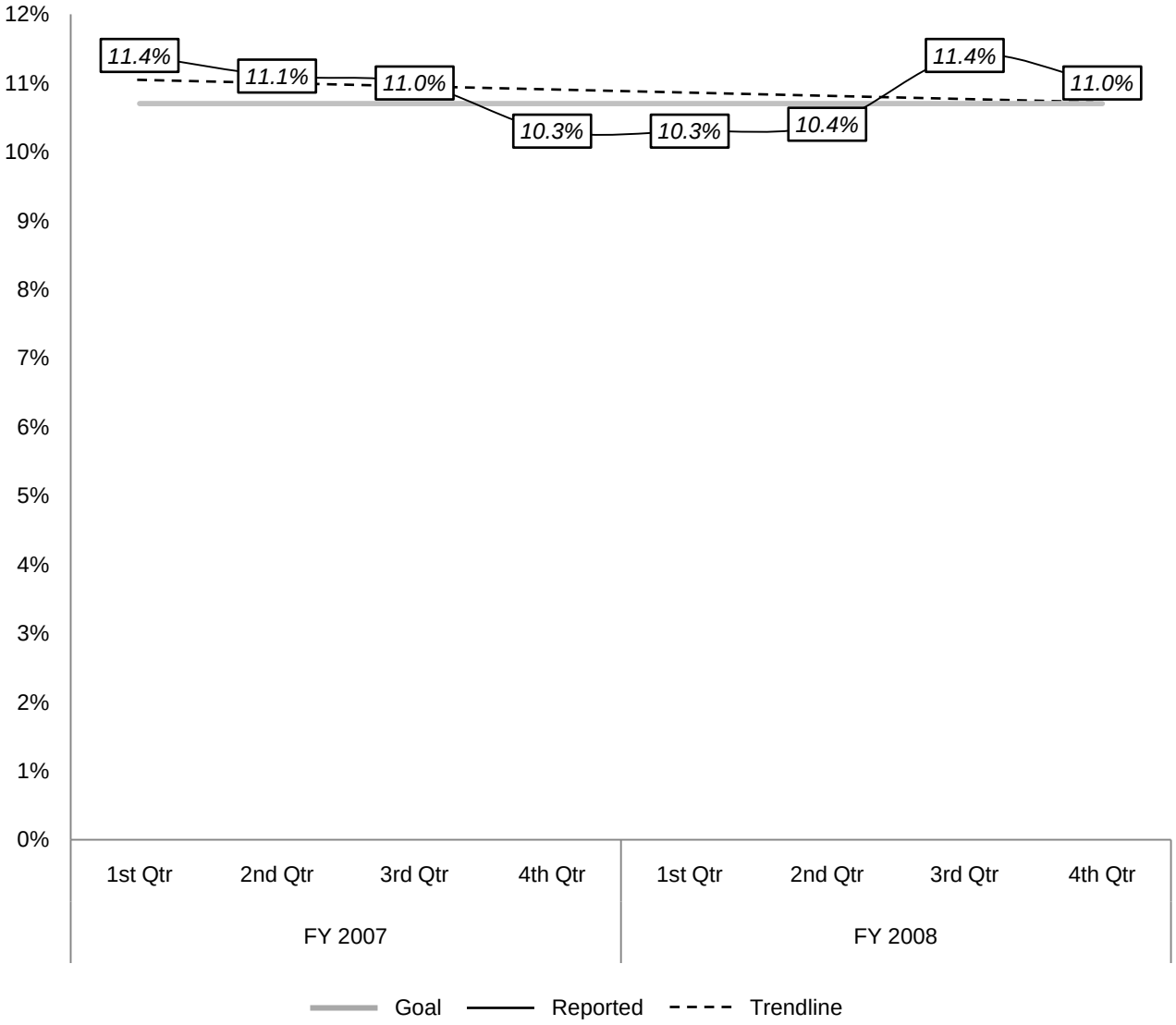
A4 Unscheduled Absences



Operations (Historic)

Unlike for other departments, the historic trend for Unscheduled Absences in Operations has been slightly downward. (Note that unlike most service standards, the goal for Unscheduled Absences is *below* a target level rather than above it.)

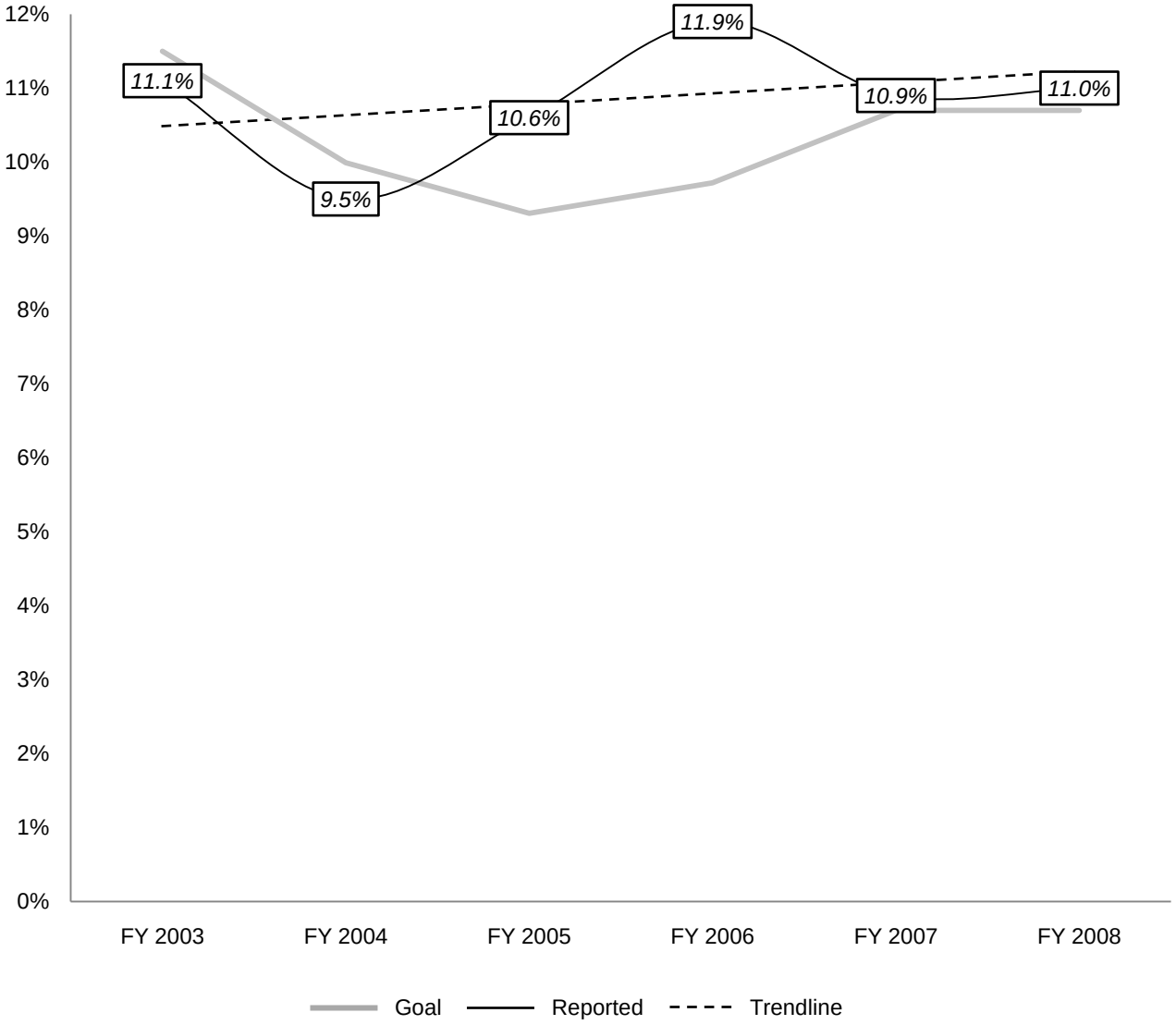
A4 Unscheduled Absences



Transit Operators (Audit Period)

Until Fiscal Year 2008, the annual goal for Unscheduled Absences among Operators – which have historically been higher than for other positions – was based on 10% annual reduction. In 2008, the 2007 goal of 10.7% was temporarily left in place. The goal was not achieved in either year, with unscheduled absenteeism of 10.9% in 2007 and 11% in 2008. (Note that unlike most service standards, the goal for Unscheduled Absences is *below* a target level rather than above it.)

A4 Unscheduled Absences



Transit Operators (Historic)

While unscheduled absenteeism among Operators improved significantly in Fiscal Year 2007 and remained relatively stable in 2008, it remains significantly higher than for other positions. This relatively high rate of Unscheduled Absences for Operators is a key contributor to Muni's consistently low Operator Availability rates and, in turn, its continuing failure to achieve goals for Scheduled Service Hours Delivered. (Note that unlike most service standards, the goal for Unscheduled Absences is *below* a target level rather than above it.)

A4 Unscheduled Absences

	FY 2008	FY 2009			
Category	4th Qtr	*FY09 Goal*	1st Qtr	2nd Qtr	3rd Qtr
Administration	4.4%	*5.2%*	3.6%	4.2%	4.6%
Maintenance	5.8%	*6.7%*	5.7%	5.3%	6.0%
Operations	5.0%	*6.9%*	4.2%	4.9%	5.9%
Transit Operators	11.0%	*10.2%*	12.8%	13.6%	14.0%

Since the Audit Period

Fiscal Year 2009 goals are included at left because the goals for this service standard have changed. Since the audit period, unscheduled absenteeism among transit operators has grown steadily worse, reaching 14% in the 3rd Quarter of Fiscal Year 2009, significantly higher than in the previous peak year of 2006. However, this can be attributed in part to the inclusion of new categories under the definition of "unscheduled absences," including jury duty, loans to unions, suspensions, and "working miss-outs" (late arrivals to work).

A5 Mean Distance Between Failure

Goal *Varies by division* **FY07-08 Performance**  **Trend** 

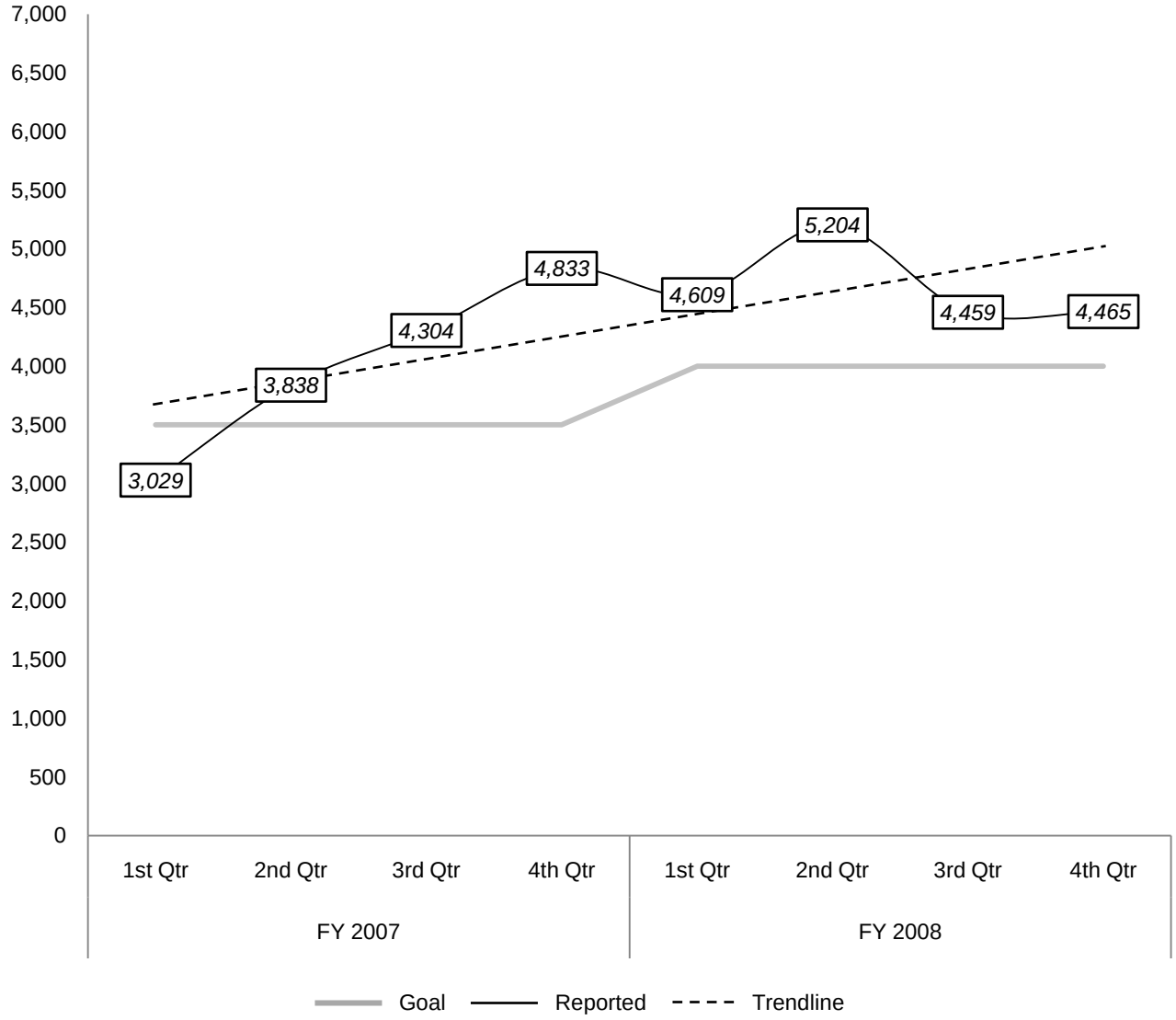
Near Goal *Positive*

Purpose To measure reliability through the miles a vehicle travels between failures.

Definition Monthly measurement is currently dictated by the Federal Transit Administration as follows: Failures are classified as either a major or minor failure of an element of the vehicle's mechanical system. For each incident of a major or minor failure, report whether the vehicle completes the trip or the vehicle does not complete the trip. If the failure occurs during deadhead or layover, include this in revenue vehicle system failures.

Method Data is collected from the Central Control Log and the online SHOPS system. All verifiable major and minor mechanical defects are included as part of the mean distance between failure figure. Areas that do not result in a chargeable road call to the maintenance shops include accidents, sick passengers, vandalism, body damage and broken windows.

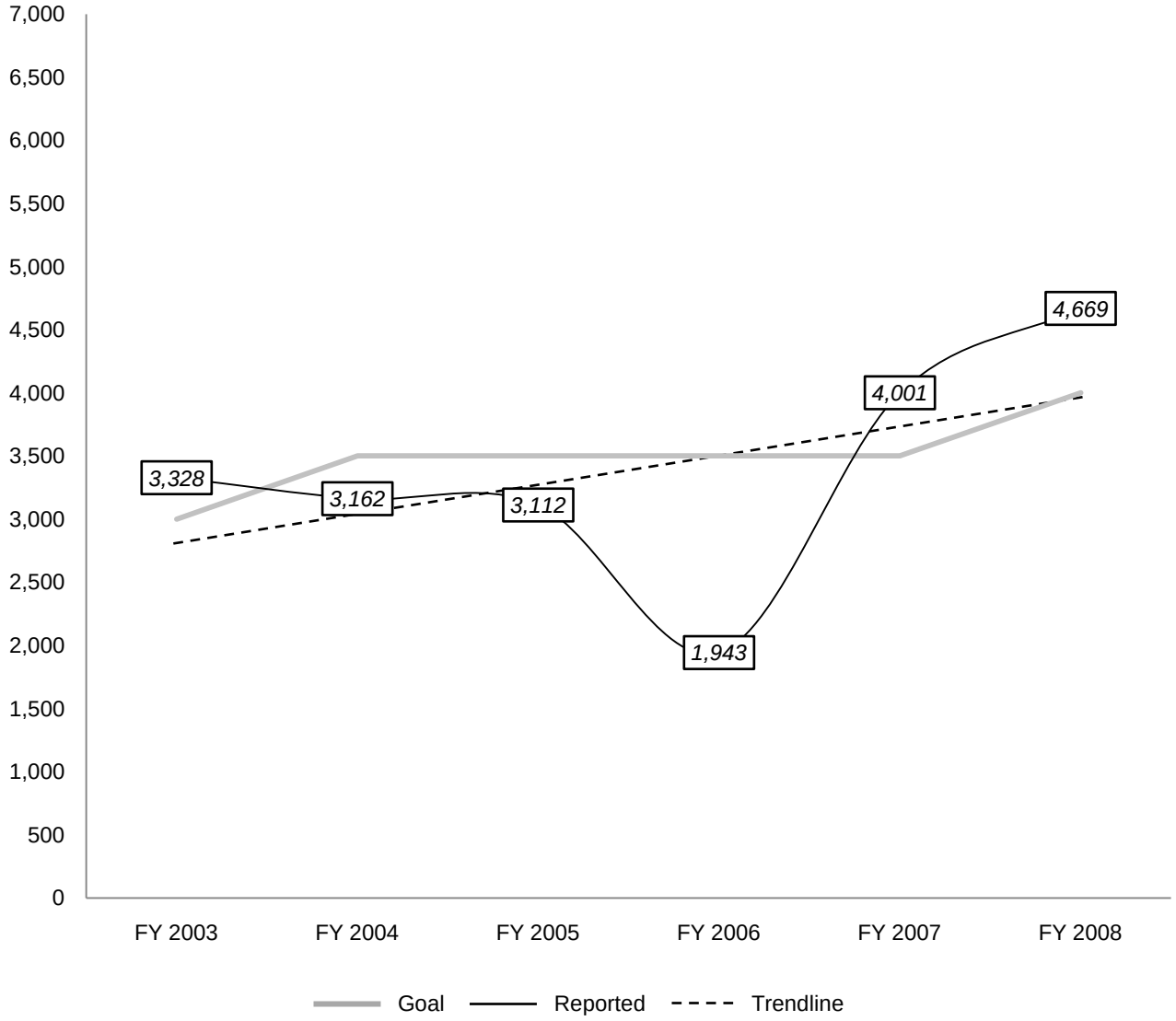
A5 Mean Distance Between Failure (Rail)



Green Breda LRV (Audit Period)

MDBF, or miles between roadcalls, is a measure of how far vehicles typically travel between mechanical problems requiring them to go out of service. Rail incidents that are resolved within 5 minutes of a report to Central Control are not included. In Fiscal Years 2007 and 2008, Muni Metro light rail vehicles were significantly more reliable than in previous years.

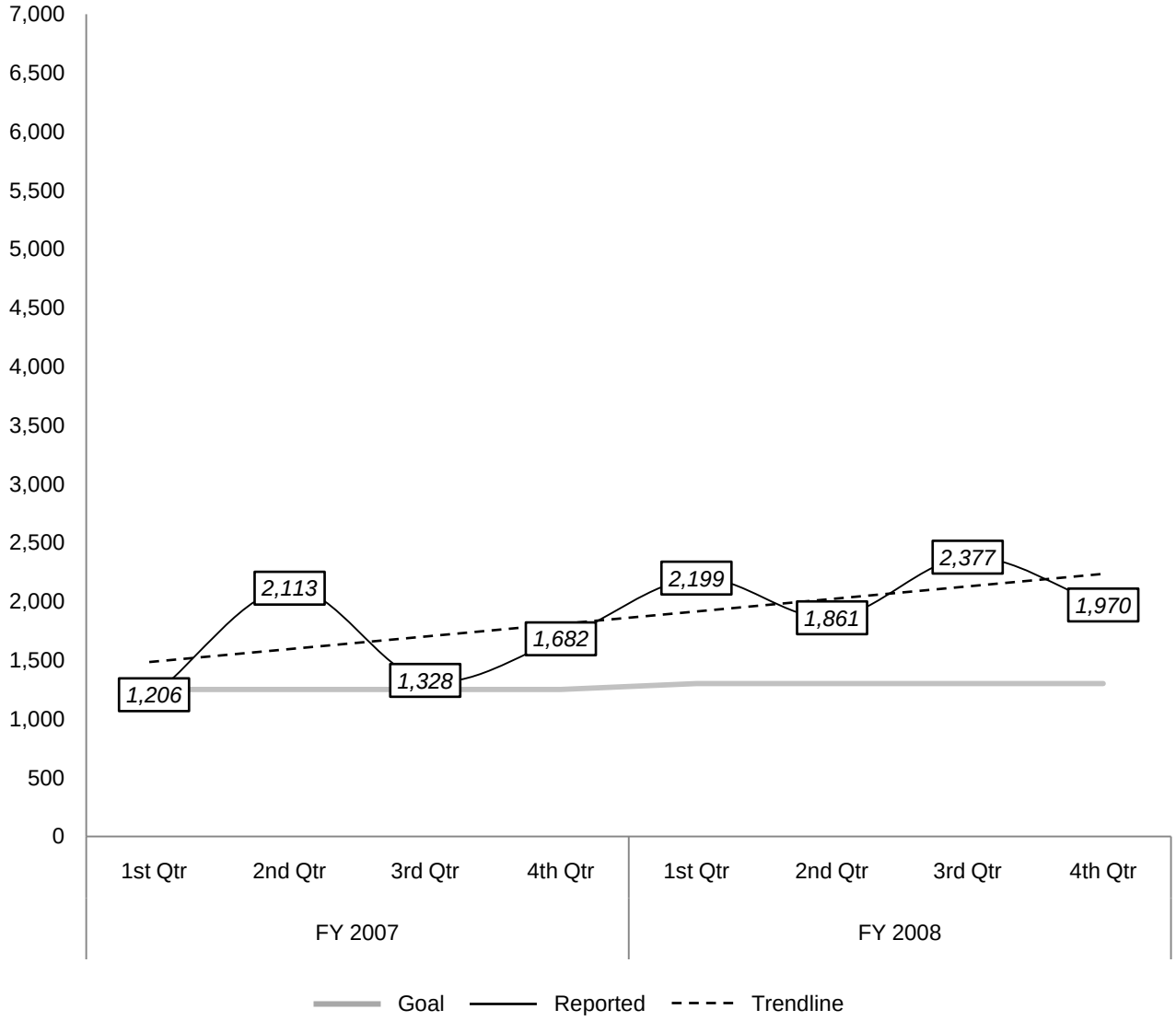
A5 Mean Distance Between Failure (Rail)



Green Breda LRV (Historic)

In Fiscal Years 2007 and 2008, Muni Metro light rail vehicles were significantly more reliable than in previous years. Notably, in 2007 reliability of light rail vehicles was up 106% over the problem year of 2006.

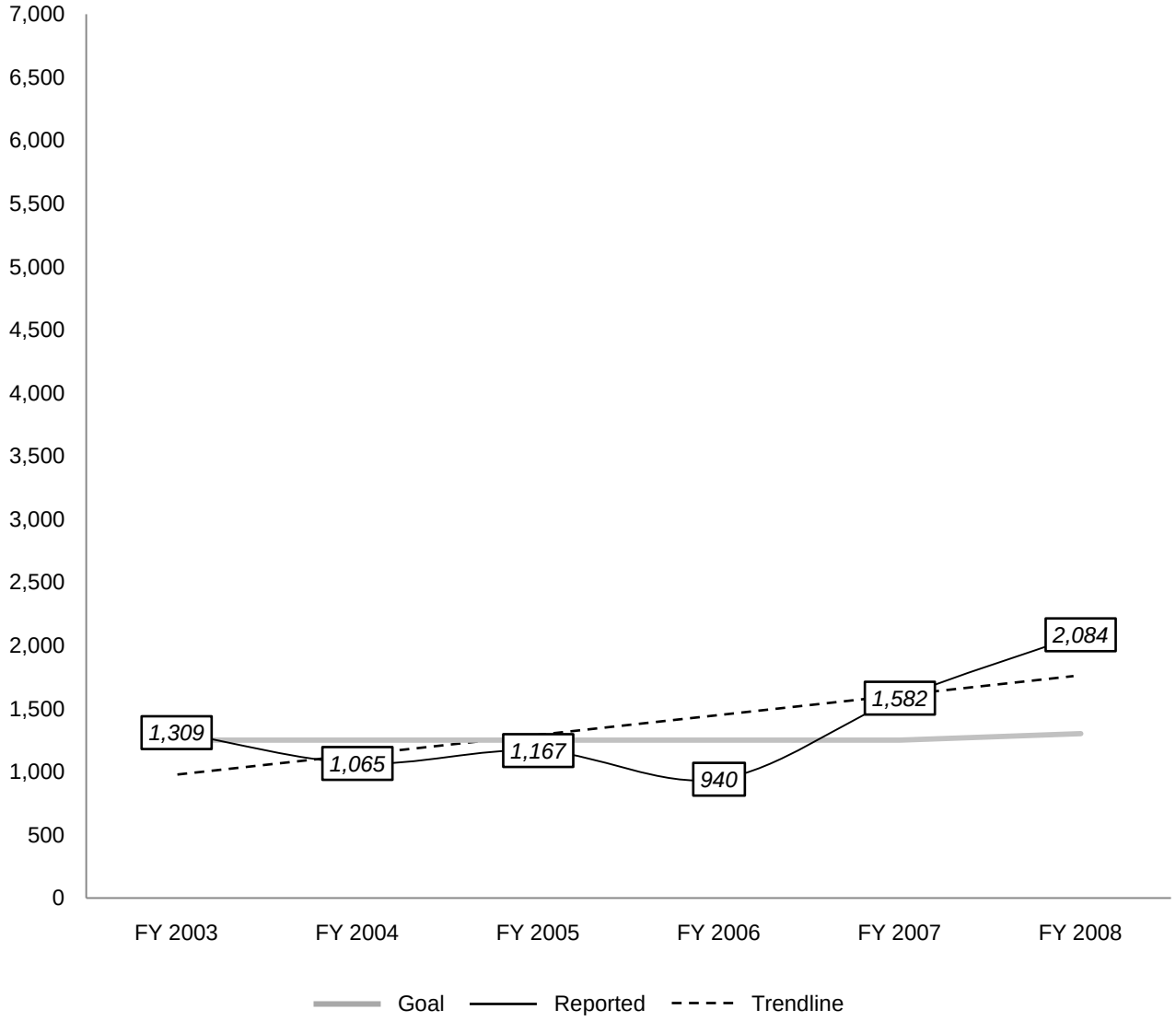
A5 Mean Distance Between Failure (Rail)



Green F-Line (Audit Period)

F-Market & Wharves PCCs and Milan trams are historic vehicles, so their more problematic reliability record is perhaps unsurprising. Nonetheless, in Fiscal Years 2007 and 2008 they were significantly more reliable than in previous years.

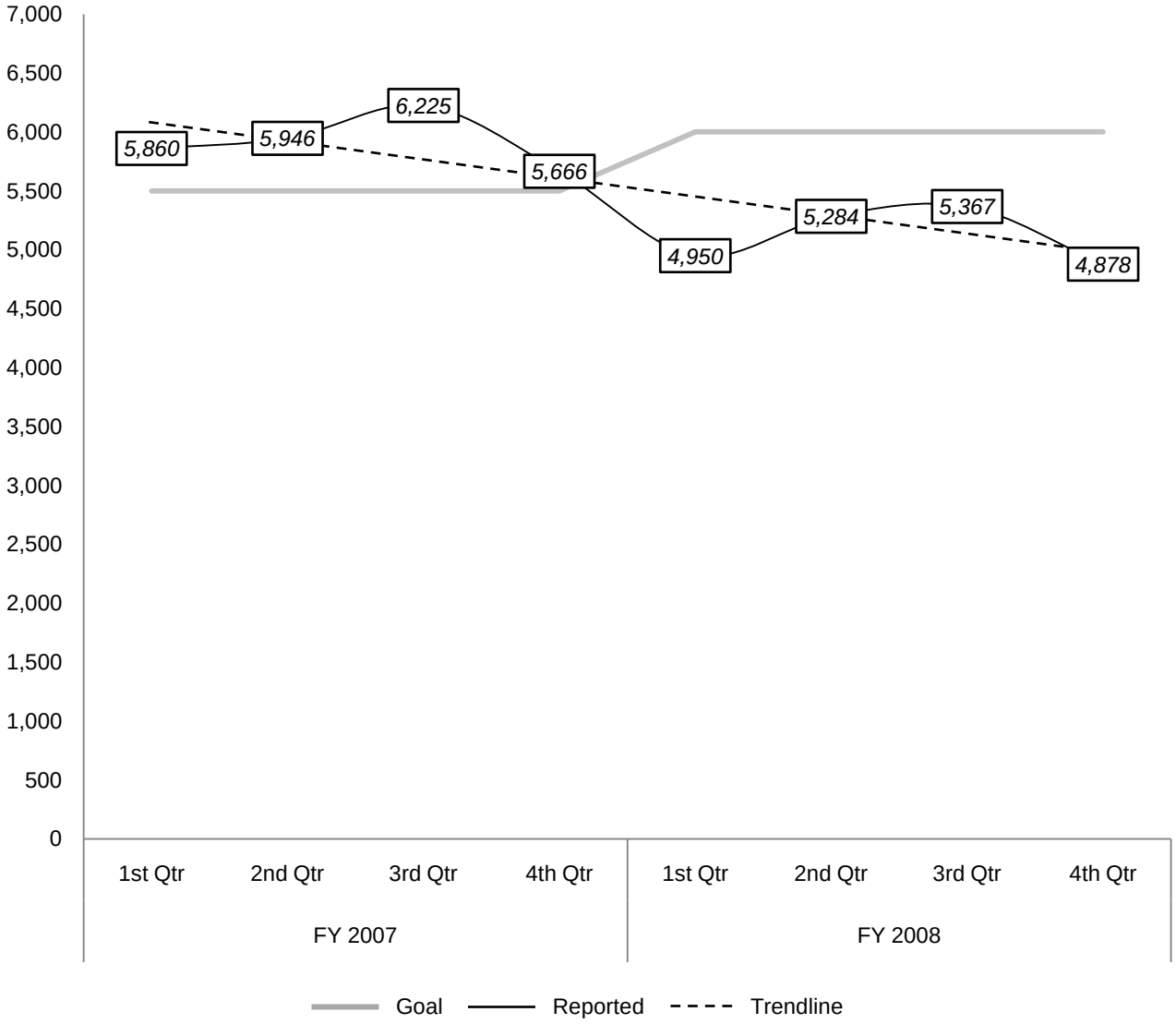
A5 Mean Distance Between Failure (Rail)



Green F-Line (Historic)

In Fiscal Years 2007 and 2008 historic streetcars were significantly more reliable than in previous years. Performance in 2008 was up 122% over 2006.

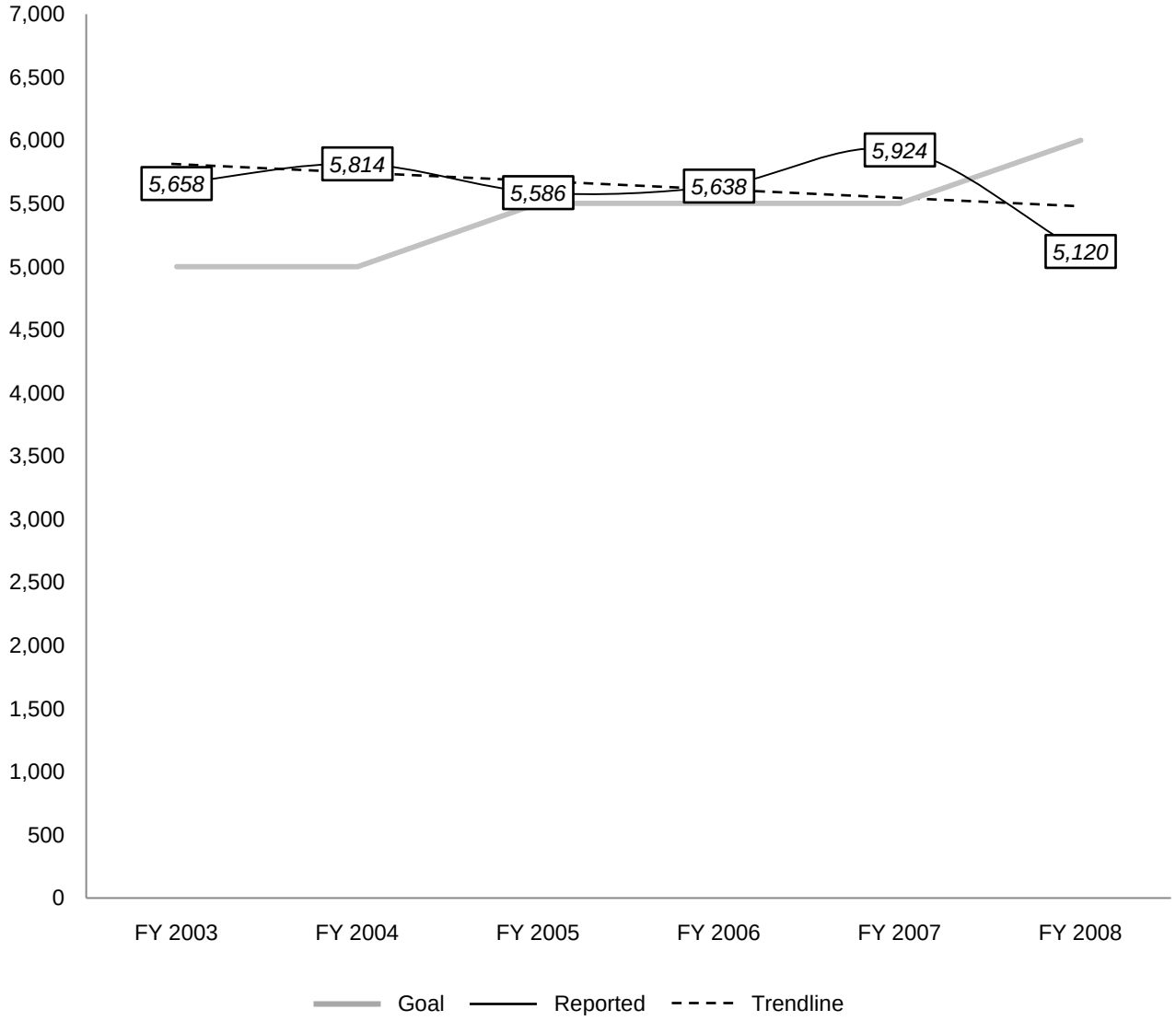
A5 Mean Distance Between Failure (Rail)



Cable Car (Audit Period)

Cable cars have historically been Muni's most reliable vehicles. This trend continued through the audit period, although performance in Fiscal Year 2008 was down from previous years.

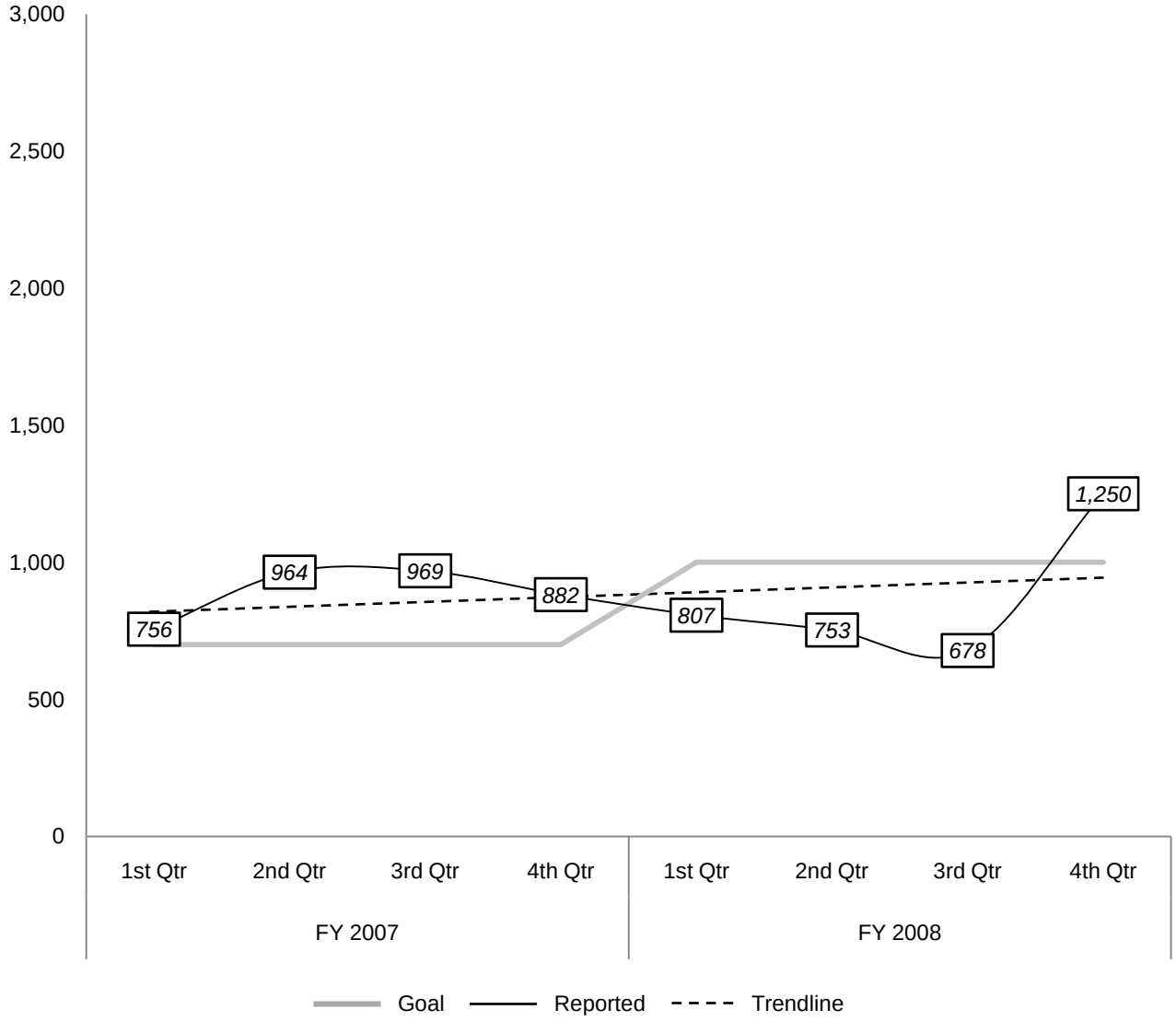
A5 Mean Distance Between Failure (Rail)



Cable Car (Historic)

Cable cars have historically been Muni's most reliable vehicles. This trend continued through the audit period, although performance in Fiscal Year 2008 was down from previous years.

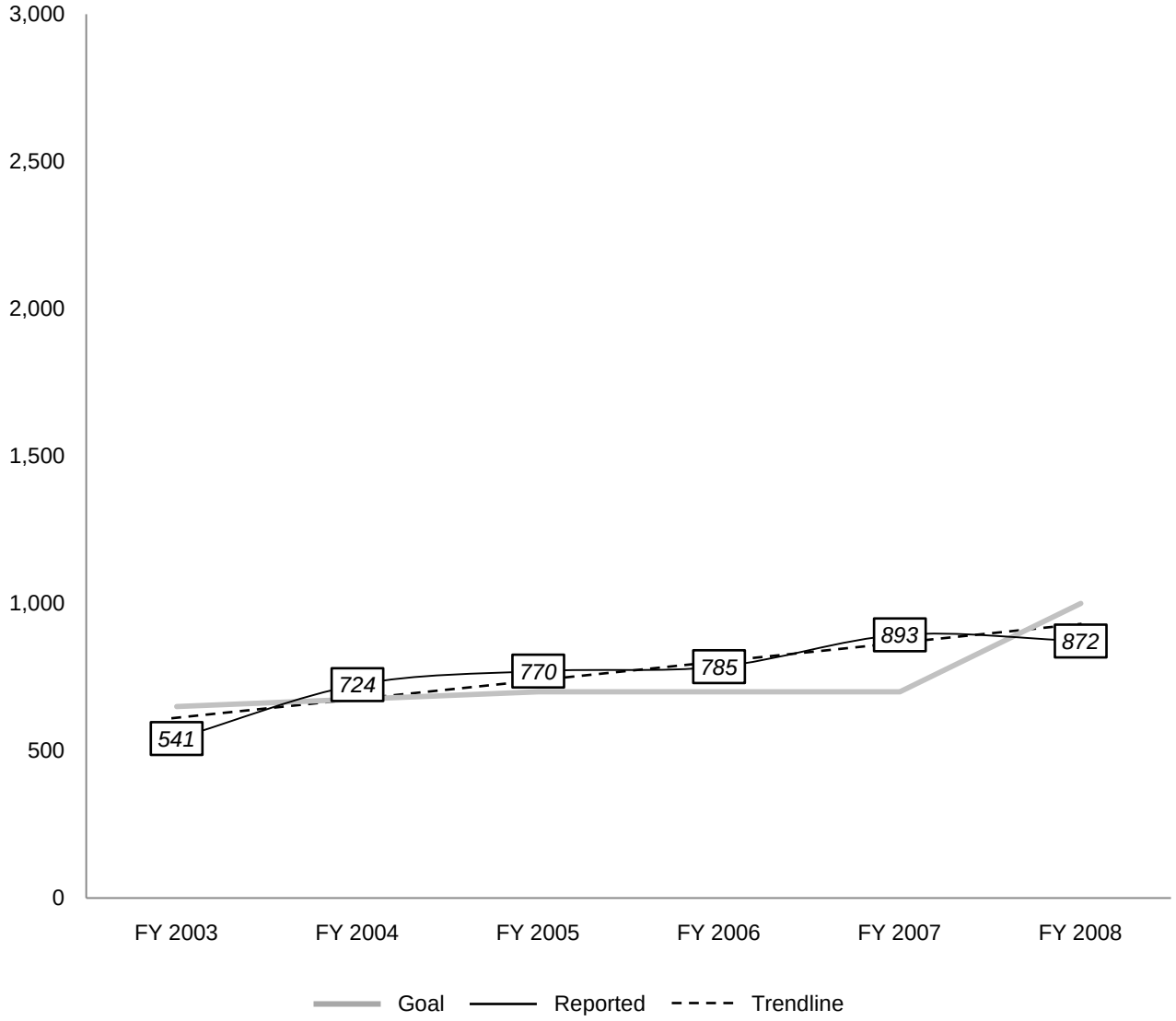
A5 Mean Distance Between Failure (Trolley Coach)



Potrero Articulated (Audit Period)

Historically, articulated (60-foot) electric trolley buses operating out of Potrero Division have been Muni's least reliable vehicles. This trend continued through the audit period, although performance was up over previous years.

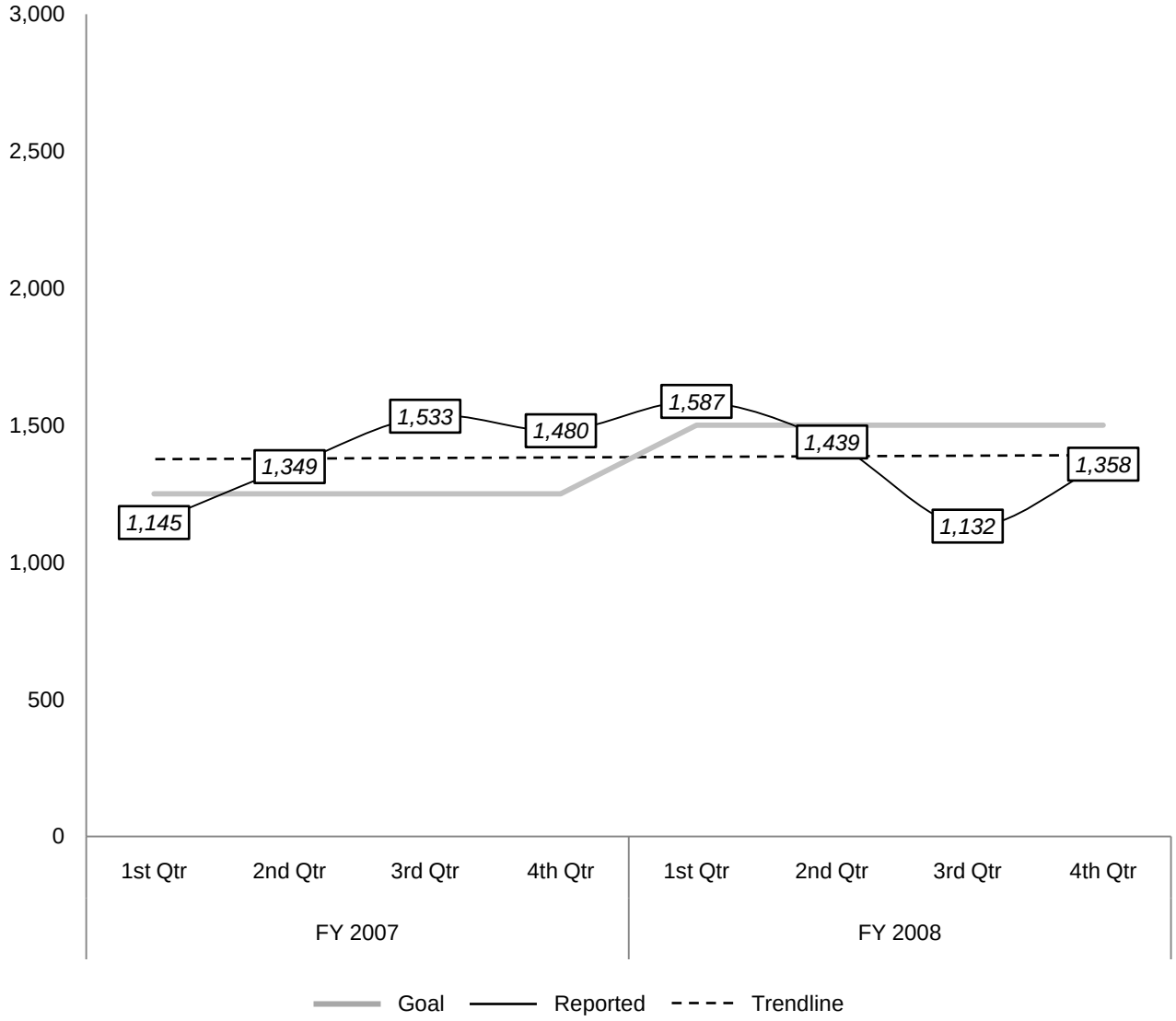
A5 Mean Distance Between Failure (Trolley Coach)



Potrero Articulated (Historic)

Historically, articulated (60-foot) electric trolley buses operating out of Potrero Division have been Muni's least reliable vehicles. This trend continued through the audit period, although performance was up over previous years.

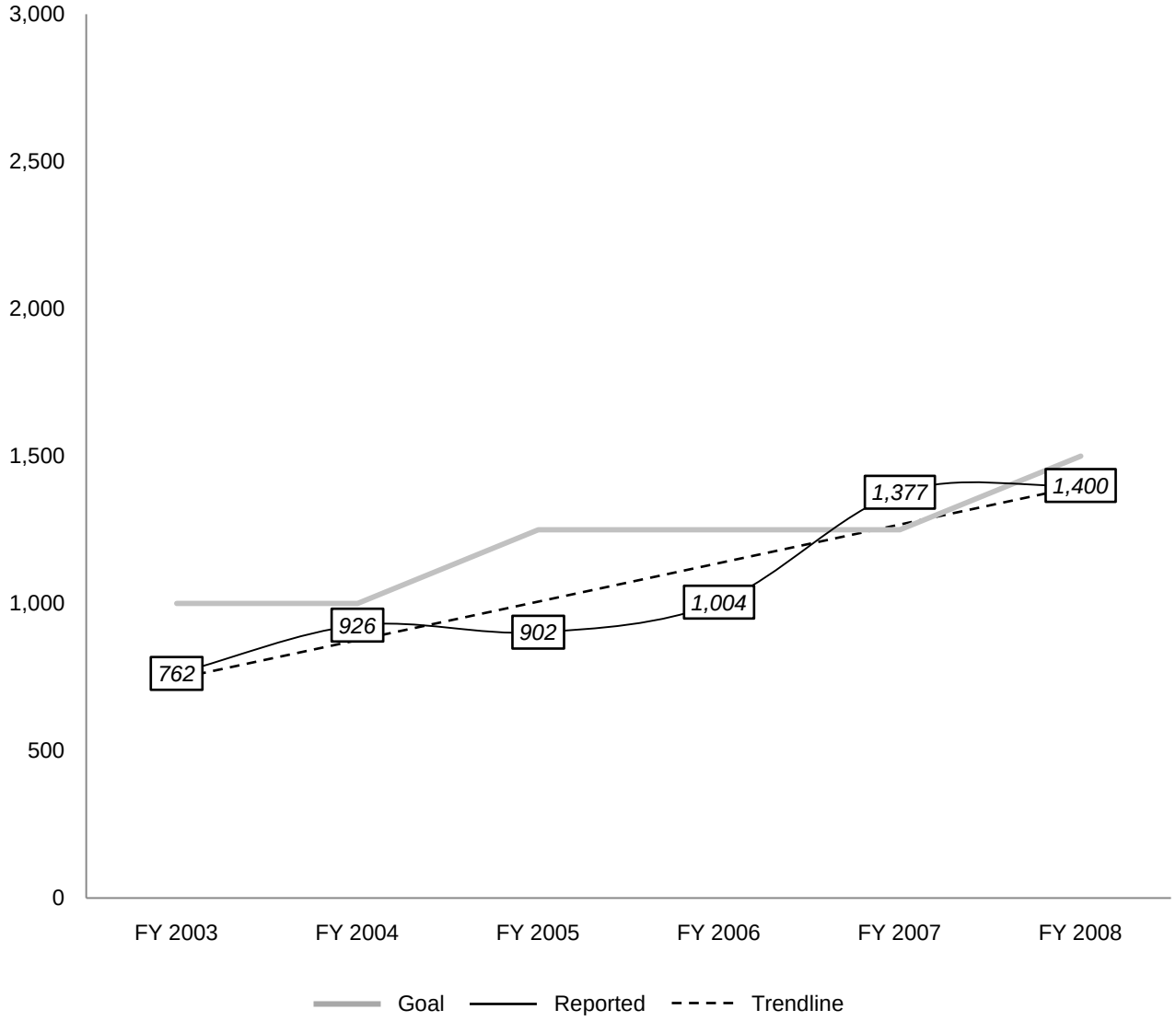
A5 Mean Distance Between Failure (Trolley Coach)



Potrero Standard (Audit Period)

In Fiscal Years 2007 and 2008, 40-foot trolley buses operating out of Potrero Division were also more reliable than in previous years.

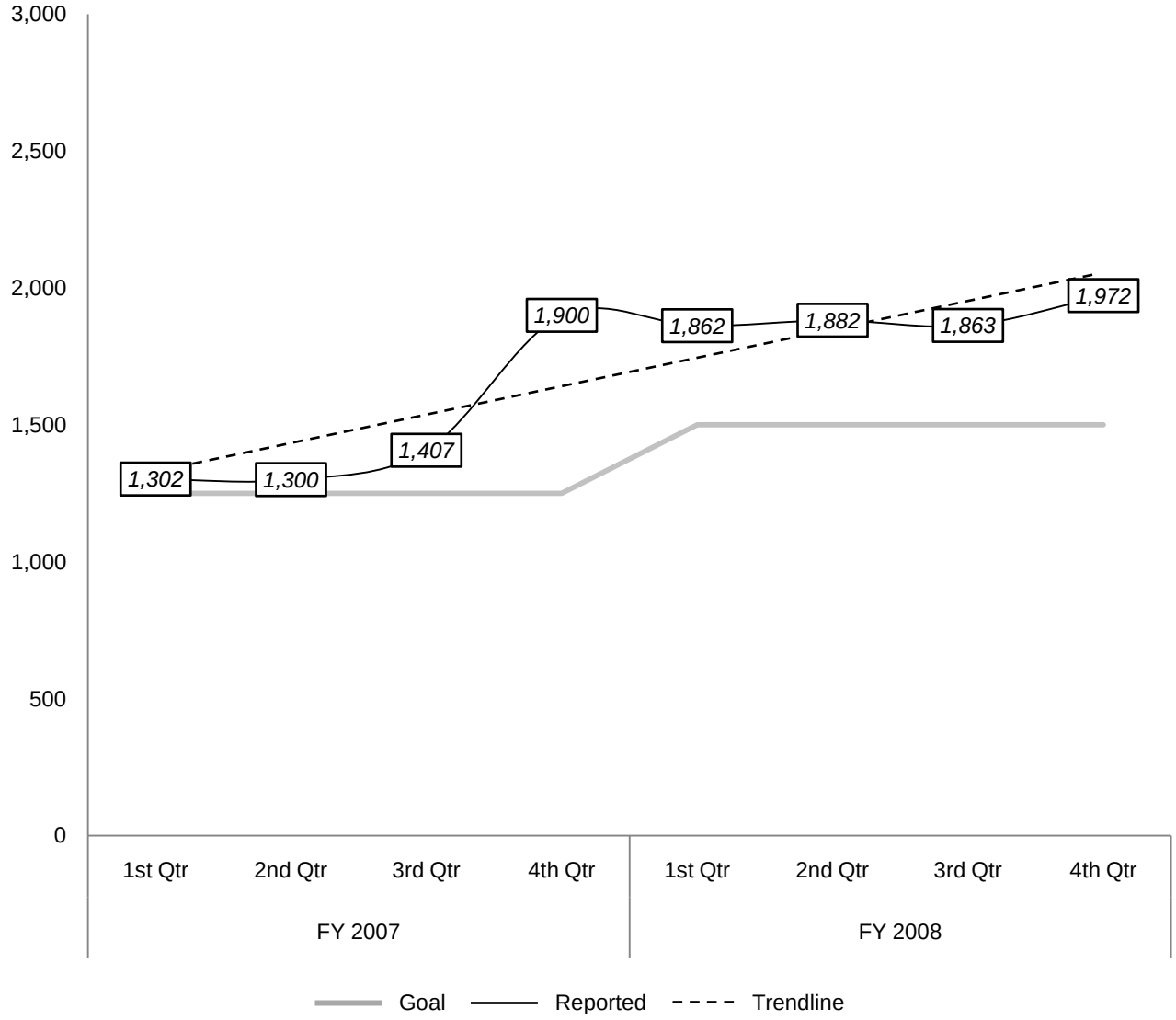
A5 Mean Distance Between Failure (Trolley Coach)



Potrero Standard (Historic)

In Fiscal Years 2007 and 2008, 40-foot trolley buses operating out of Potrero Division were also more reliable than in previous years.

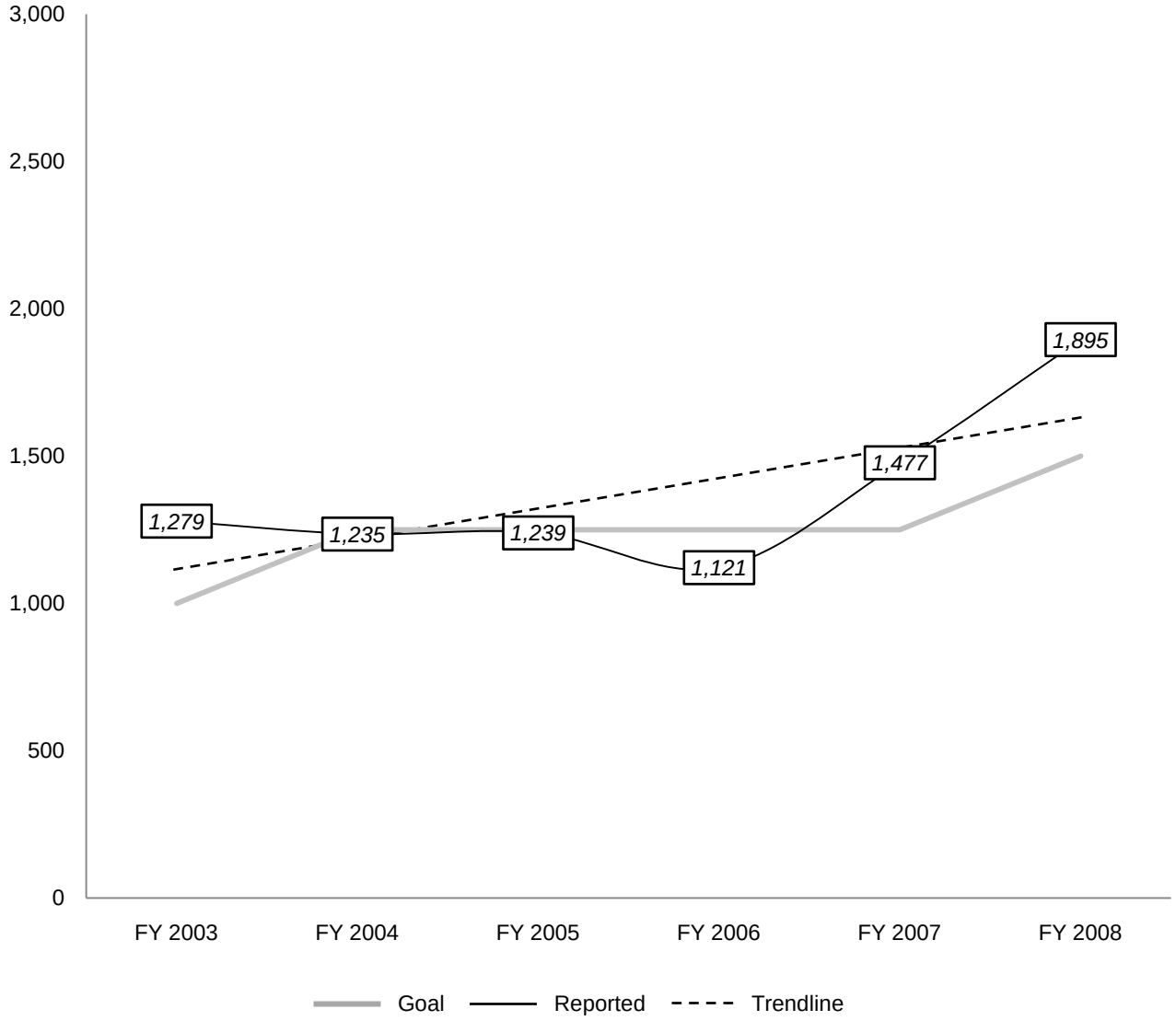
A5 Mean Distance Between Failure (Trolley Coach)



Presidio Standard (Audit Period)

In Fiscal Years 2007 and 2008, 40-foot trolleys operating out of Presidio Division were significantly more reliable than in previous years.

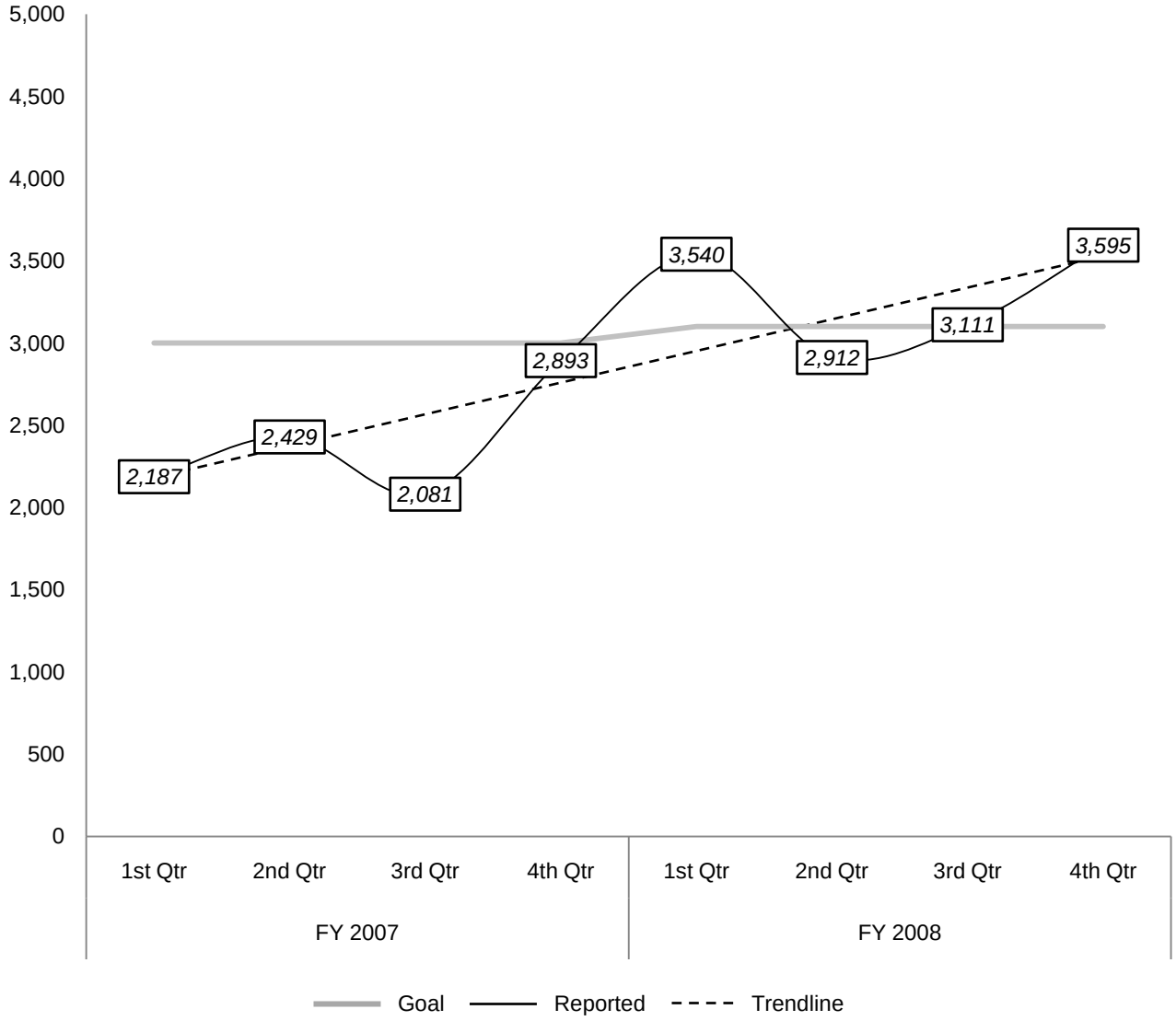
A5 Mean Distance Between Failure (Trolley Coach)



Presidio Standard (Historic)

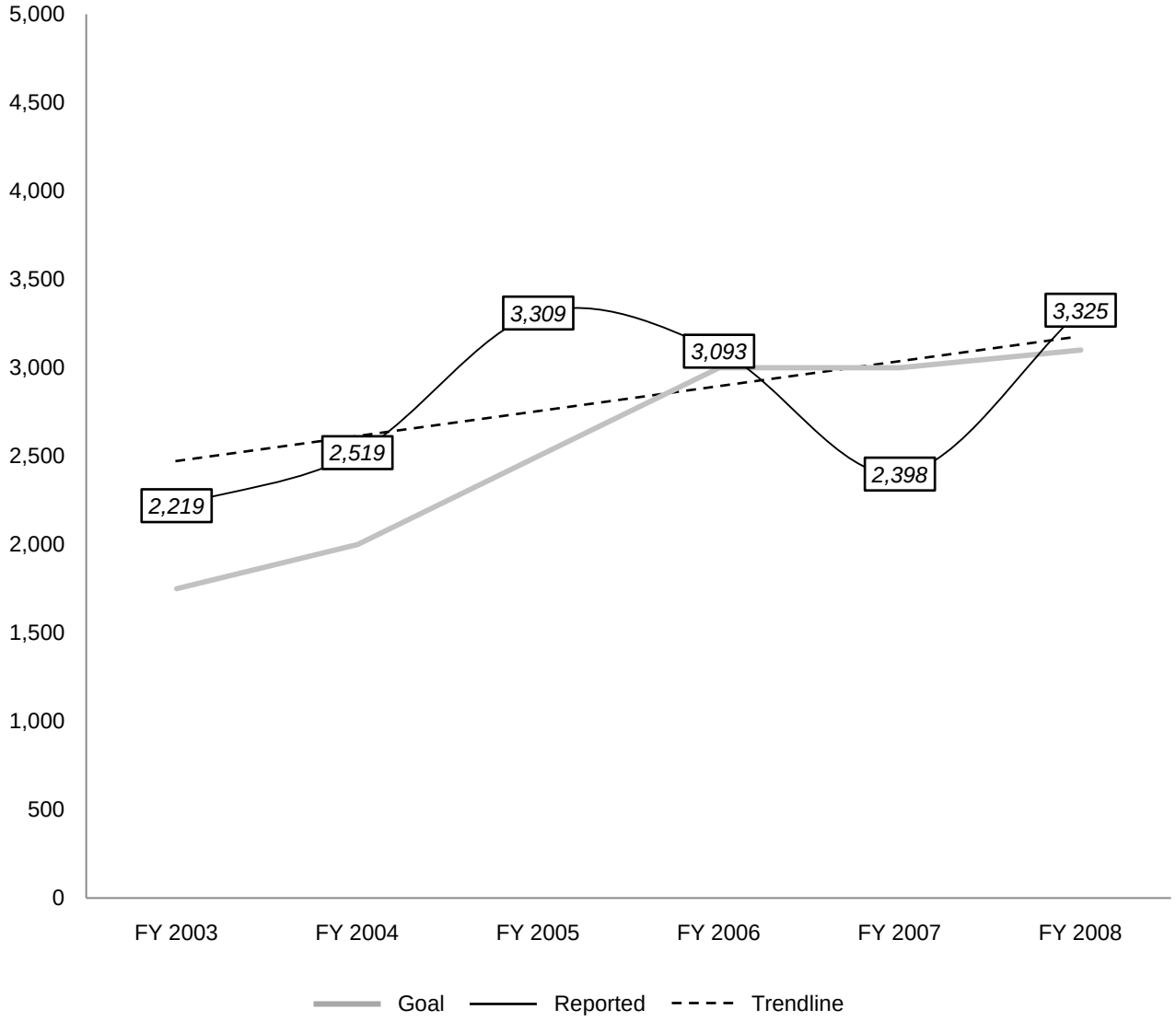
In Fiscal Years 2007 and 2008, 40-foot trolleys operating out of Presidio Division were significantly more reliable than in previous years.

A5 Mean Distance Between Failure (Motor Coach)



Flynn Articulated (Audit Period)
60-foot diesel buses operating out of Flynn Division were less reliable in Fiscal Year 2007 than in previous years, but reached a historic high in 2008.

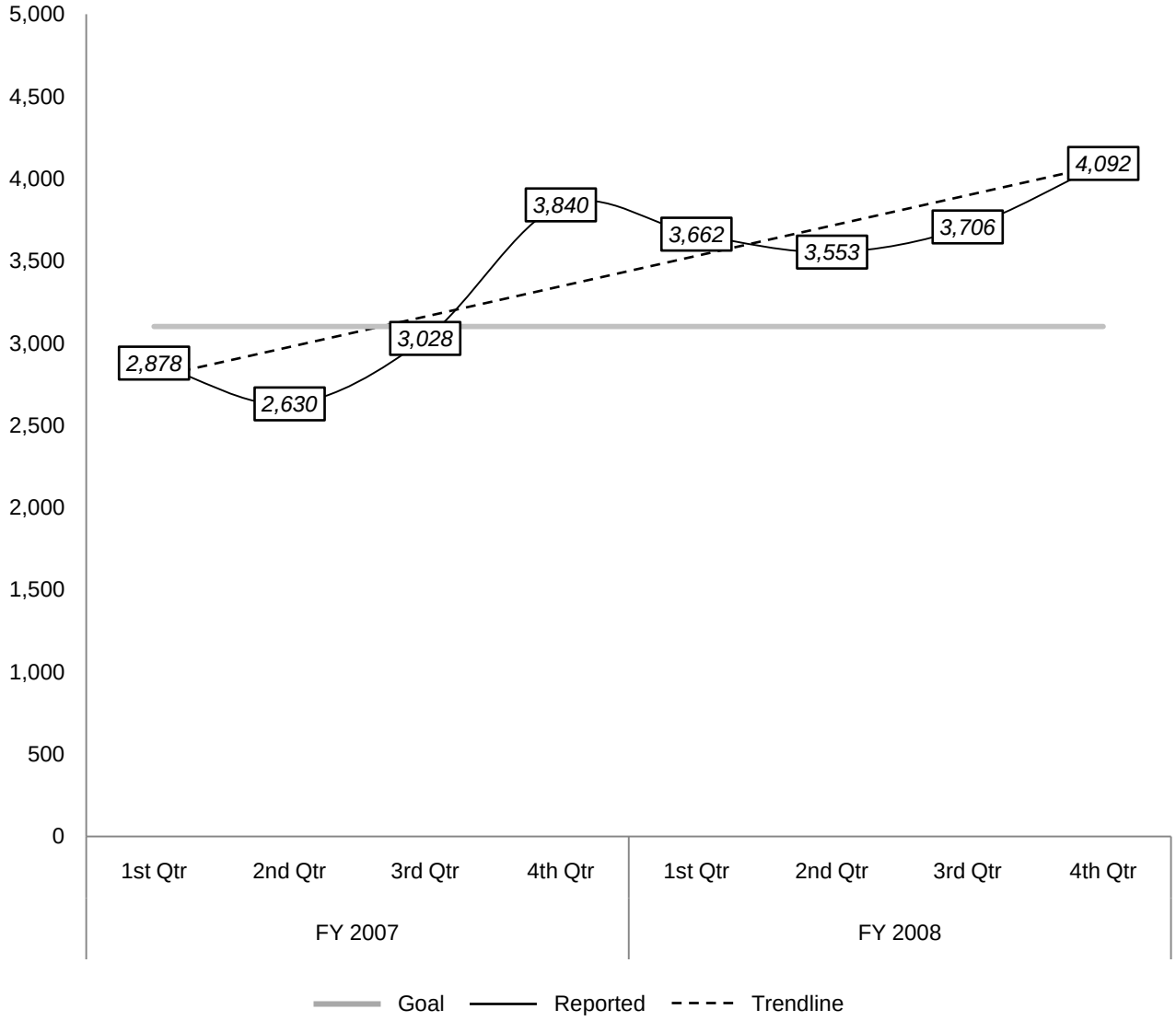
A5 Mean Distance Between Failure (Motor Coach)



Flynn Articulated (Historic)

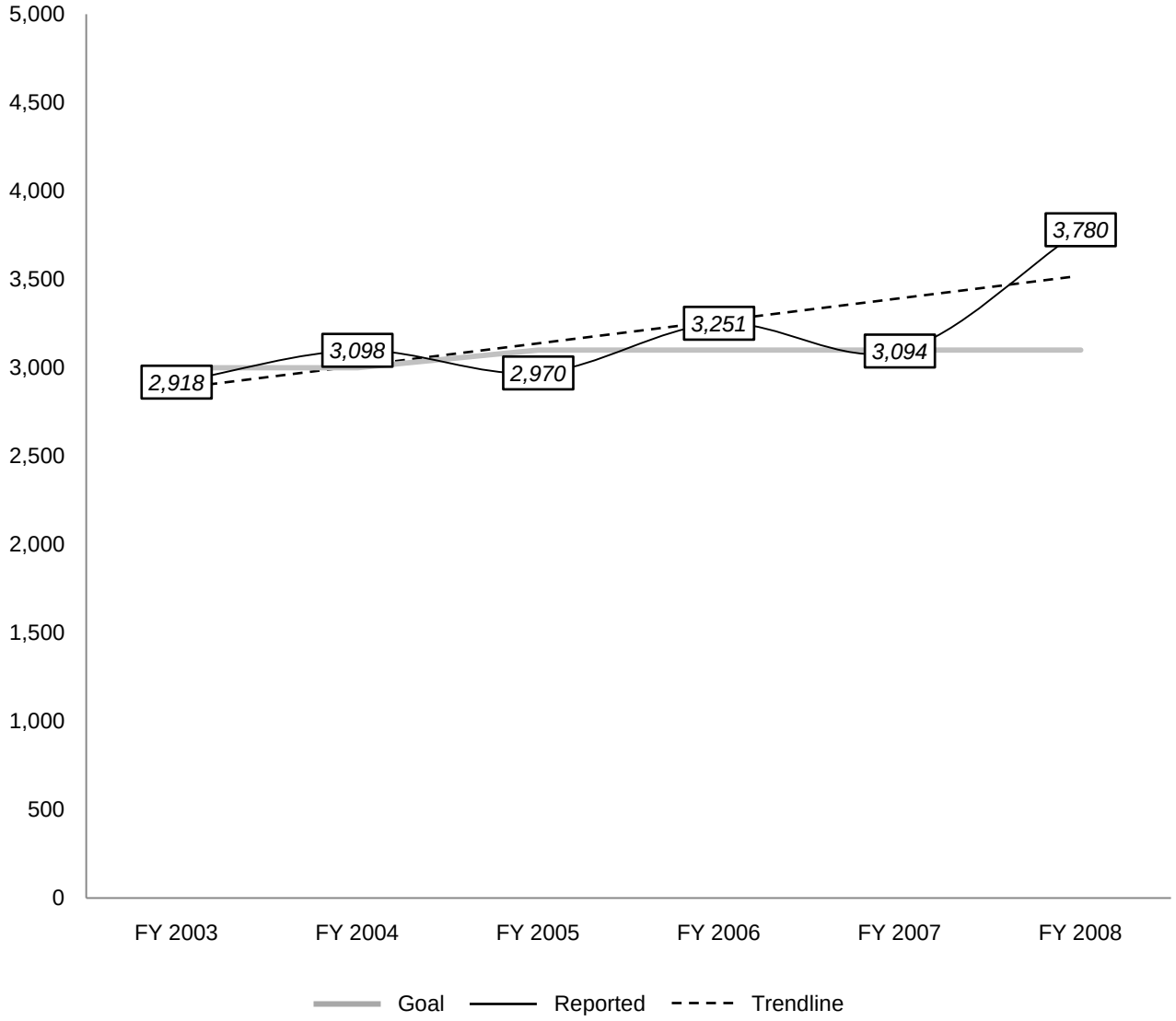
60-foot diesel buses operating out of Flynn Division were less reliable in Fiscal Year 2007 than in previous years, but reached a historic high in 2008.

A5 Mean Distance Between Failure (Motor Coach)



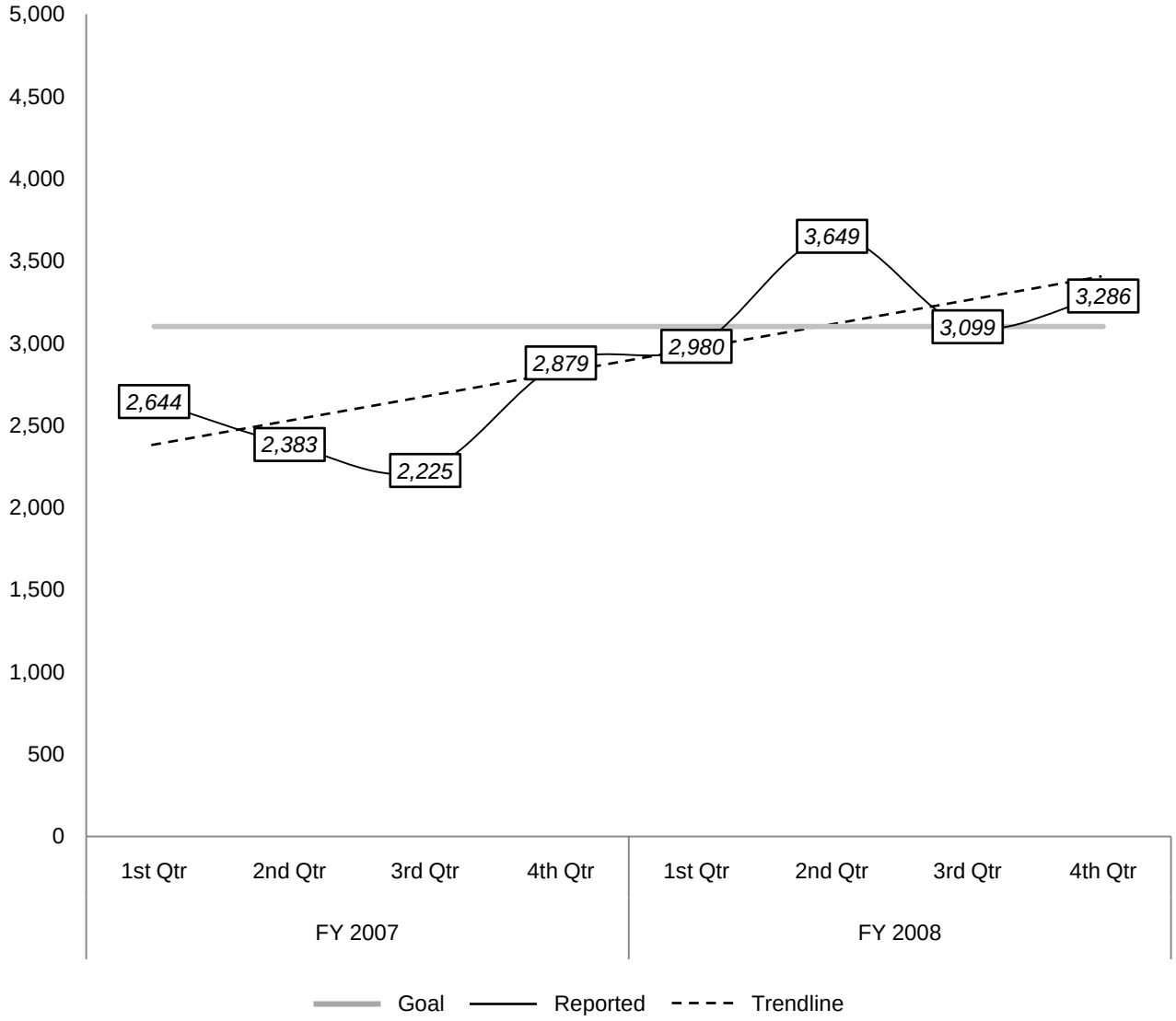
Kirkland Standard (Audit Period)
Reliability of 40-foot diesel buses operating out of Kirkland Division improved significantly in 2008.

A5 Mean Distance Between Failure (Motor Coach)



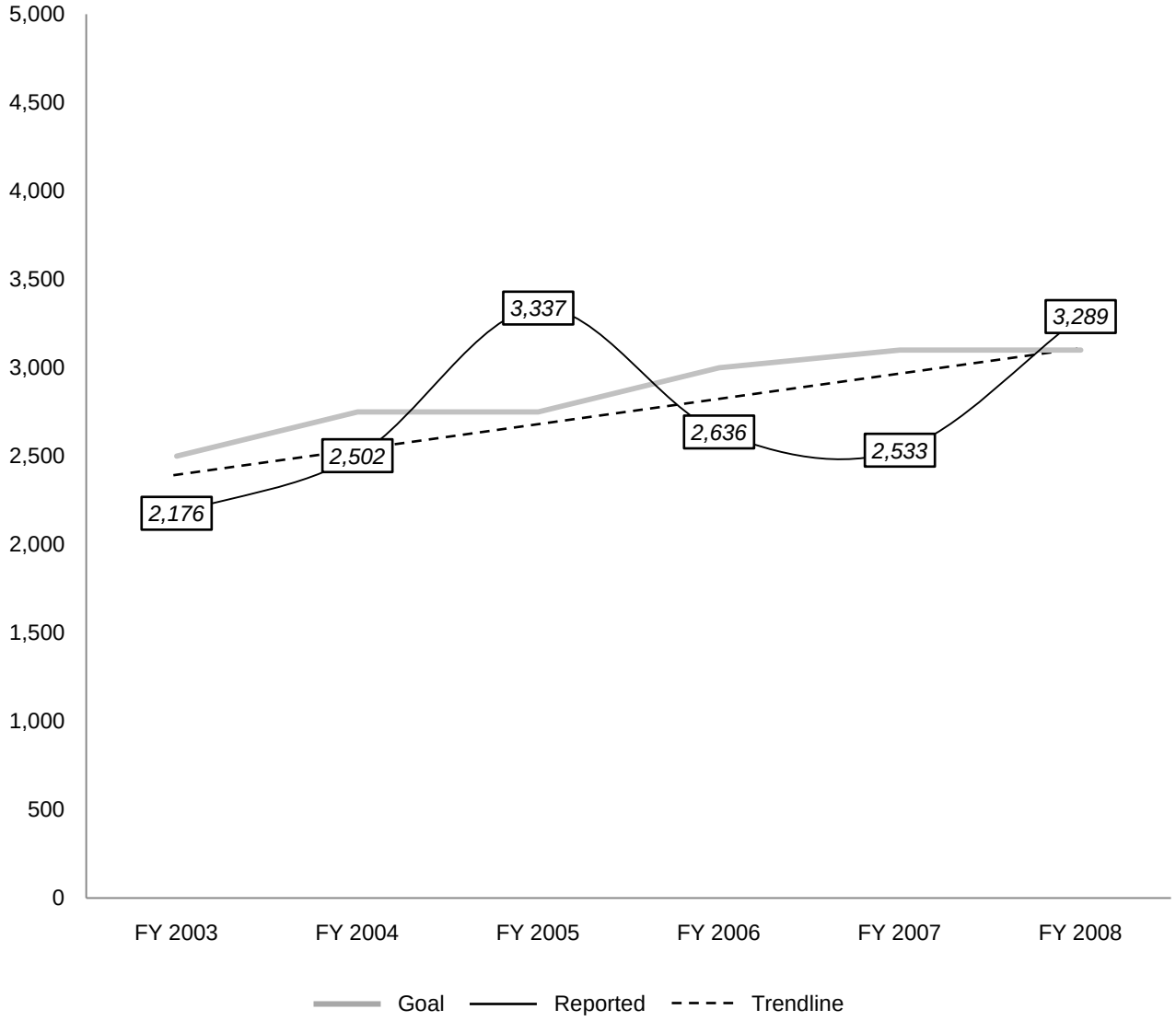
Kirkland Standard (Historic)
Reliability of 40-foot diesel buses operating out of Kirkland Division improved significantly in 2008.

A5 Mean Distance Between Failure (Motor Coach)



Woods Standard (Audit Period)
Reliability of 40-foot diesel buses operating out of Woods Division declined in Fiscal Year 2006 and did not improve in 2007, but returned to previous levels in 2008.

A5 Mean Distance Between Failure (Motor Coach)



Woods Standard (Historic)

Reliability of 40-foot diesel buses operating out of Woods Division declined in Fiscal Year 2006 and did not improve in 2007, but returned to previous levels in 2008.

A5 Mean Distance Between Failure

	FY 2008		FY 2009		
Category	4th Qtr	*FY09 Goal*	1st Qtr	2nd Qtr	3rd Qtr
Rail	4,151		4,085	2,226	2,162
Green Breda LRV	4,465	*5,000*	4,085	2,408	2,410
Green F-Line	1,970	*2,100*	2,677	1,170	1,326
Cable Car	4,878	*6,000*	5,320	2,462	1,959
Bus	2,804		2,588	2,539	2,741
Potrero Articulated	1,250	*1,000*	703	932	748
Potrero Standard	1,358	*1,700*	1,649	1,405	1,285
Presidio Standard	1,972	*1,700*	2,210	1,920	2,337
Flynn Articulated	3,595	*3,400*	3,326	3,542	4,120
Kirkland Standard	4,092	*3,400*	3,400	3,867	4,190
Woods Standard	3,286	*3,400*	3,058	2,546	2,519

Since the Audit Period

Fiscal Year 2009 goals are included at left because the goals for this service standard have changed. In the 2nd Quarter of Fiscal Year 2009 (Oct. 1-Dec. 31, 2008), mechanical reliability at all rail divisions fell by roughly half. Notably, maintenance vacancies have also increased significantly since the audit period (see Service Standard A6).

A5 Mean Distance Between Failure

Recommendation

Improve consistency in collection and reporting.
This recommendation builds on a recommendation made in the previous report but which has not yet been implemented: “Create standards by mode and improve consistency in collection and reporting.”

This recommendation has mostly been implemented. Goals for average numbers of miles between “roadcalls,” or mechanical breakdowns, used to vary by division but have for the most part been standardized by mode. Moreover, there are now maintenance controllers at all divisions but one. This is important because maintenance controllers report to a single individual responsible for ensuring agency-wide consistency in data collection and reporting. We would recommend that a maintenance controller be hired for the last remaining division without one.

We would further recommend that Muni report the rate of disabled vehicles that are removed from the street within 30 minutes of a reported breakdown. This information is already being collected internally. Under an existing pilot program, teams of qualified mechanics – one diesel and one trolley bus mechanic – are stationed at locations based on GIS analysis of previous incidents. This not only allows them to arrive on the scene much faster, but it increases the likelihood that a vehicle can be repaired on-site and returned to service. An expanded program would be somewhat expensive to operate, but has the potential to improve reliability and reduce long-term costs. Finally, the program represents a noteworthy example of Muni proactively using available data to improve performance.

A6 Vacancy Rate for Service Critical Positions

Goal *< 5%*

FY07-08 Performance

Achieved Goal

Trend

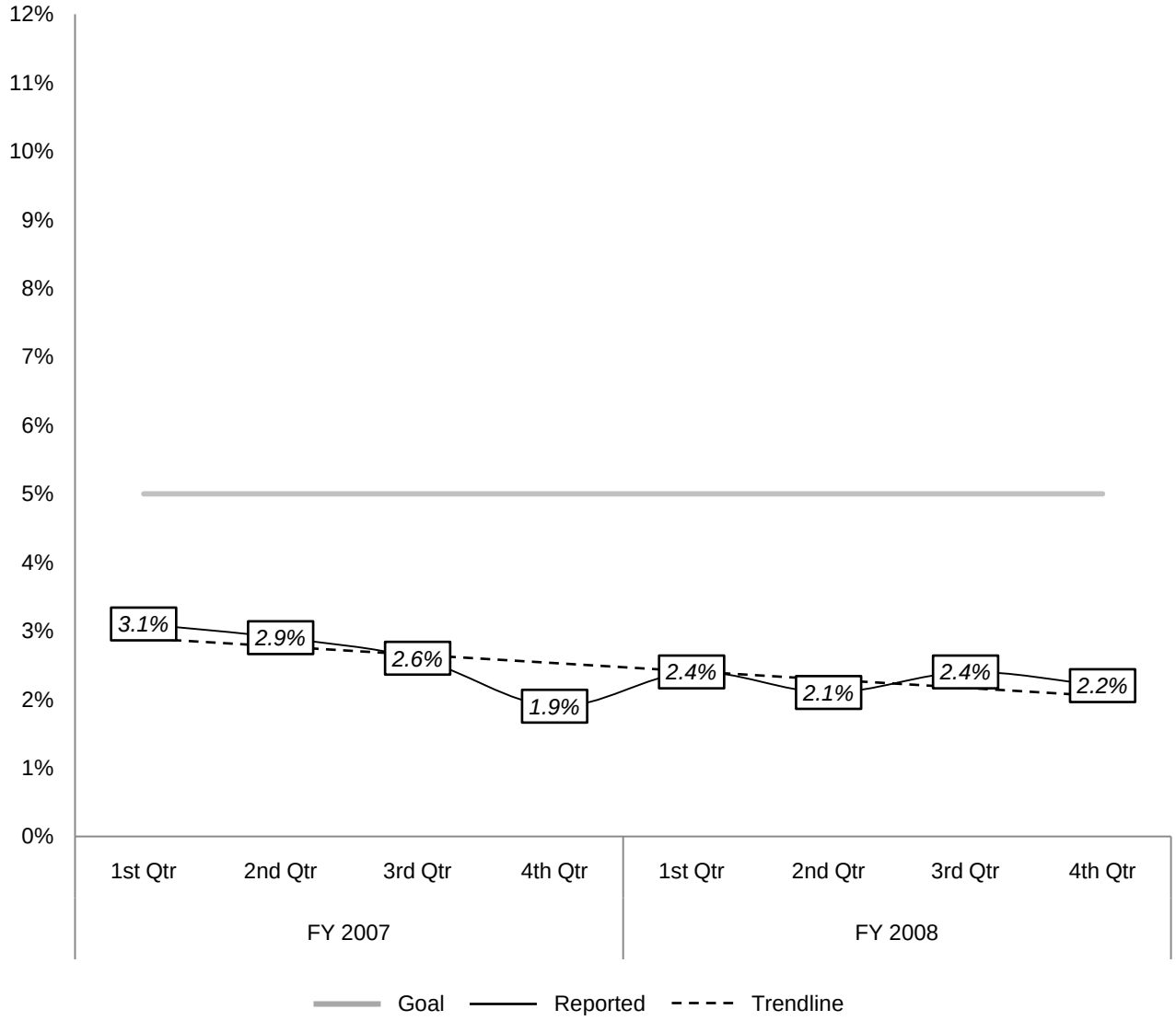
Positive

Purpose To measure efficiency level of the department in hiring.

Definition Monthly measurement of net vacancies against budgeted positions for Operations personnel.

Method Monthly measurement of net vacancies against budgeted positions for Operations personnel. Calculated based on vacancies remaining once promotions and new hires have been deducted from retirees or resignations.

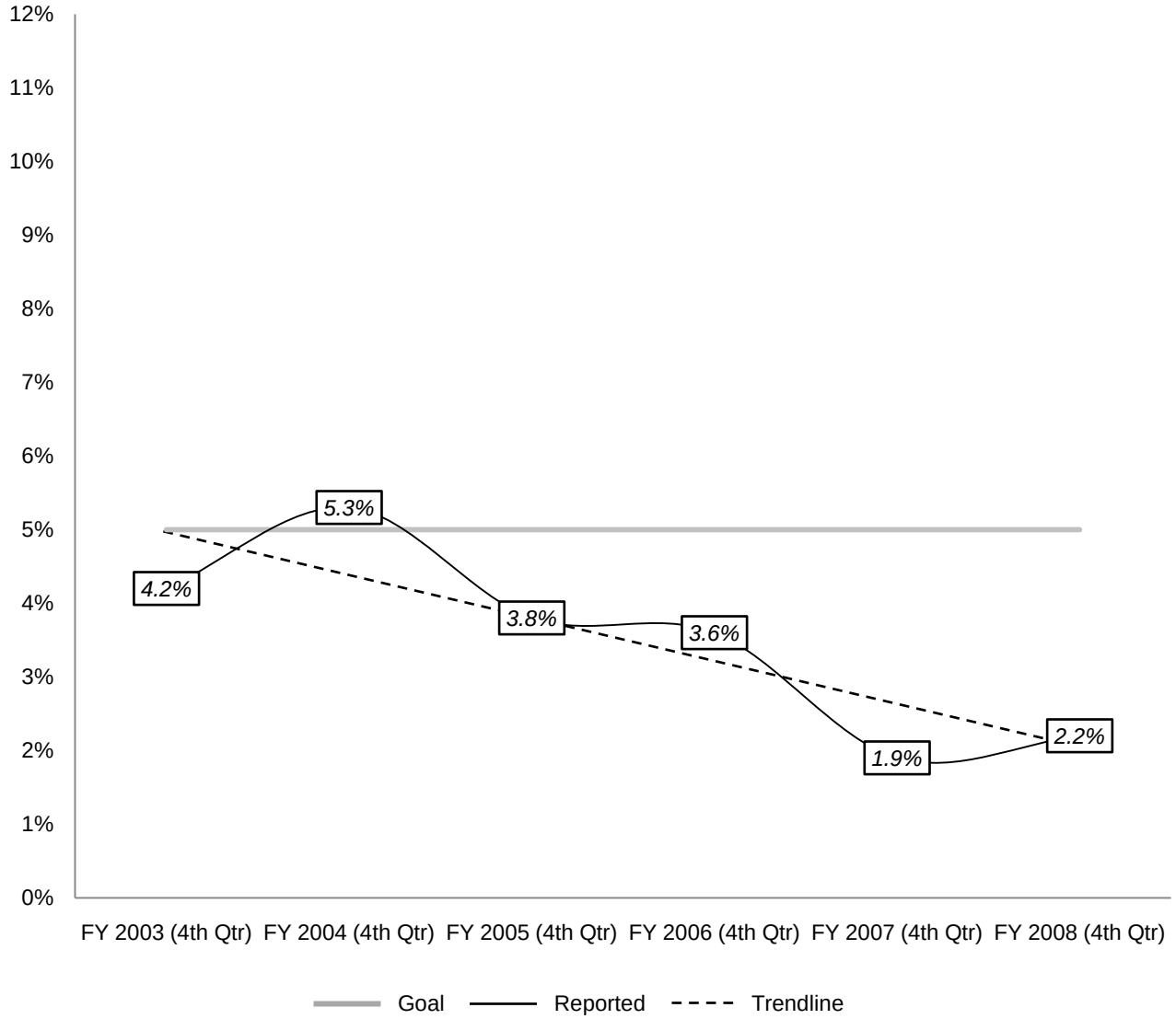
A6 Vacancy Rate for Service Critical Positions



Operations (Audit Period)

In Fiscal Years 2007 and 2008, Muni's vacancy rate in Operations remained well below the goal of 5%. However, this figure is somewhat misleading – as is further explained under the vacancy rate for Operators on the following pages. (Note that unlike most service standards, the goal for Vacancy Rate for Service Critical Positions is *below* a target level – 5% – rather than above it.)

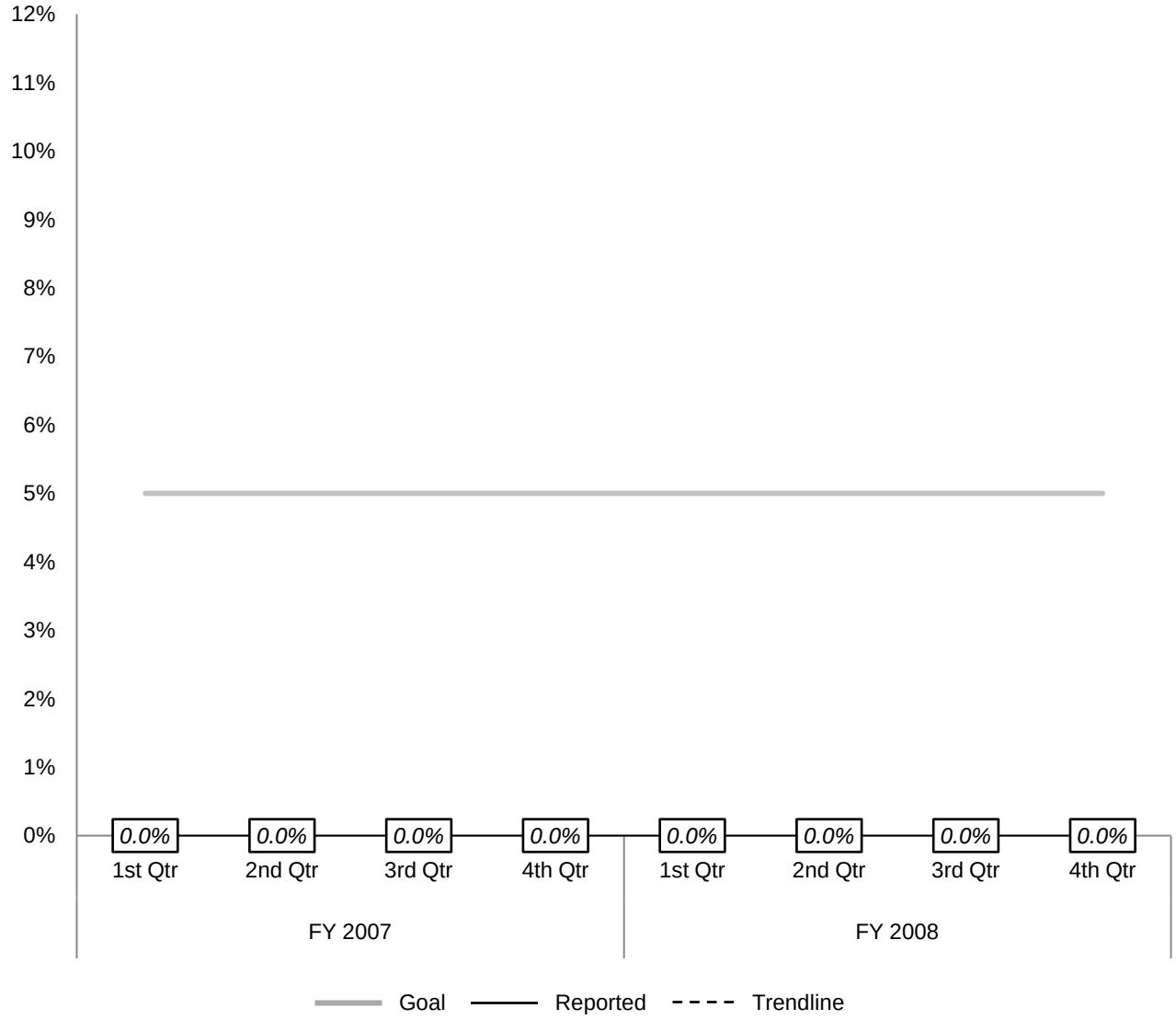
A6 Vacancy Rate for Service Critical Positions



Operations (Historic)

In the 4th Quarters of Fiscal Years 2007 and 2008, Muni's vacancy rate in Operations was well below the rate in 4th Quarters of previous years. (Note that unlike most service standards, the goal for Vacancy Rate for Service Critical Positions is *below* a target level – 5% – rather than above it.)

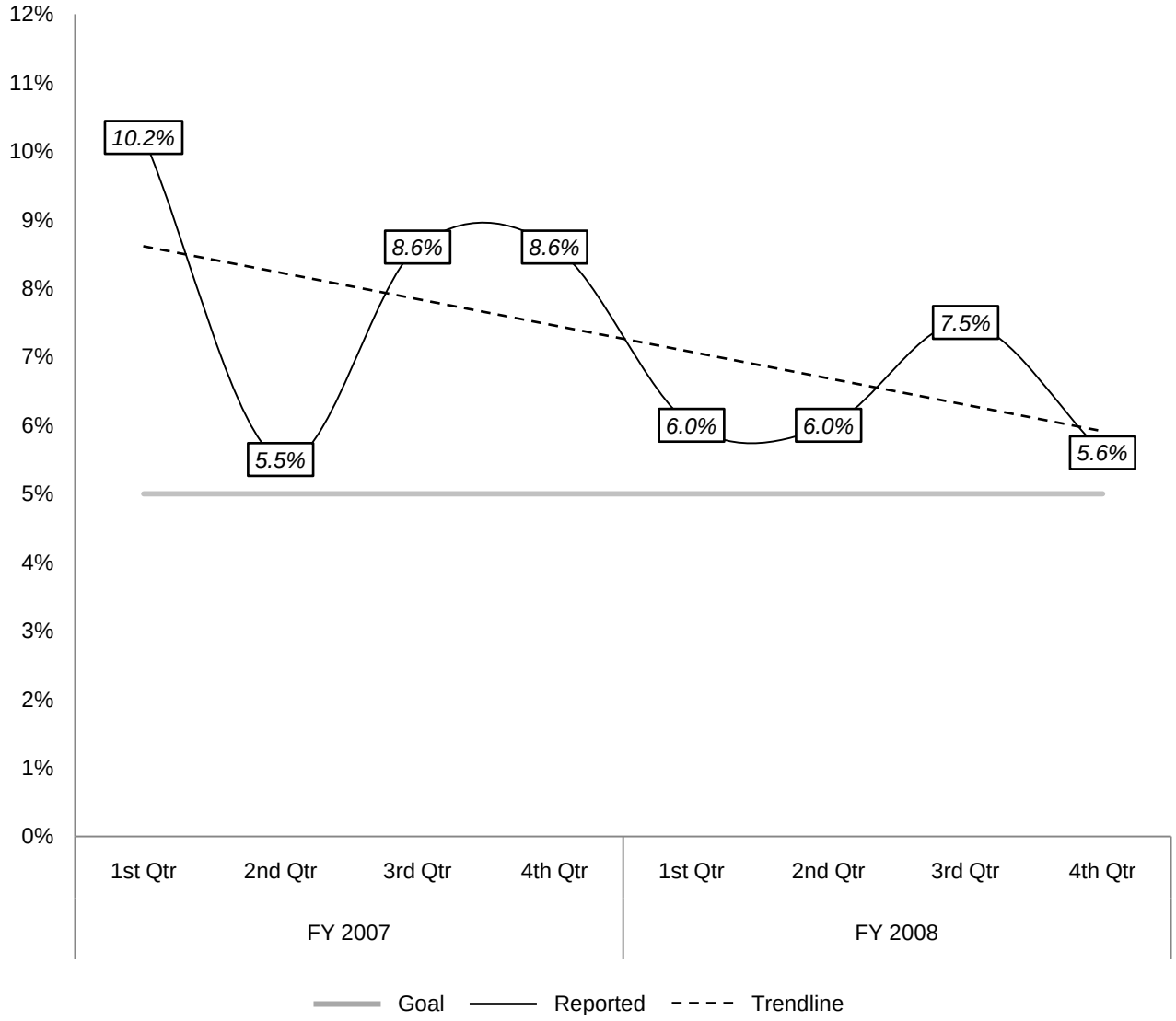
A6 Vacancy Rate for Service Critical Positions



Operators (Audit Period)

Muni's official vacancy rate for operators has historically been zero, but this is a misleading measure. As indicated by Operator Availability and, indirectly, by Unscheduled Absence rates for operators, on any given day there are not enough drivers available for Muni to operate all of its scheduled service. Please see the recommendation at the end of this subsection for more. (Note that unlike most service standards, the goal for Vacancy Rate for Service Critical Positions is *below* a target level – 5% – rather than above it.)

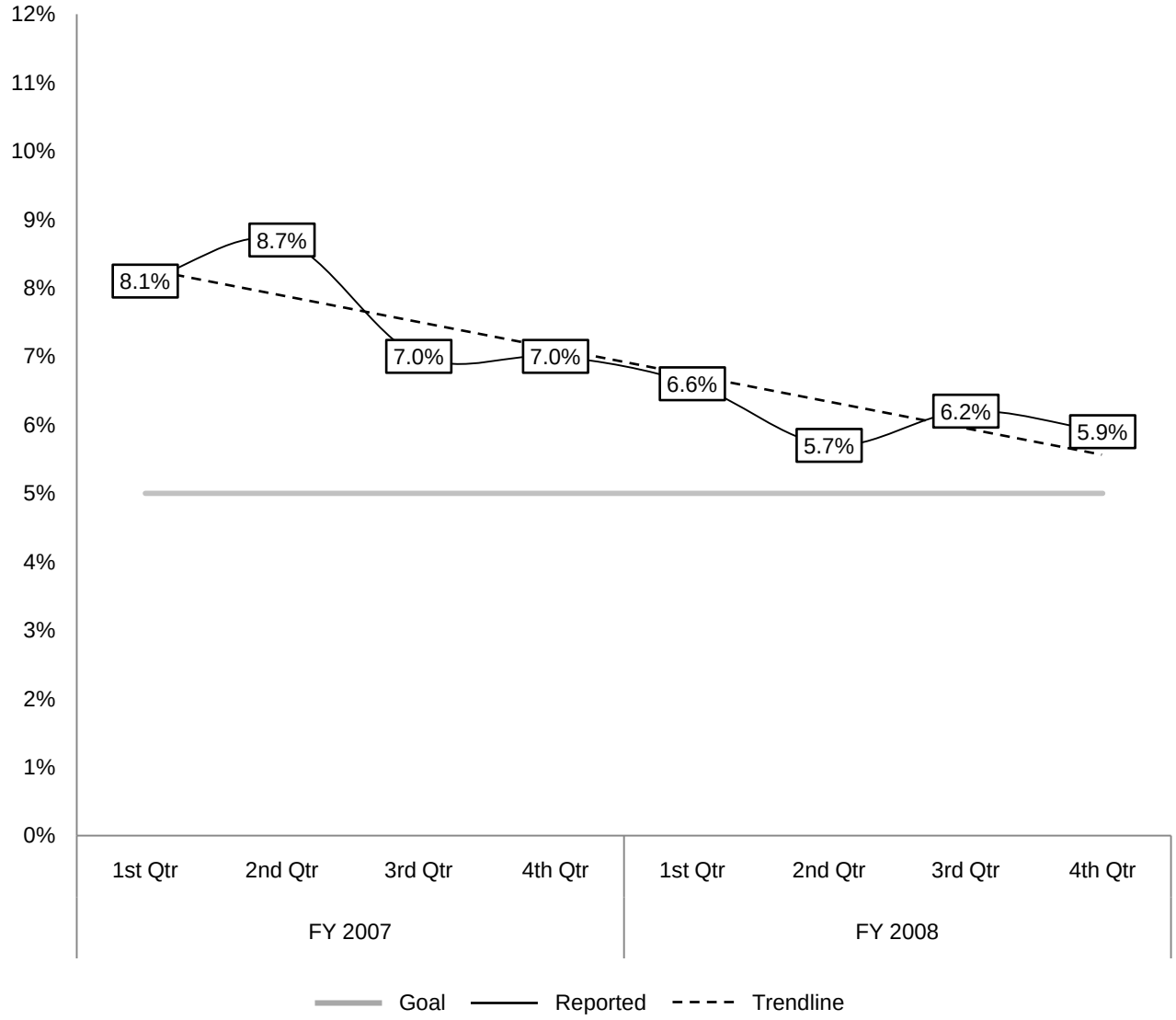
A6 Vacancy Rate for Service Critical Positions



Maintenance (Audit Period)

Muni's vacancy rate for maintenance staff remained well above 10 percent for most of Fiscal Years 2005 and 2006, and into the 1st Quarter of 2007. Over the course of the audit period, however, it declined significantly, to just above the goal of 5%. (Note that unlike most service standards, the goal for Vacancy Rate for Service Critical Positions is *below* a target level – 5% – rather than above it.)

A6 Vacancy Rate for Service Critical Positions



Crafts (Audit Period)

Similarly Muni's vacancy rate for crafts staff was close to 10 percent for most of Fiscal Years 2005 and 2006, and into the first two quarters of 2007. Over the course of the audit period, however, it declined significantly, to just above the goal of 5%. (Note that unlike most service standards, the goal for Vacancy Rate for Service Critical Positions is *below* a target level – 5% – rather than above it.)

A6 Vacancy Rate for Service Critical Positions

	FY 2008	FY 2009		
Category	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr
Operations	2.2%	4.4%	4.2%	4.7%
Operators	0.0%	0.0%	0.0%	0.0%
Maintenance	5.6%	16.2%	16.5%	15.5%
Crafts	5.9%	10.1%	9.1%	11.2%

Since the Audit Period

In Fiscal Year 2009, vacancy rates among maintenance and crafts workers have increased substantially. Notably, Mean Distance Between Failure for rail divisions has also declined significantly (see Service Standard A5).

A6 Vacancy Rate for Service Critical Positions

Recommendation

Stop reporting operator vacancies, as the number of positions filled is not an accurate indicator of the number of operators available for driving duty. Also, provide updated position codes to responsible staff on a regular basis.

In the previous Quality Review, we noted that Muni consistently reports a vacancy rate of 0% for transit operators, despite continually missing service due to a lack of operators. While it is technically true that the vacancy rate for transit operators has been and remains 0%, this figure is misleading, as no distinction is made between operators who are available for driving duty and those who are not. The current measure is simply a measure of the number of requisitions that are available to fill with a new driver. Drivers who are on "requisitions" but are not able to drive, including those on various types of leave, workers compensation and light duty assignments, special non-driving assignments, etc., effectively reduce the available driver pool, even though they do not technically produce a "vacancy". The number of drivers who are on payroll but are not able to drive is estimated to average between 200 and 300 per day.

In the previous Quality Review, we recommended that Muni instead report "driving drivers," or the percentage of total operators who are available to drive on any given day averaged over time. Both scheduled and unscheduled absences would be subtracted from the total number of operators. While this recommendation was not adopted, Muni developed a supplemental measure of "Effective Systemwide Percentage of Extra Board Operators," or the number of "extra board" (or on-call) operators available on any given day as a percentage of scheduled runs, before absenteeism is measured. Operator availability as a percentage of scheduled hours and rates of unscheduled absenteeism among operators are also reported, and the definition of the latter has recently been expanded and made more accurate. Rather than repeat our recommendation that Muni report numbers of "driving drivers," we are instead recommending that the agency simply stop reporting the overall vacancy rates for drivers, as this is both a misleading and unnecessary figure given the other indicators of how many operators are actually available for driving duty.

Additionally, the auditor noted that an updated list of position codes should be provided to the staff responsible for tracking unscheduled absences to ensure the accuracy of this report.

A13 Productivity (Boardings per Hour)

Goal *N/A*

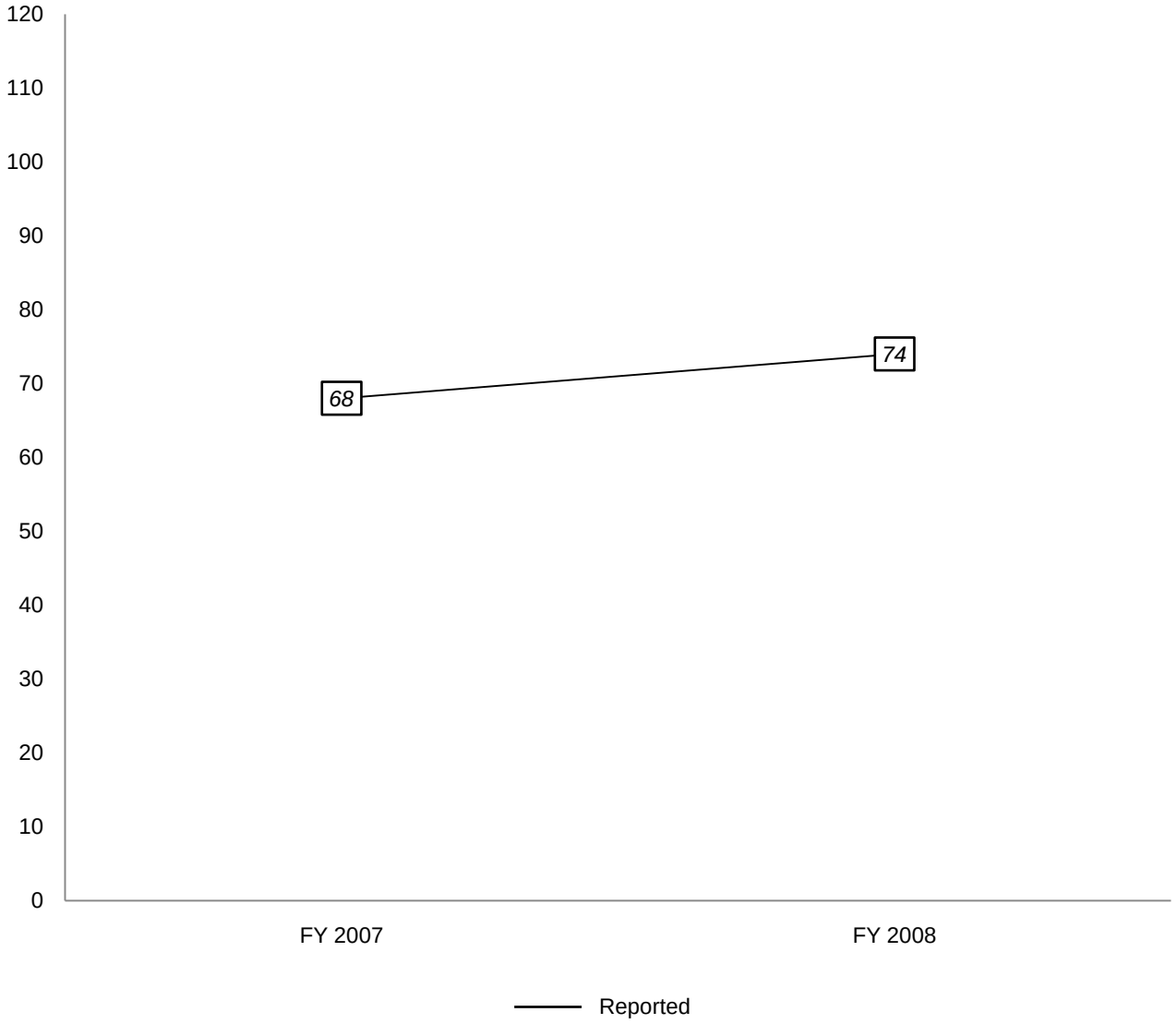
FY07-08 Performance *No Goal For This Standard*

Trend 

Positive

Definition Average number of passenger boardings per revenue service hour.

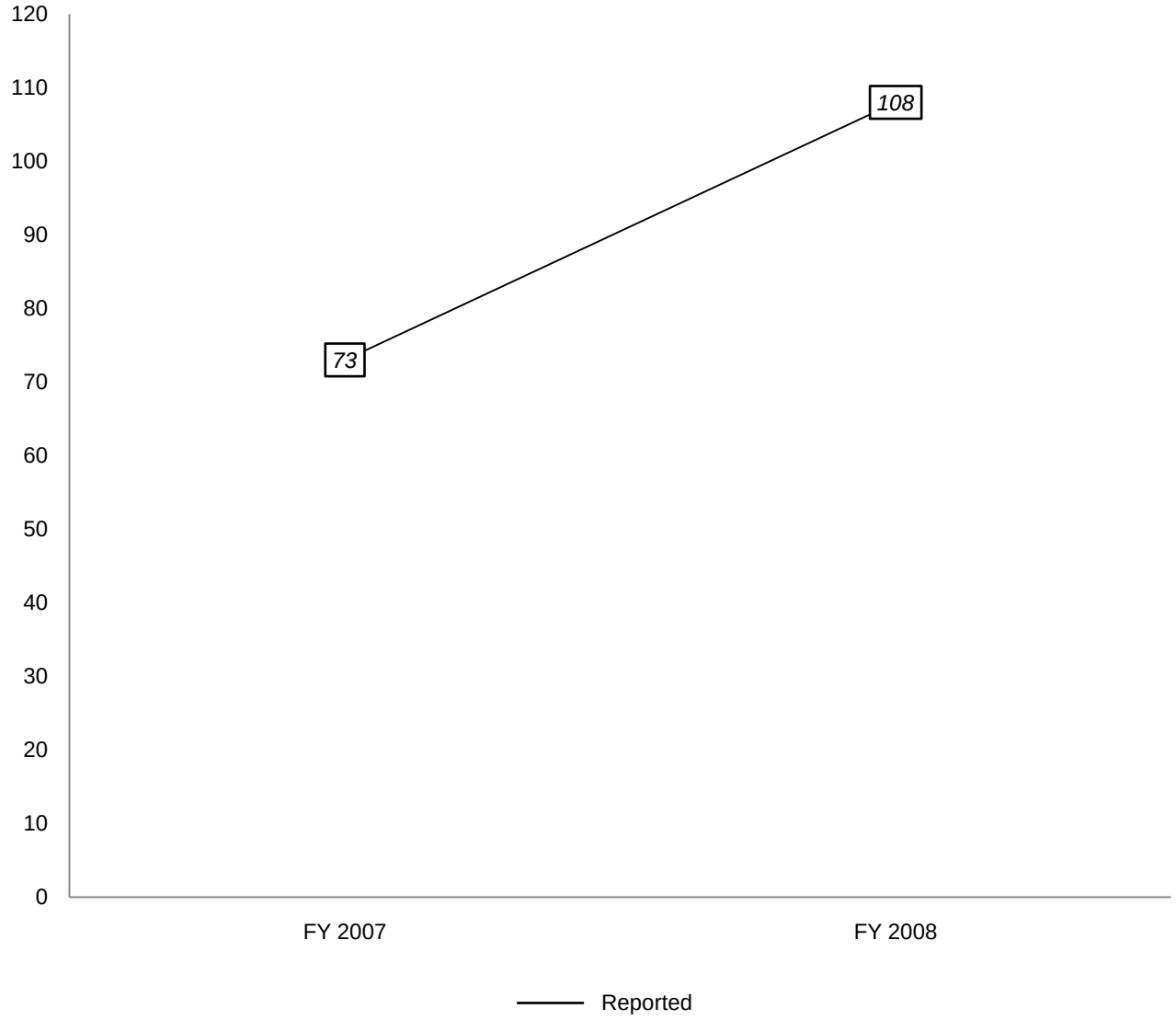
A13 Productivity (Boardings per Hour)



Systemwide (Audit Period)

Boardings per revenue service hour is an industry standard measure, reported by transit operators to the Federal Transit Administration, which Muni began reporting in Service Standards reports in Fiscal Year 2008. However, 2007 figures were included in 2008 reports. 2008 figures have not yet been audited by the FTA. In 2008, systemwide productivity appears to have increased significantly over 2007; however, this was due primarily to a change in the methodology for reporting light rail hours. When consistent methodologies are applied, systemwide productivity increased by about 2%.

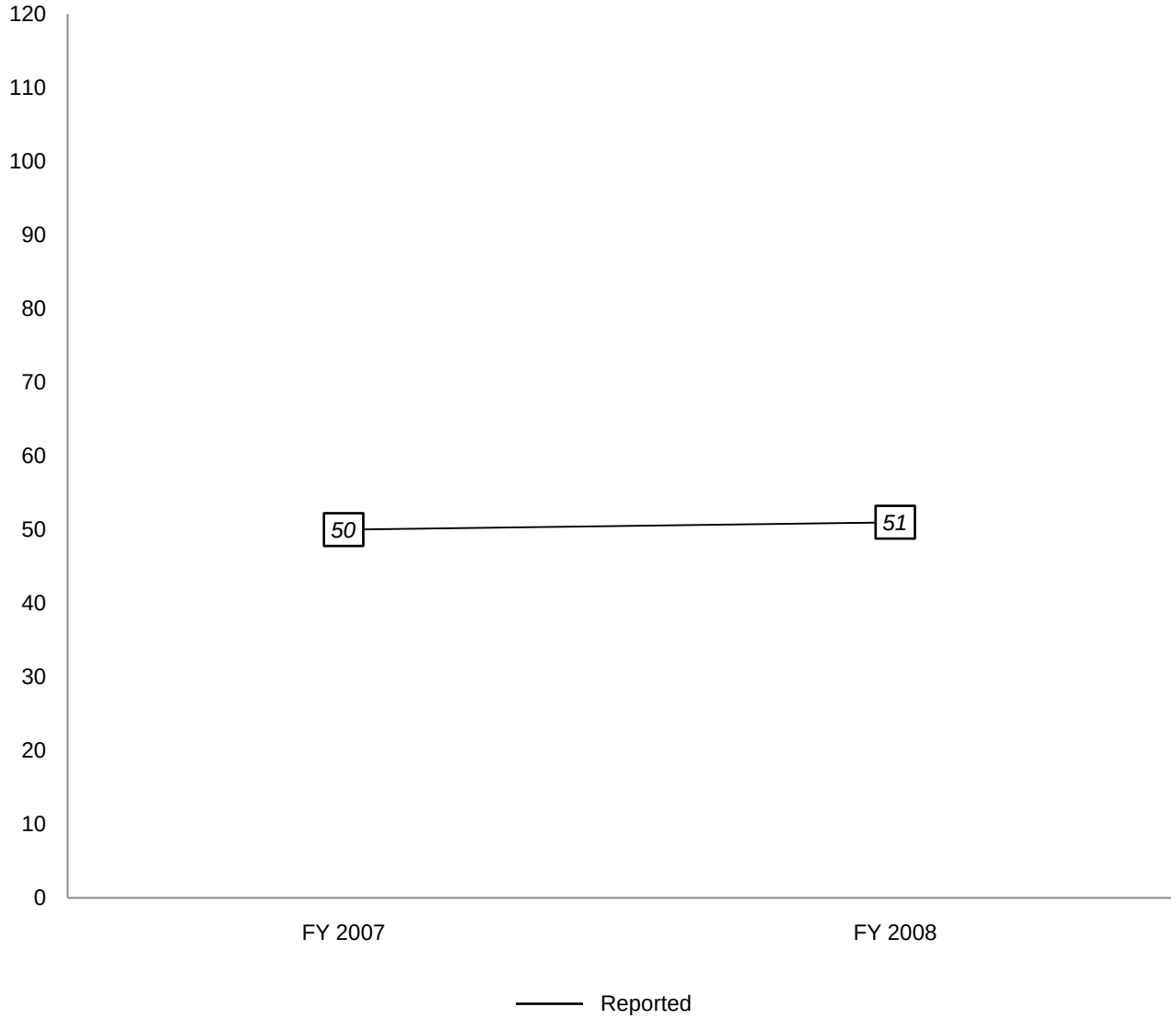
A13 Productivity (Boardings per Hour)



Light Rail (Audit Period)

The methodology for reporting light rail hours was changed in Fiscal Year 2008 to a more meaningful standard ("train hours" rather than "car hours"). Data on train hours were unavailable for Fiscal Year 2007, but rates of increase in car hours should more or less parallel rates of increase in train hours. When a car hours standard is applied, light rail productivity increases approximately 6% from 2007 to 2008.

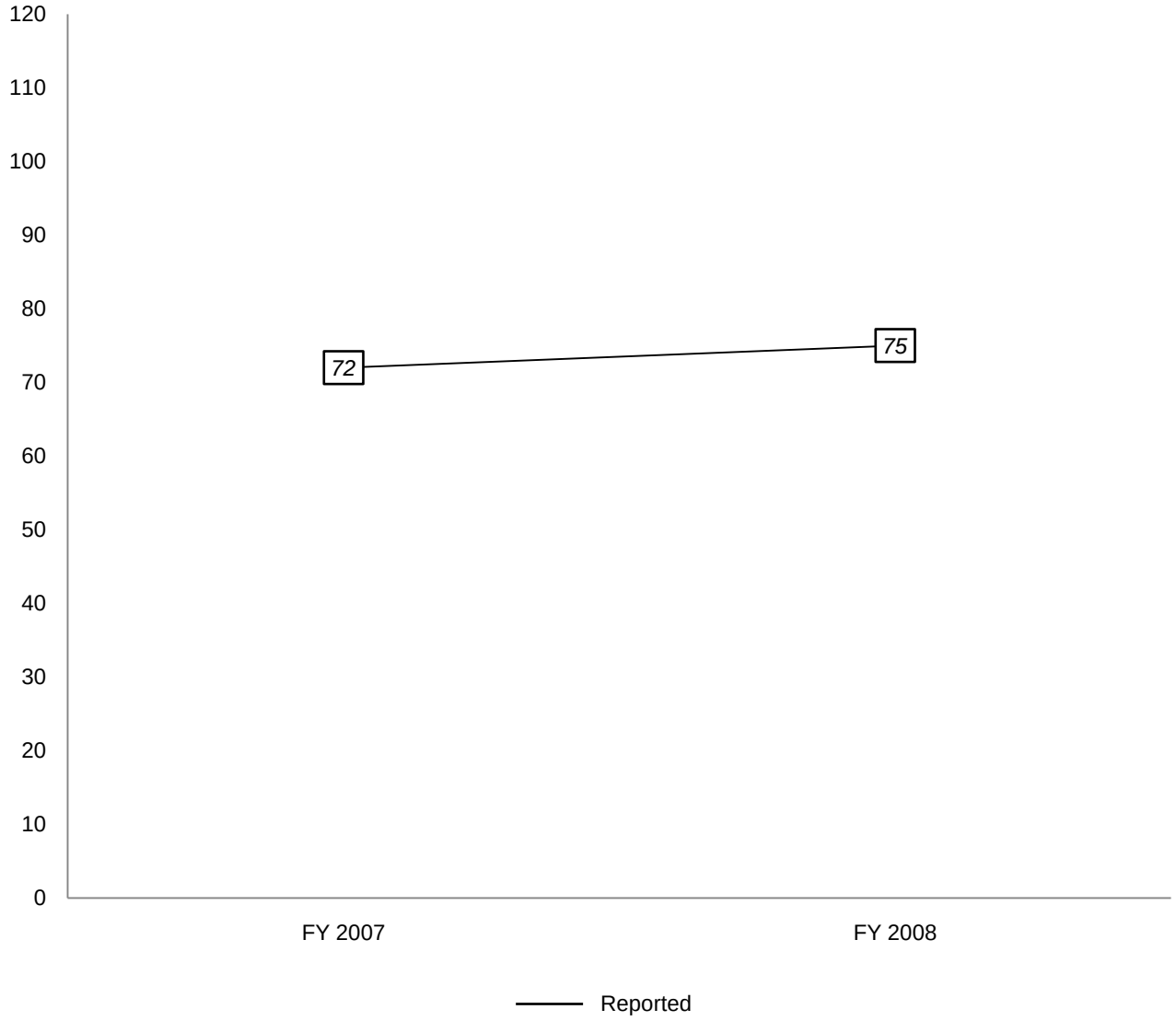
A13 Productivity (Boardings per Hour)



Cable Car (Audit Period)

Cable car productivity increased slightly in the second year of the audit period.

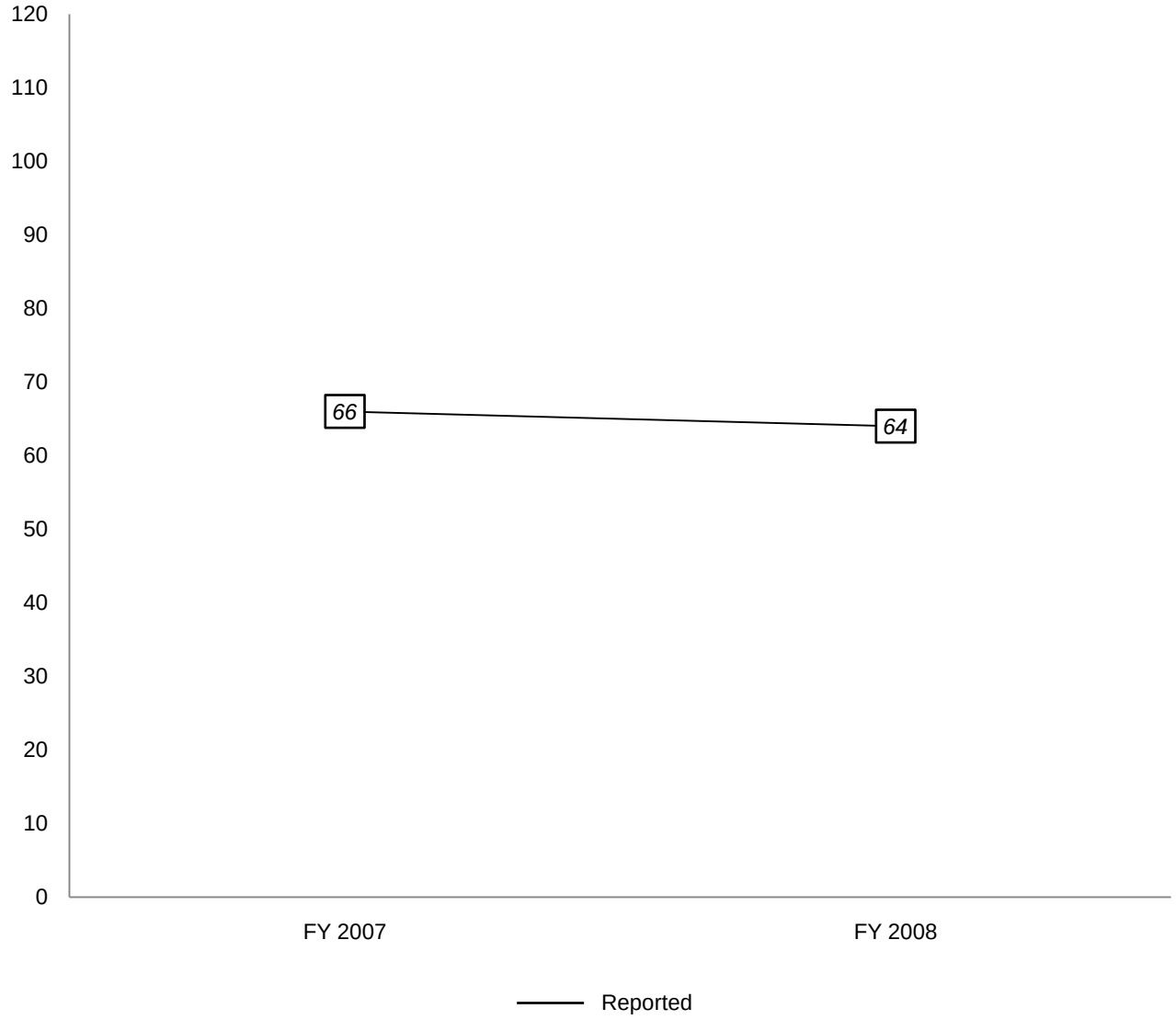
A13 Productivity (Boardings per Hour)



Trolley Coach (Audit Period)

Similarly, productivity on electric trolley bus lines increased somewhat in the second year of the audit period.

A13 Productivity (Boardings per Hour)



Motor Coach (Audit Period)

Productivity on diesel bus lines declined slightly in the second year of the audit period.

A17 Sustainability

% of Trips by More Sustainable Modes

This is a new service standard, added in Fiscal Year 2009. While this report generally does not include standards that were not introduced until after the audit period, reporting transit mode share was a recommendation of previous Quality Reviews. It was further recommended that mode share be reported under standard B1, Ridership, and that a goal be set (if all transit mode share was reported, it would include BART, Caltrain and other transit providers operating in San Francisco; however, it would consist primarily of Muni). However, publication of mode share anywhere in quarterly reports is a positive step, and one we would like to highlight. The figures below are for commute trips only, and are taken from the most recent City Survey conducted by the Office of the Controller. Recipients were asked "What is your primary mode of transportation to work?" Nine out of ten respondents indicated that they rode Muni at least once a month.

As of January 1, 2009						
Transit	Drive Alone	Walk	Carpool	Work at Home	Bicycle	Other
41%	33%	9%	7%	5%	4%	1%

B Financial Stability

Service standards in this category are measures not just of Muni revenue and costs, but of revenue relative to ridership (B3, Farebox Performance) and of costs relative to both service provided (B4, Cost Efficiency) and ridership (B5, Cost Effectiveness). Although both ridership and revenue increased significantly in Fiscal Year 2008, ridership increased at a faster rate than revenue, and costs grew faster than ridership. The result: even as Muni attracted new customers, it became less cost-effective to operate.

Following are brief summaries of Muni's Fiscal Year 2007-2008 performance for each of the Financial Stability service standards, including arrows indicating general trends (up for "positive," facing right for "neutral," and turned down for "negative") in terms of both historic patterns and performance over the course of the audit period. More detailed information about each service standard can be found on the following pages, including historic trends and data from recent quarters, since the end of the audit period. Recommendations and issues identified in the data collection and reporting processes can be found at the end of the sections for some service standards.

Note that data reported in this section is audited by the Federal Transit Administration (FTA), but that Fiscal Year 2008 figures have not yet been audited.

B1 Ridership

After consecutive years of decline, Muni ridership increased in Fiscal Year 2008 to its highest level since 2001, due largely to a significant increase in light rail ridership.

B2 Revenue

In both Fiscal Years 2007 and 2008, revenue from fares continued a steady increase. In 2008, it was 55% higher than in 2003.

B3 Farebox Performance

While increased ridership resulted in an overall increase in fare revenues, Muni's average fare per boarding decreased slightly in Fiscal Year 2008, apparently due to increased use of monthly Fast Passes, which offer passengers a steep discount.

B Financial Stability

B4 Cost Efficiency

Muni's operating cost per hour of revenue service has increased at a faster rate every fiscal year since 2005, reaching 10% in Fiscal Year 2008.

B5 Cost Effectiveness

In Fiscal Year 2008, Muni's operating costs grew at a faster pace than ridership, resulting in a significant increase in costs per boarding.

B1 Ridership

Goal *+ 1.5% / yr.*

FY07-08 Performance 

Near Goal

Trend 

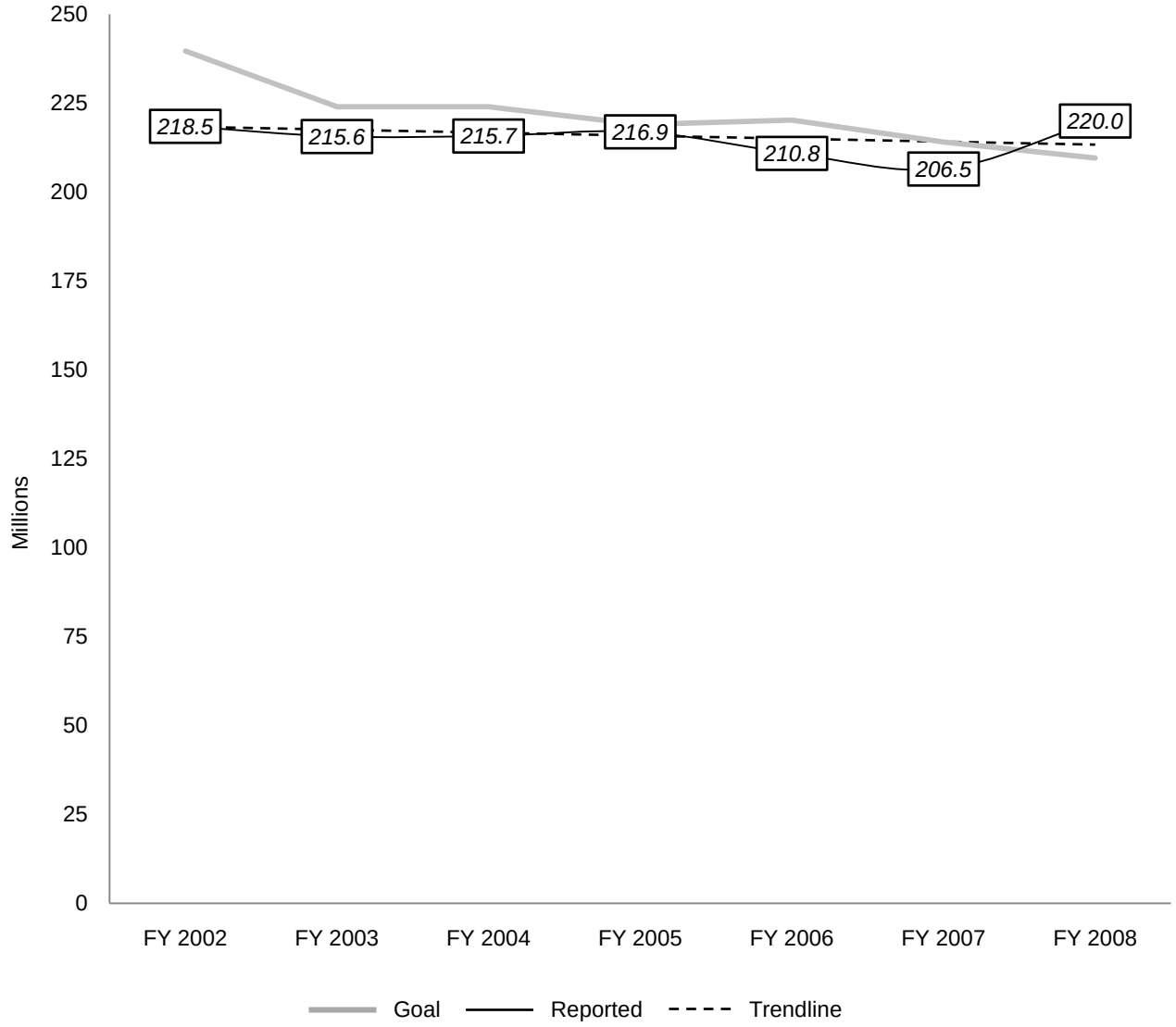
Positive

Purpose To measure ridership.

Definition Annual measurement of the number of passengers who board the Municipal Railway's revenue vehicles. A passenger is counted each time they board a vehicle, even though they may be on the same journey from origin to destination.

Method Ride checkers are utilized to count passenger boardings.

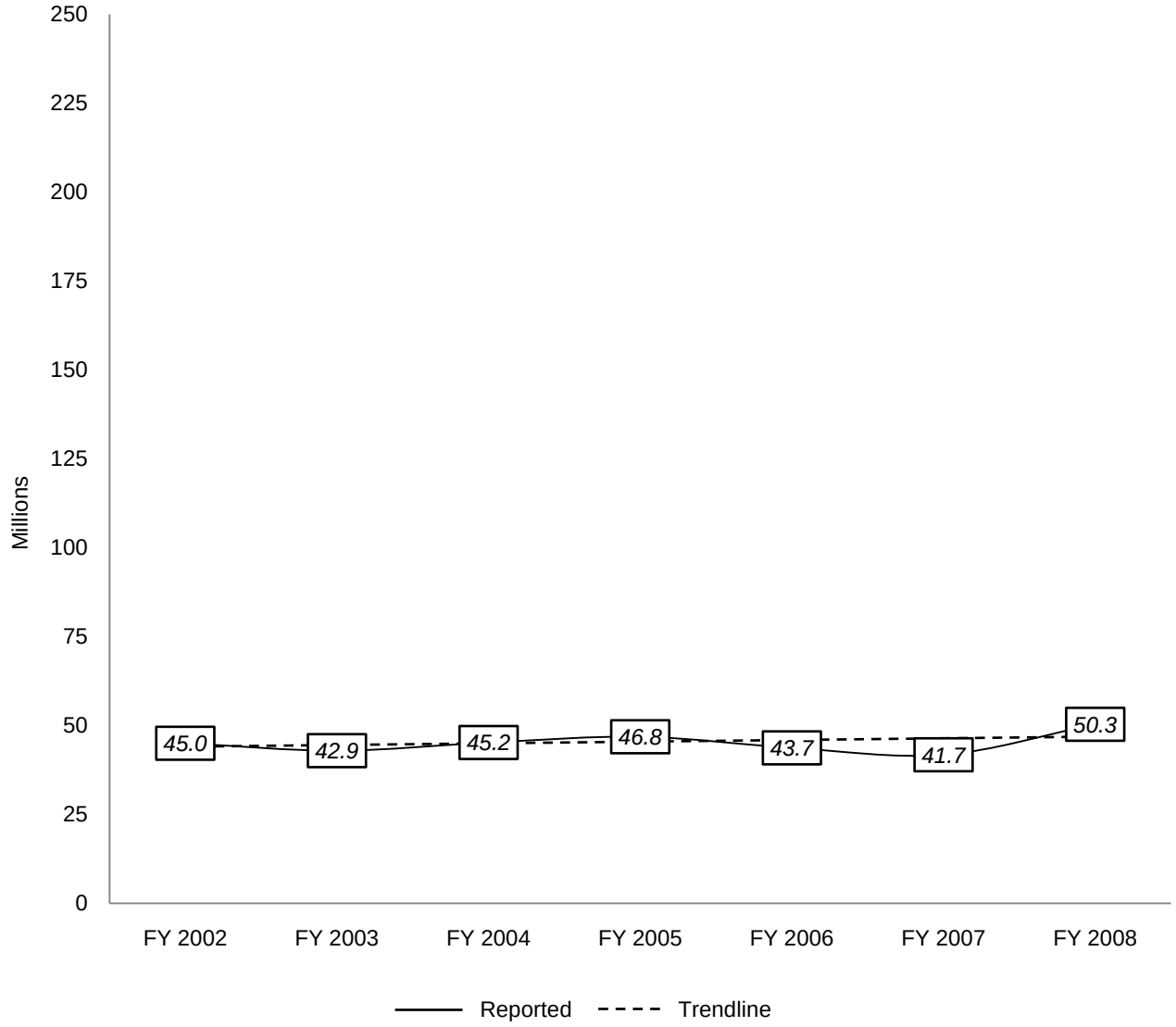
B1 Ridership



Systemwide (Audit Period & Historic)

After declining in Fiscal Years 2006 and 2007, Muni ridership increased 6.5% in Fiscal Year 2008 to its highest level since 2001, when annual boardings were 234.9 million. (Note: The goal for systemwide ridership has changed over time. It became a 1.5% annual increase starting in Fiscal Year 2005.)

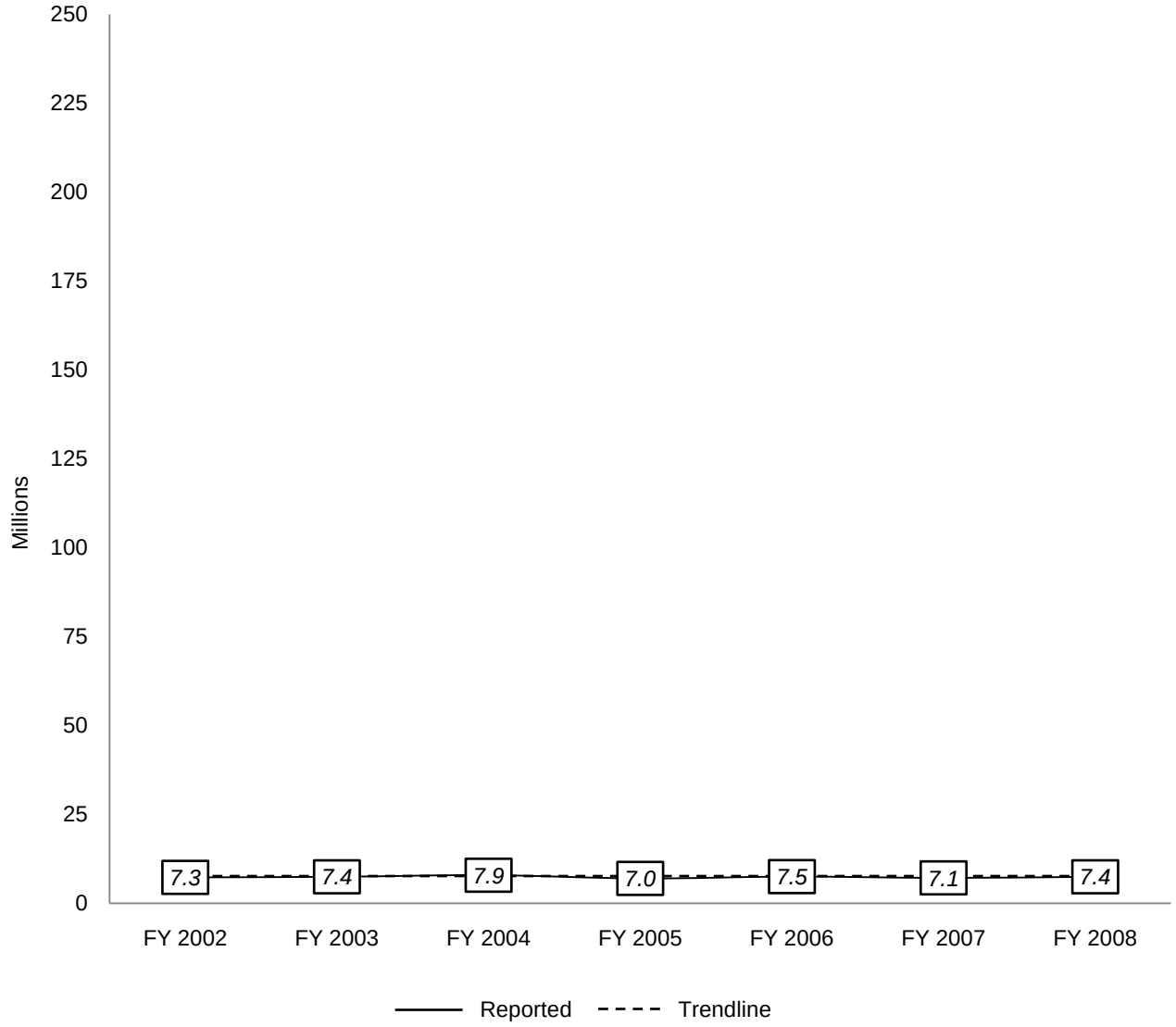
B1 Ridership



Light Rail (Audit Period & Historic)

Much of the increase in ridership in Fiscal Year 2008 can be attributed to a 20.5% increase in light rail ridership. A new line, the T-Third Street, was added toward the end of Fiscal Year 2007. Nonetheless, ridership grew faster than service, as evidenced by an increase in light rail productivity (see Service Standard A13).

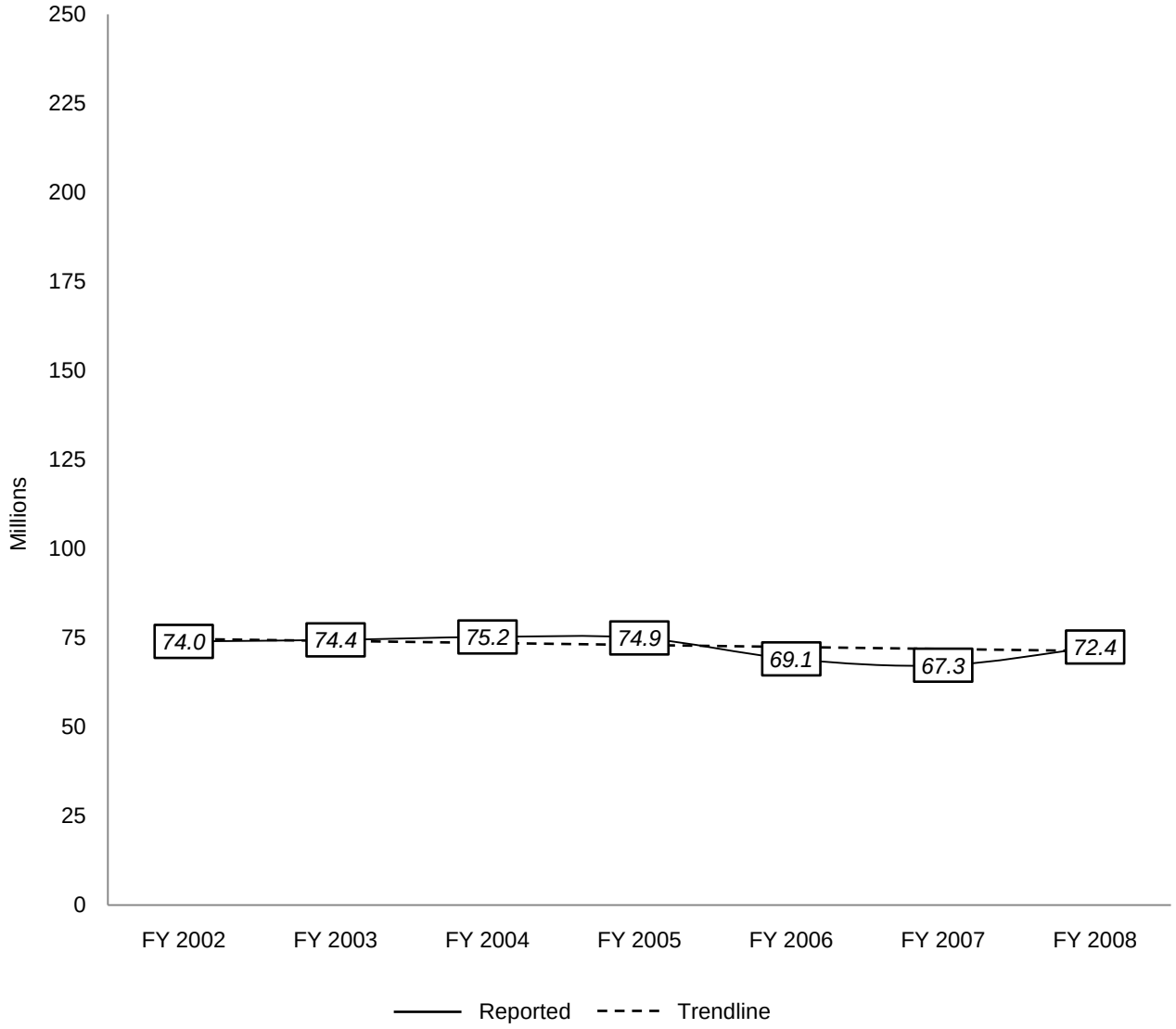
B1 Ridership



Cable Car (Audit Period & Historic)

Cable car ridership declined somewhat in Fiscal Year 2007, but most of that lost ridership was regained in Fiscal Year 2008.

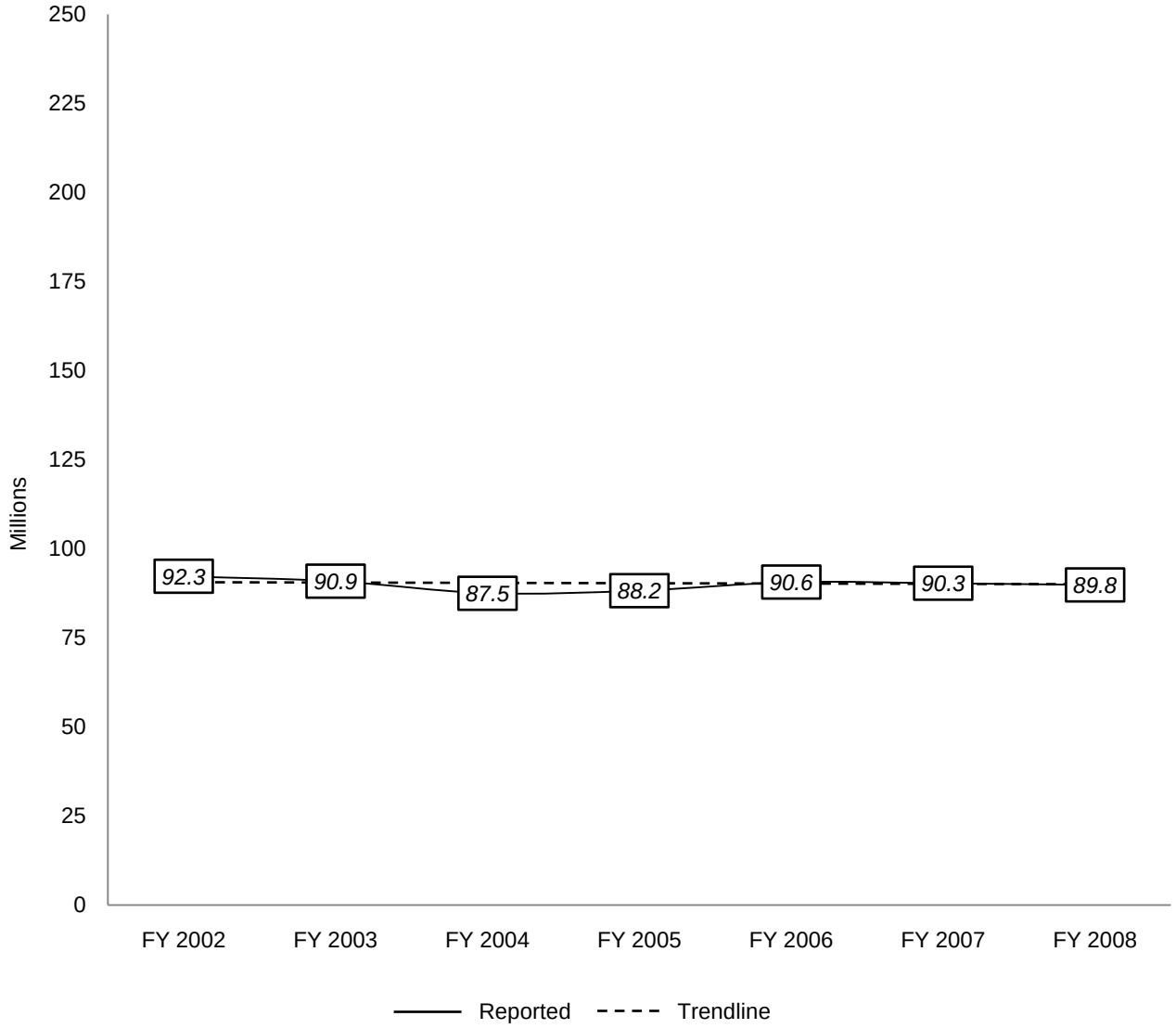
B1 Ridership



Trolley Coach (Audit Period & Historic)

Ridership on electric trolley bus lines declined slightly in Fiscal Year 2007, but increased 7.6% in Fiscal Year 2008.

B1 Ridership



Motor Coach (Audit Period & Historic)

Ridership on diesel bus lines declined slightly in Fiscal Years 2007 and 2008.

B1 Ridership

Recommendation

Use automated passenger counters (APCs) to collect data on boardings where feasible.

APCs can accurately count boardings on all but the busiest routes. In the previous Quality Review, we recommended that a deployment plan allowing APCs to be rotated among vehicles on a regular basis be developed. This has been implemented. Muni is now working with the Federal Transit Administration on a plan to report official ridership data to the FTA using APCs rather than teams of schedule checkers. APC boarding data has been shown to be relatively accurate (it is highly accurate on routes with low or moderate ridership, and slightly less so on routes where riders crowd in and out of doors), and expanded use of APCs would allow traffic checkers to supplement APC data on busy routes and to collect data on routes without APC units.

B2 Revenue

Goal *+ 1.5% / yr.*

FY07-08 Performance

Achieved Goal

Trend

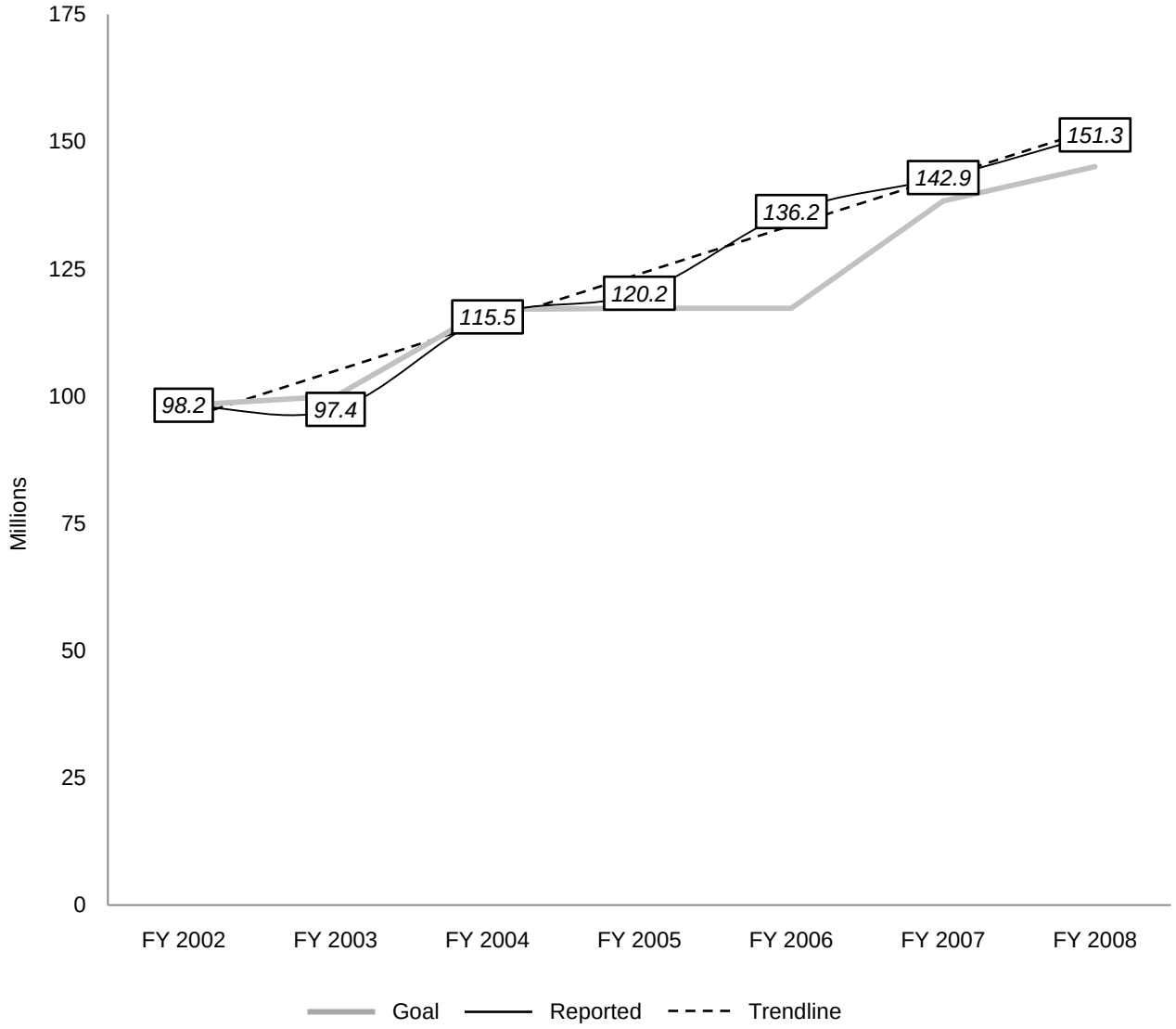
Positive

Purpose To measure fare revenue by average fare by passenger, mode, and general Fast Pass sales.

Definition Fare revenue collection on board revenue vehicles; Monthly/Weekly Fast Pass sales; individual ticket sales at POP stations; 1, 3 and 7 day pass sales; Cable Car Souvenir Tickets, Bart Plus, Tokens' Adult/Youth/Senior Passes; Ballpark and Special Event Passes; Regional Passes, etc. The goal is not applicable in years when a fare increase occurs.

Method Cash fares are collected electronically on board all revenue vehicles (with the exception of Cable Car), utilizing the Cubic Farebox system. In Cable Cars, a manual fare collection system along with sale of special passes is utilized. POP stations sell tickets on the platform.

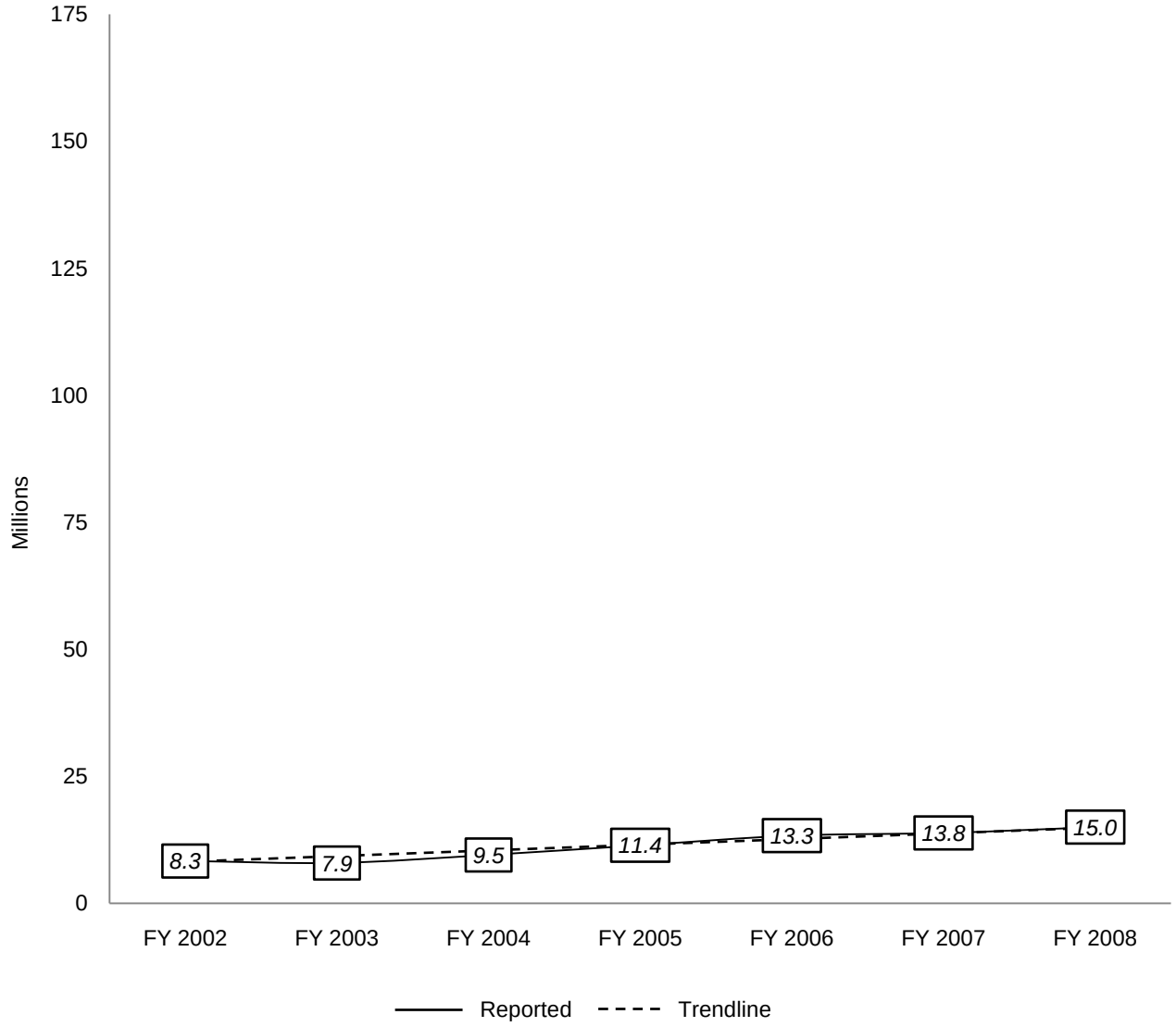
B2 Revenue



Systemwide (Audit Period & Historic)

The chart at left is in dollars, and has not been adjusted for inflation. Total Muni revenues from fares increased 55% between Fiscal Years 2003 and 2008, due in large part to fare increases in Fiscal Years 2004 and 2006. (Note: The goal for systemwide revenue has changed over time. It became a 1.5% annual increase starting in Fiscal Year 2005. Also, the goal is not applicable during years in which fares are increased.)

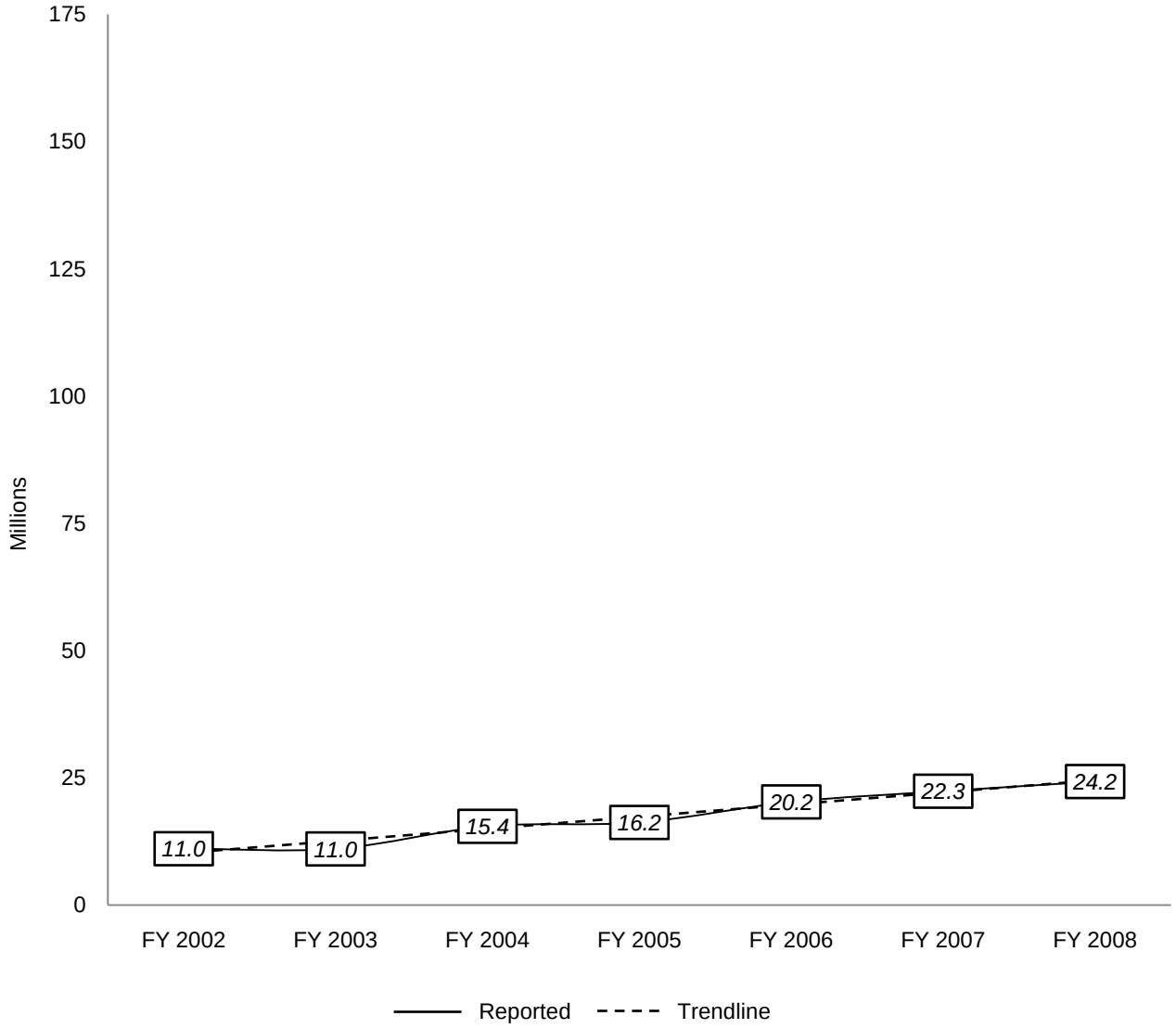
B2 Revenue



Light Rail (Audit Period & Historic)

Fare revenue charts for each mode do not include revenue from passes. In Fiscal Year 2008, revenue from monthly Fast Passes grew at a faster rate than revenue from cash fares, and as a result cash fare revenues for all modes other than cable car increased at a slower rate or declined at a faster rate than ridership.

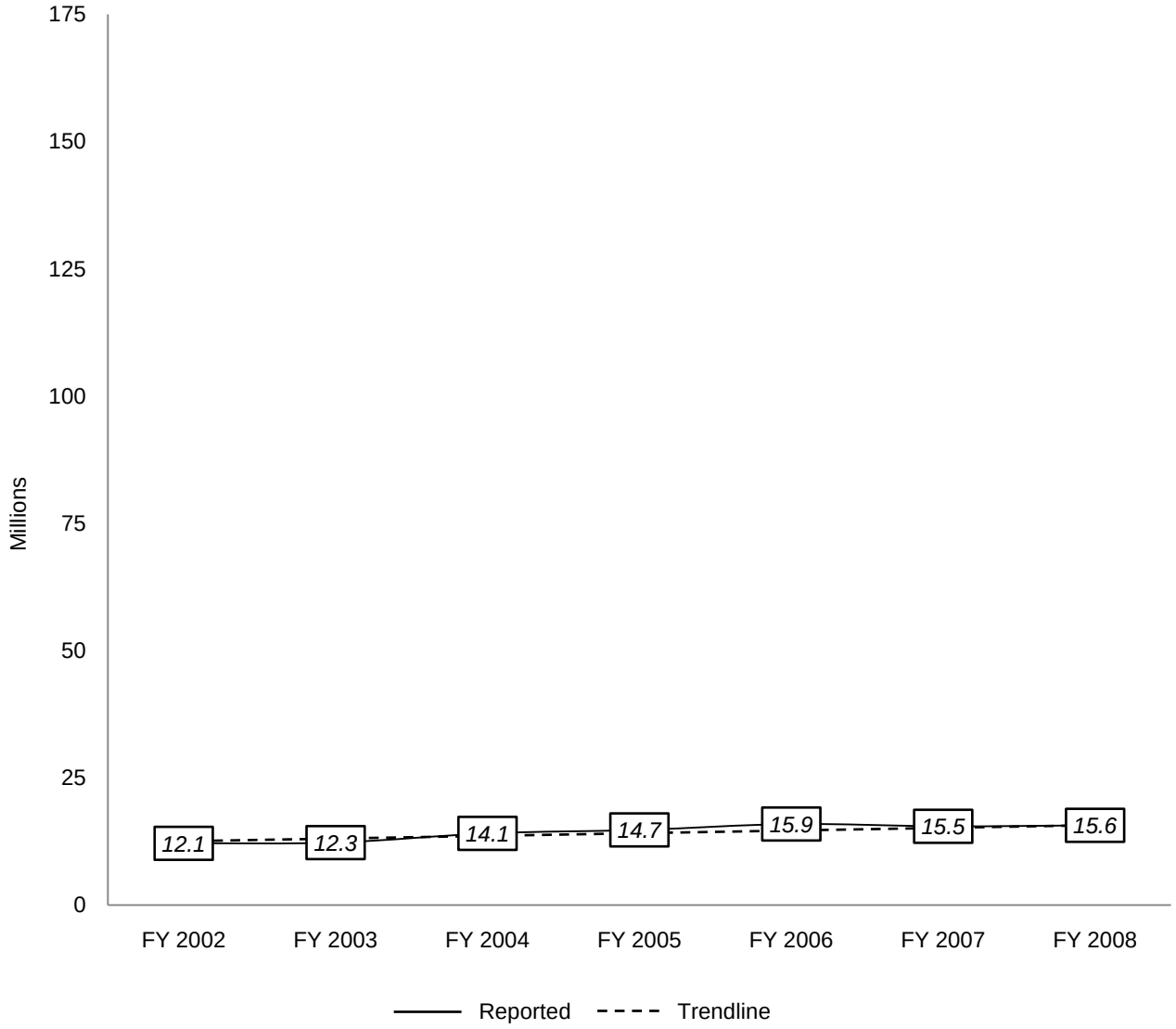
B2 Revenue



Cable Car (Audit Period & Historic)

Despite accounting for less than 4% of Muni ridership, cable cars accounted for 16% of all fare revenue in Fiscal Year 2008. Adult cash fares on cable cars are $5, while in Fiscal Years 2007 and 2008 fares on all other modes were just $1.50.

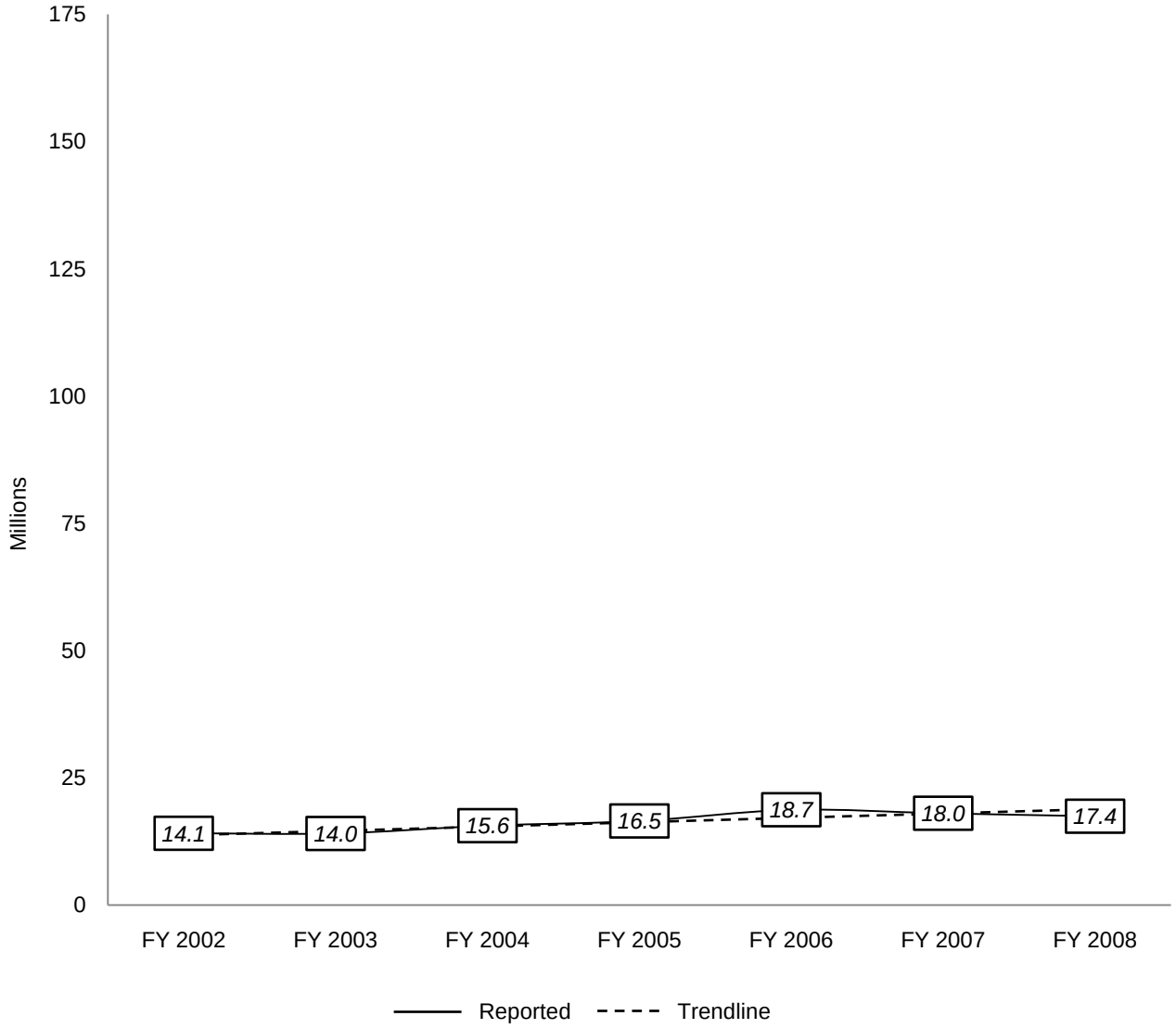
B2 Revenue



Trolley Coach (Audit Period & Historic)

Fare revenue charts for each mode do not include revenue from passes. In Fiscal Year 2008, revenue from monthly Fast Passes grew at a faster rate than revenue from cash fares, and as a result cash fare revenues for all modes other than cable car increased at a slower rate or declined at a faster rate than ridership.

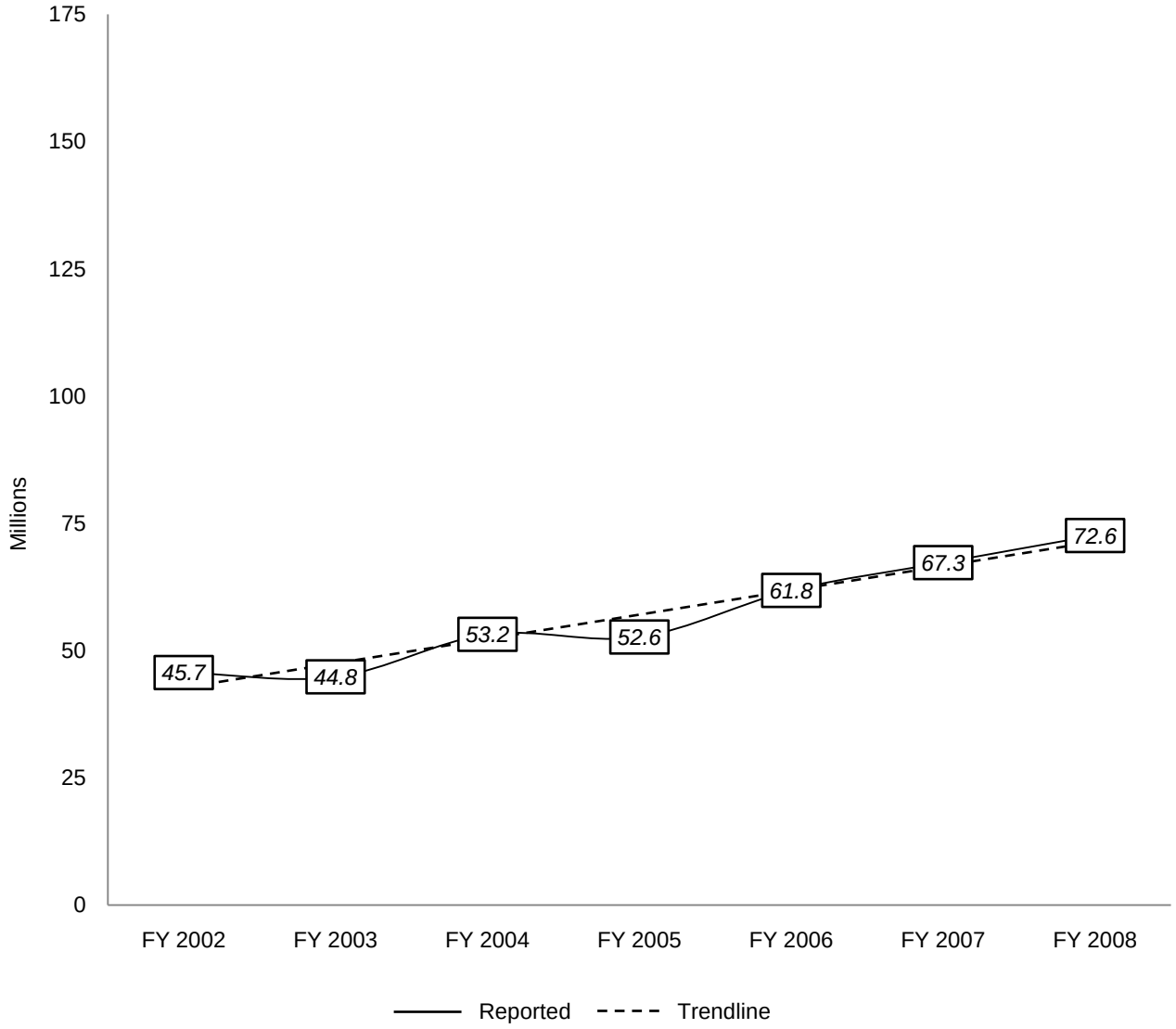
B2 Revenue



Motor Coach (Audit Period & Historic)

Fare revenue charts for each mode do not include revenue from passes. In Fiscal Year 2008, revenue from monthly Fast Passes grew at a faster rate than revenue from cash fares, and as a result cash fare revenues for all modes other than cable car increased at a slower rate or declined at a faster rate than ridership.

B2 Revenue



Monthly Fast Pass (Audit Period & Historic)

In Fiscal Year 2008, revenue from monthly Fast Passes grew at a faster rate – 7.9% – than total revenues – 5.9%. This is a beneficial trend for Muni, as riders paying cash fares take longer to board transit vehicles than those displaying passes.

B3 Farebox Performance

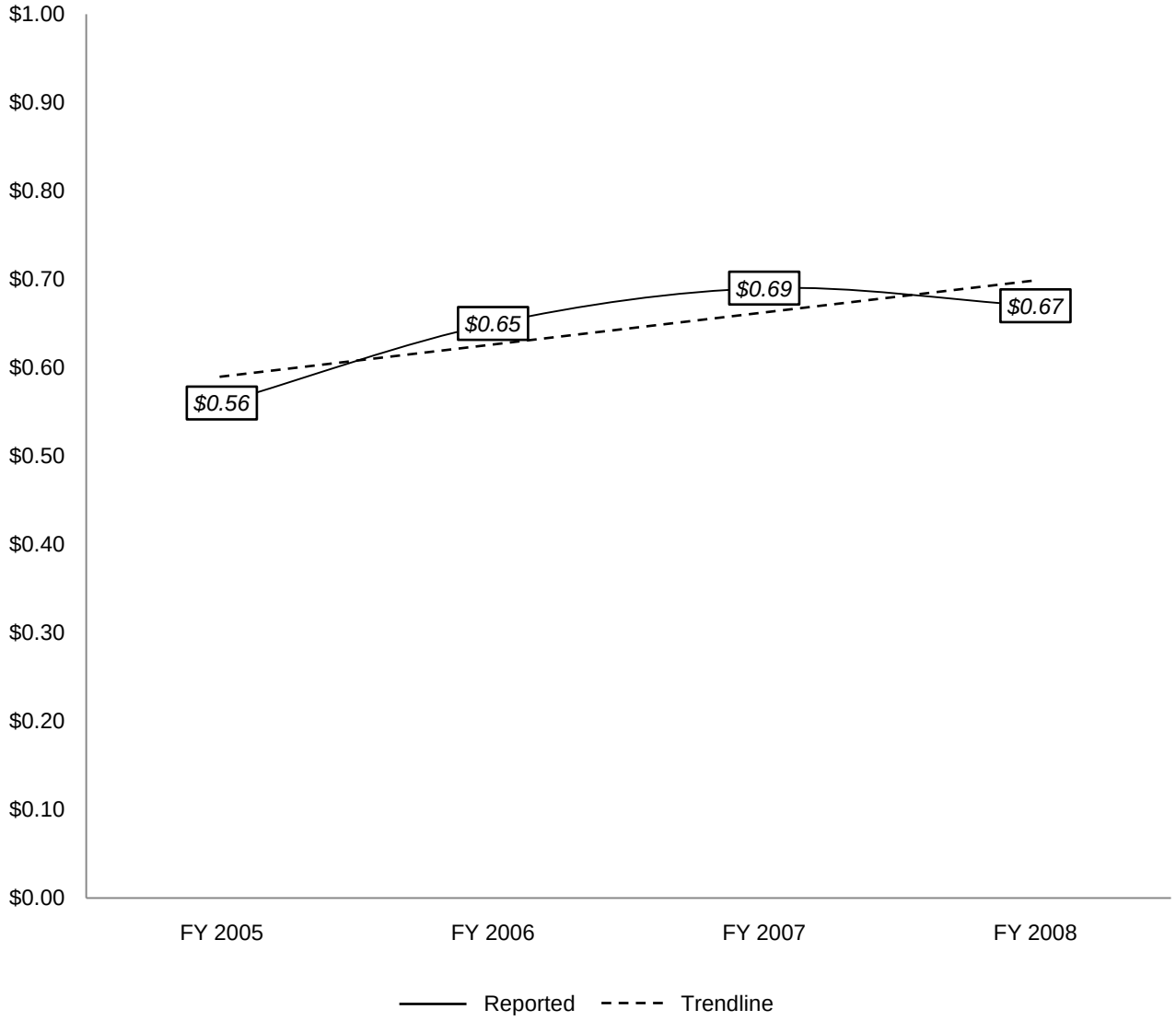
Goal *N/A*

FY07-08 Performance *No Goal For This Standard*

Trend *Neutral*

Definition Average fare per passenger based on unlinked passenger trips.

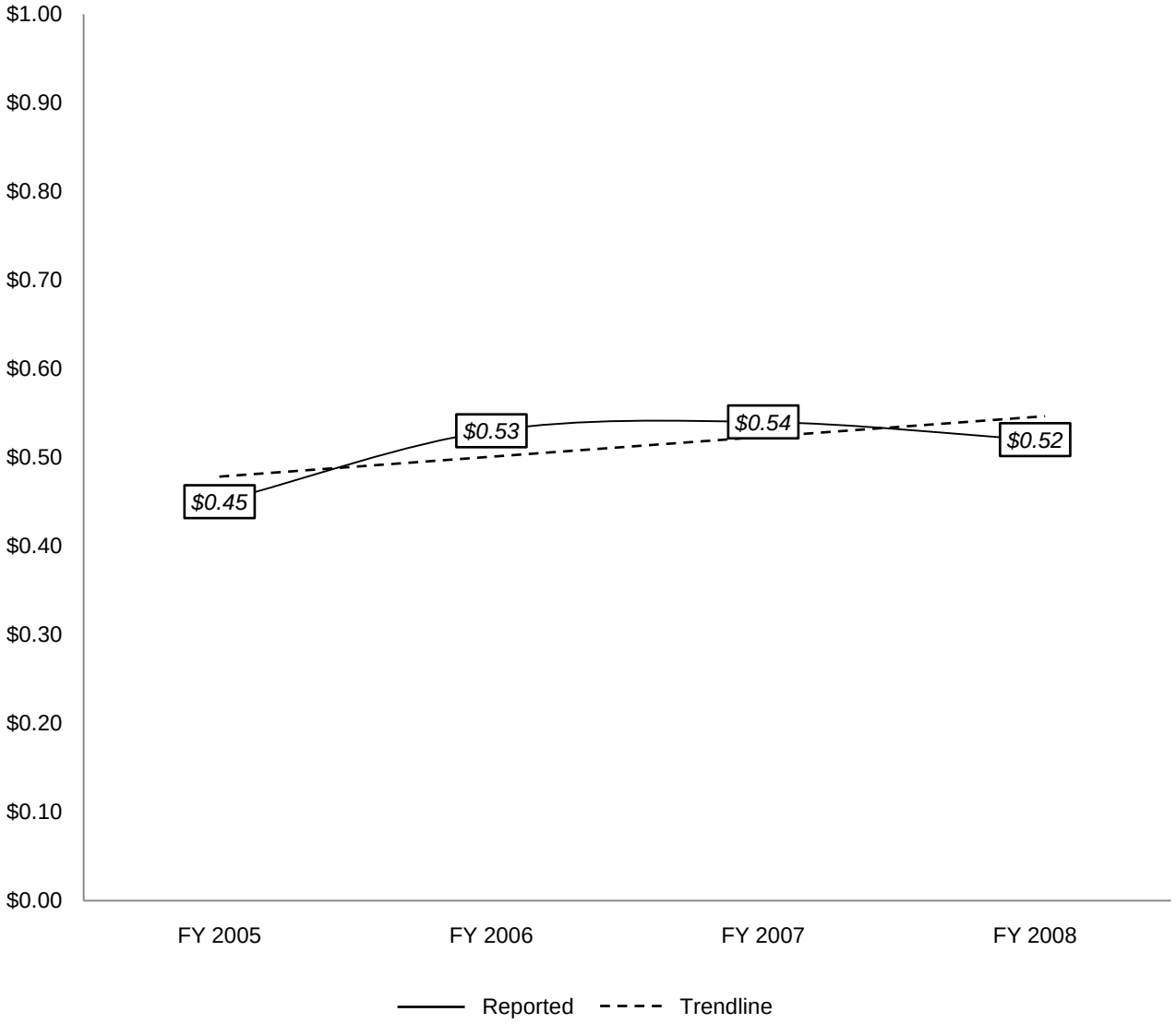
B3 Farebox Performance



Systemwide (Audit Period & Historic)

Despite a significant increase in revenue from fares, Muni's average fare per boarding declined slightly in Fiscal Year 2008. One reason may be that use of Fast Passes has been increasing, and most Fast Pass holders receive a significant discount – close to 30% for everyday commuters, and more for more frequent users.

B3 Farebox Performance



Excluding Cable Cars and Fast Pass Payments to BART (Audit Period & Historic)

Cable car fares are significantly higher than for other modes, and Muni pays BART every time a rider uses a Fast Pass on BART (as of June 2009, Muni paid BART $1.02 each time). The average fare paid on light rail and buses, then, is significantly lower than the systemwide average fare, and only slightly more than one-third of the adult cash fare of $1.50. It is also less than half of the nationwide average, as of calendar year 2007, of $1.09.

B3 Farebox Performance

Recommendation

Report farebox recovery ratios.

Farebox recovery ratio, or the percentage of operating costs covered by fares, is an important measure because it relates fare collection to operating costs and is not simply a function of ridership and fare levels. Muni should continue to report average fares and total revenues, but supplement this information with farebox recovery ratios, both systemwide and by mode. Additionally, it should set annual goals, perhaps a goal of maintaining existing levels over time. This recommendation is reiterated from a previous Quality Review.

B4 Cost Efficiency

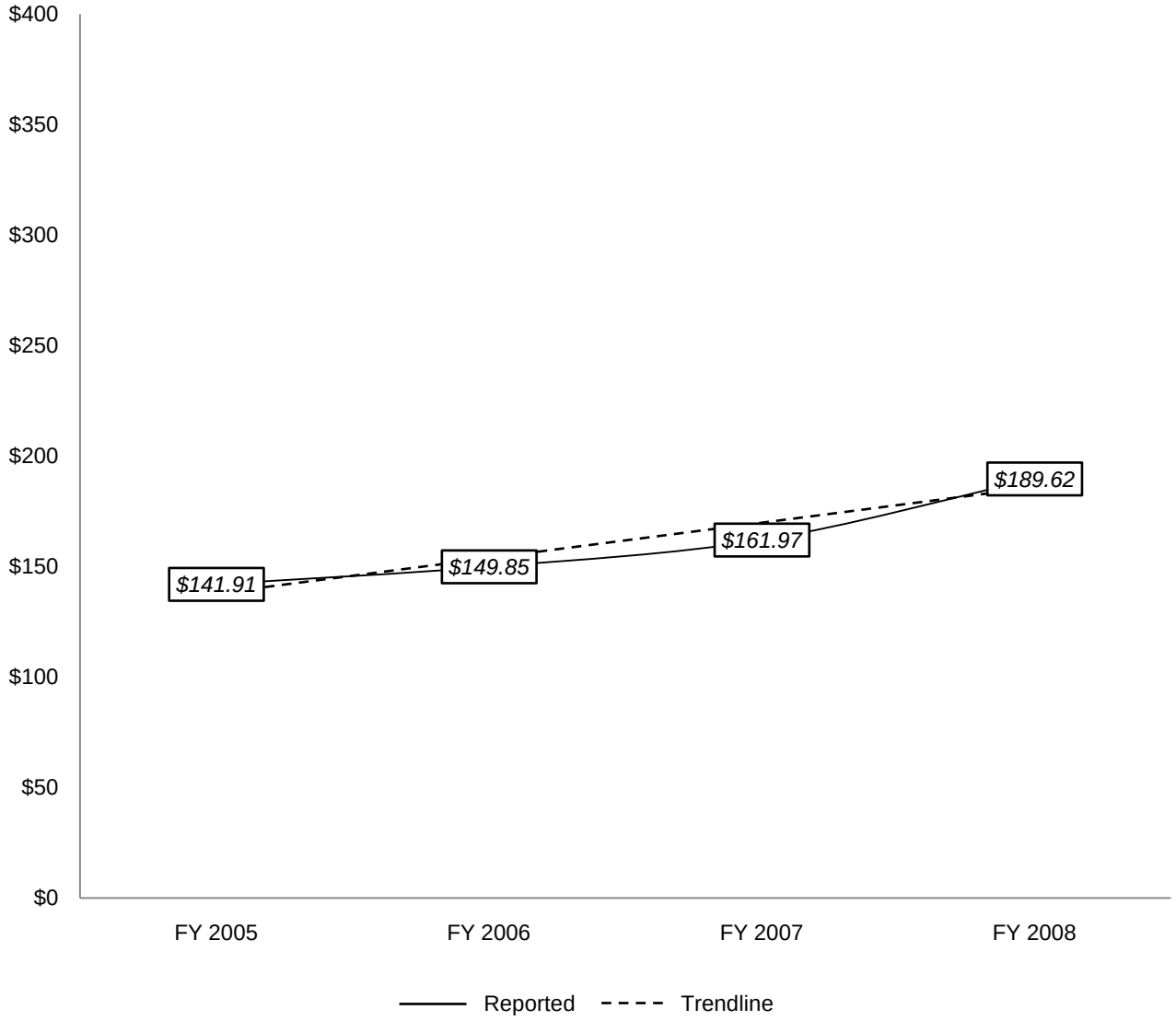
Goal	*N/A*	**FY07-08 Performance**	*No Goal For This Standard*	**Trend**	 *Negative*

Purpose To measure the cost of producing revenue service by fully allocated costs per hour of service by passenger mile and mode.

Definition Fully allocated cost of service per hour and per mile.

Method Data is reported to the Board on an annual basis based on fully allocated costs per hour of service by mode.

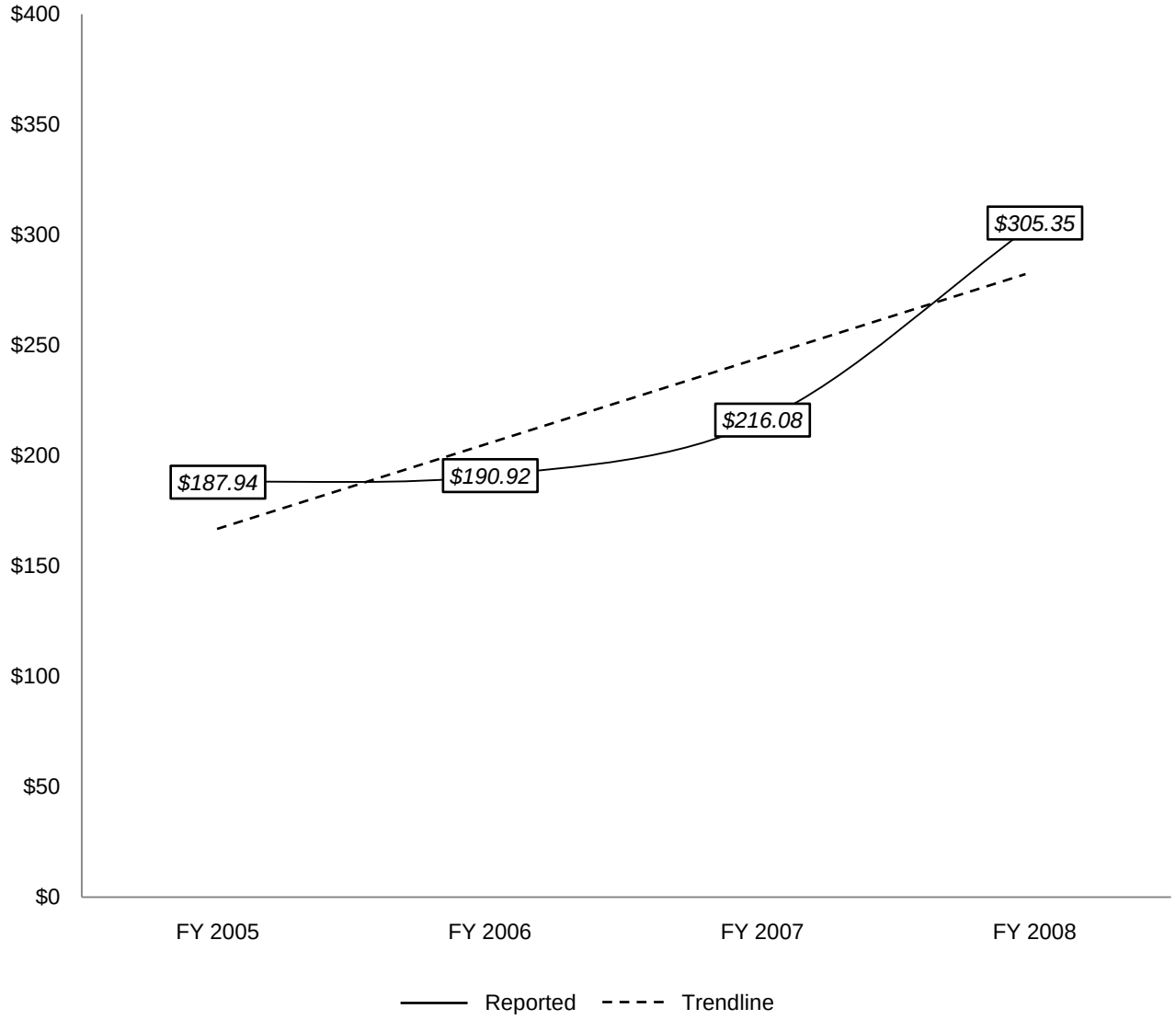
B4 Cost Efficiency



Systemwide (Audit Period & Historic)

Muni's operating cost per hour of service appears to have increased significantly in Fiscal Year 2008. However, this was largely due to a change in the methodology for reporting light rail hours of service. When consistent methodologies are applied, costs are shown to increase about 10% in Fiscal Year 2008 – although this is still a higher rate of increase than in 2007, and costs grew faster that year than in 2006.

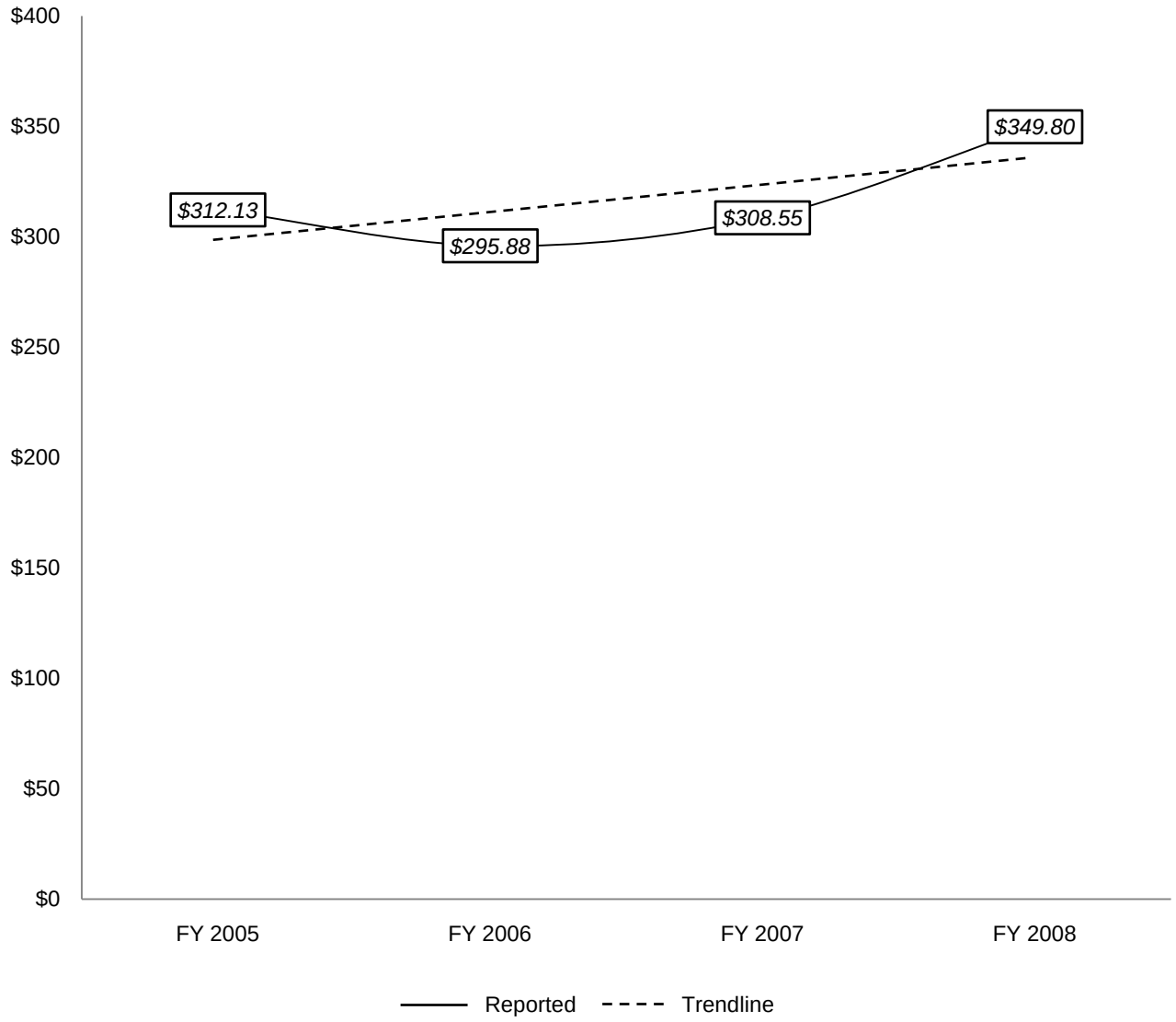
B4 Cost Efficiency



Light Rail (Audit Period & Historic)

Due to a change in the methodology for reporting light rail hours of service, costs per hour appear to have increased much faster in Fiscal Year 2008 than they actually did. When consistent methodologies are applied, light rail costs per hour only increase about 1%, significantly less than the 13% increase in the previous year.

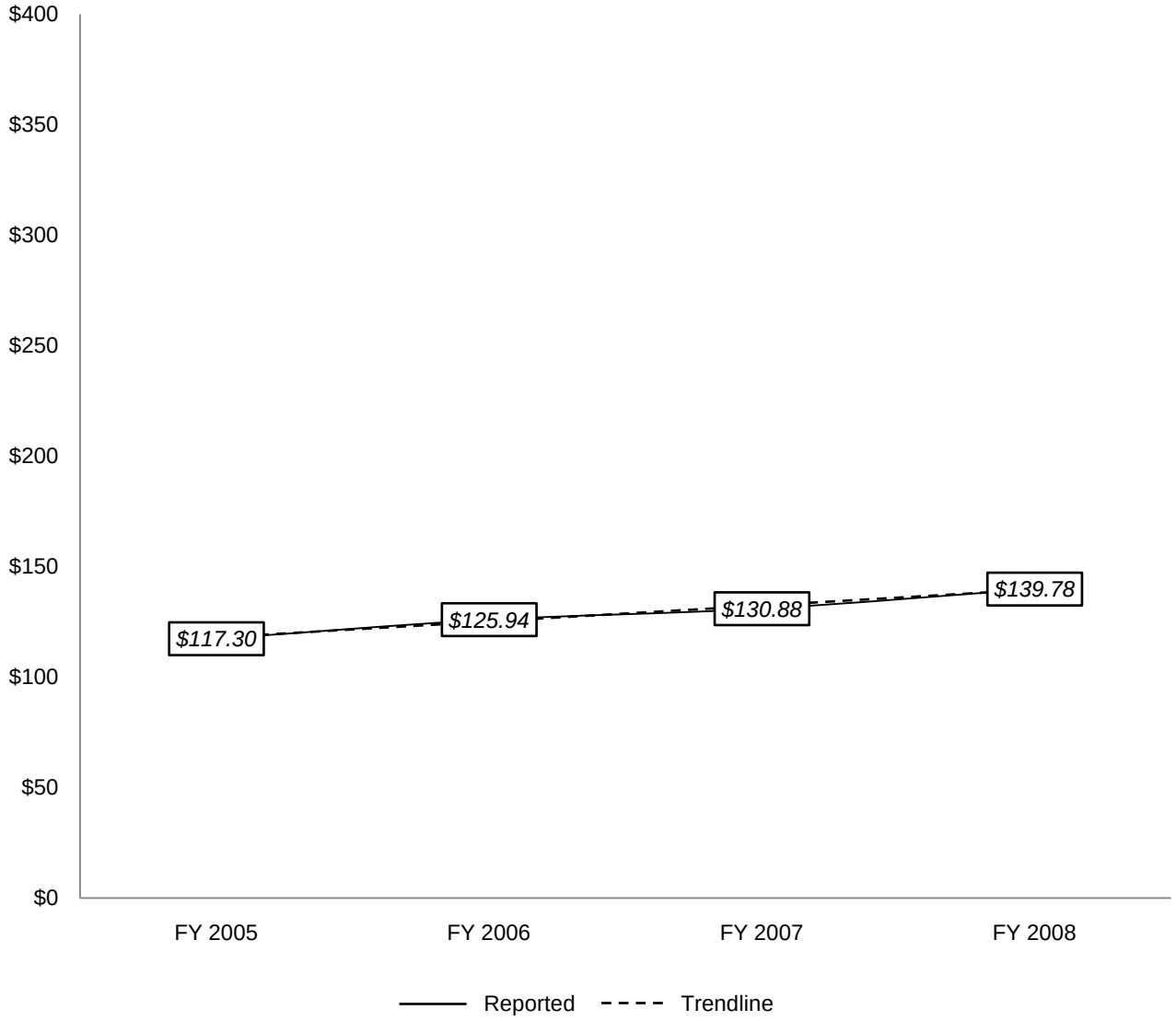
B4 Cost Efficiency



Cable Car (Audit Period & Historic)

Cable car costs per hours of service increased about 13% in Fiscal Year 2008, but because cable cars account for only a fraction of Muni service, this had relatively little impact on systemwide cost efficiency.

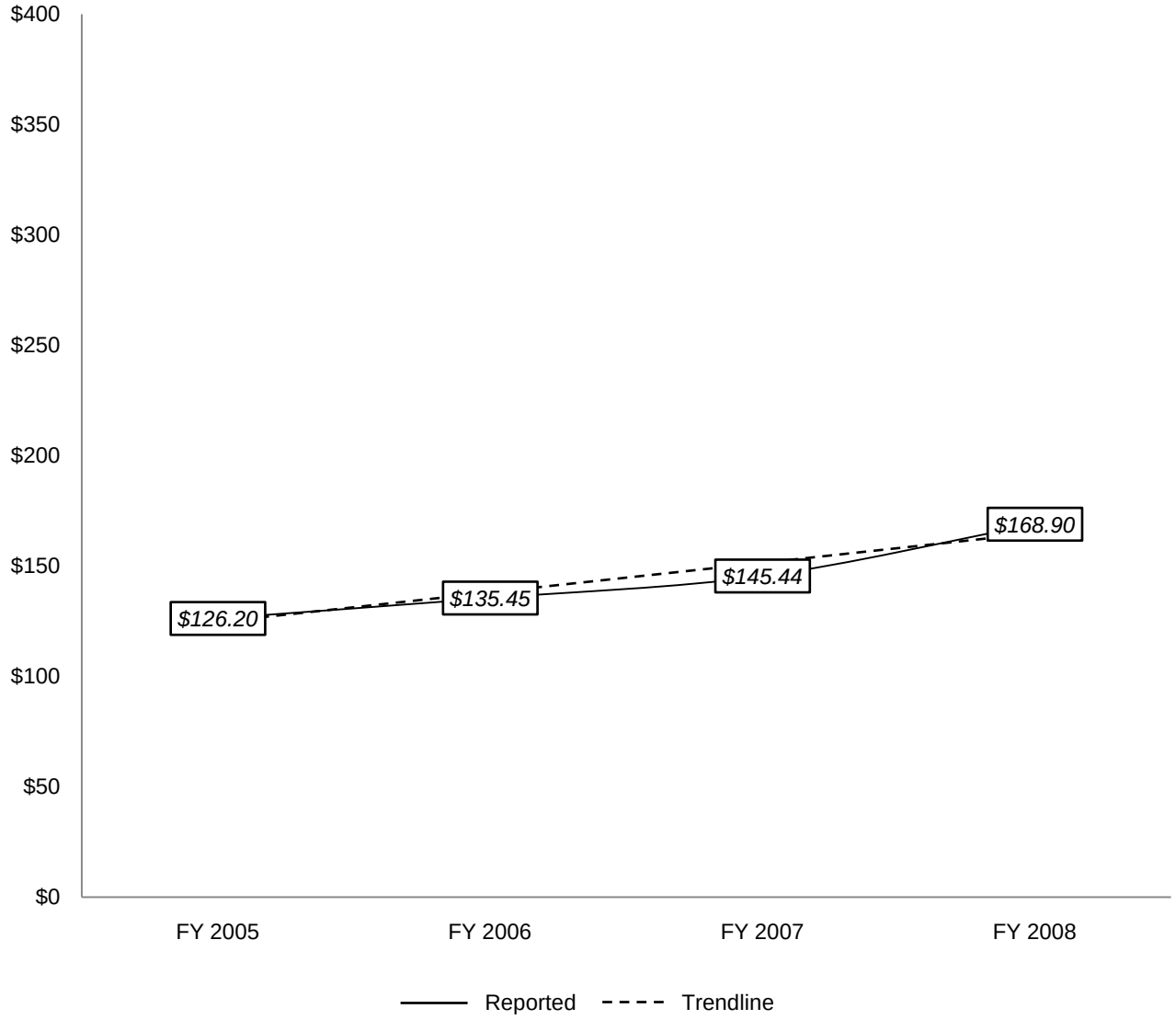
B4 Cost Efficiency



Trolley Coach (Audit Period & Historic)

In Fiscal Years 2007 and 2008, electric trolley bus costs continued a trend of slight year-over-year increases.

B4 Cost Efficiency



Motor Coach (Audit Period & Historic)

In Fiscal Year 2008, diesel bus operating costs increased slightly faster than in previous years.

B5 Cost Effectiveness

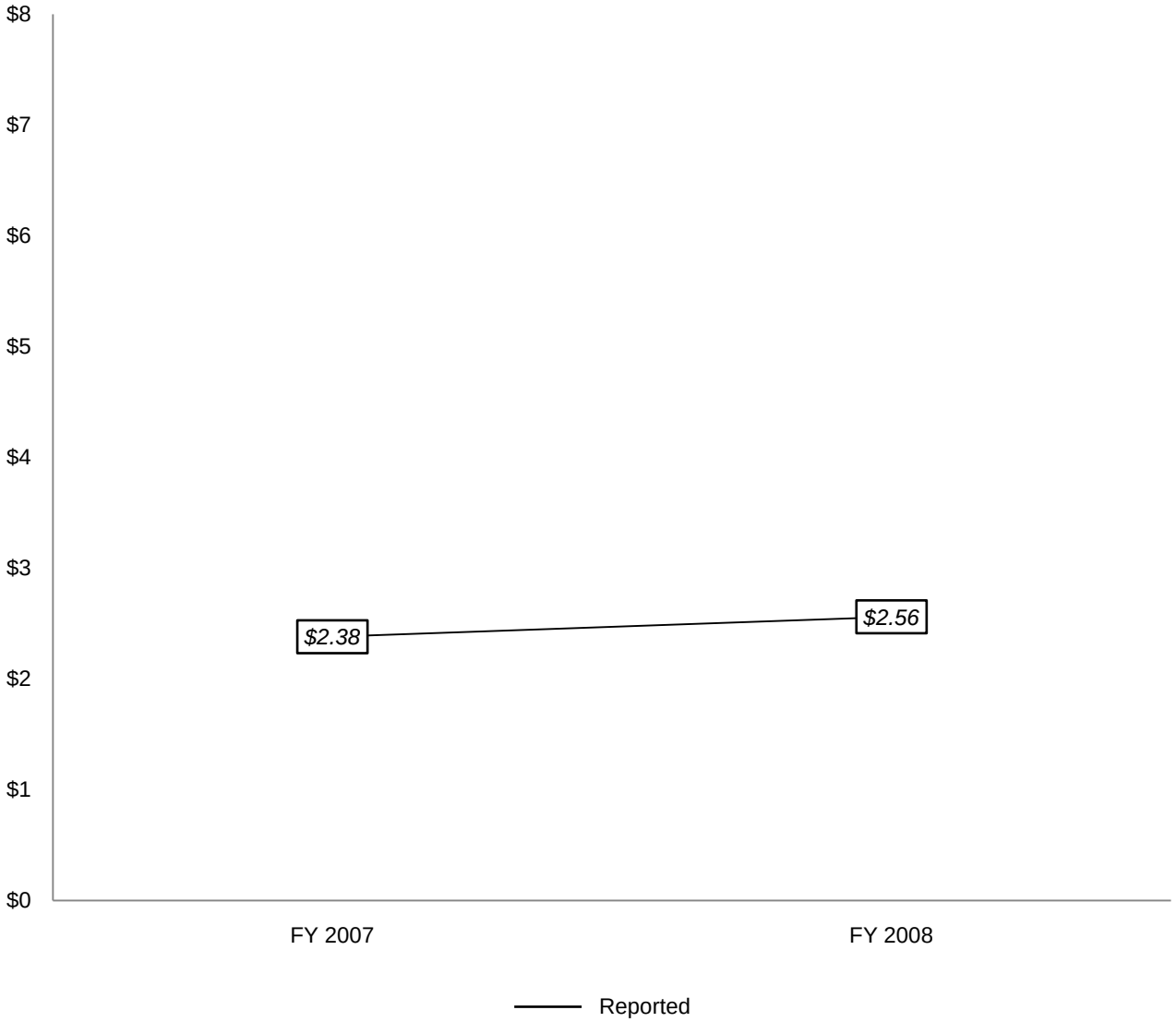
Goal *N/A*

FY07-08 Performance *No Goal For This Standard*

Trend *Negative*

Definition Operating expense per passenger boarding.

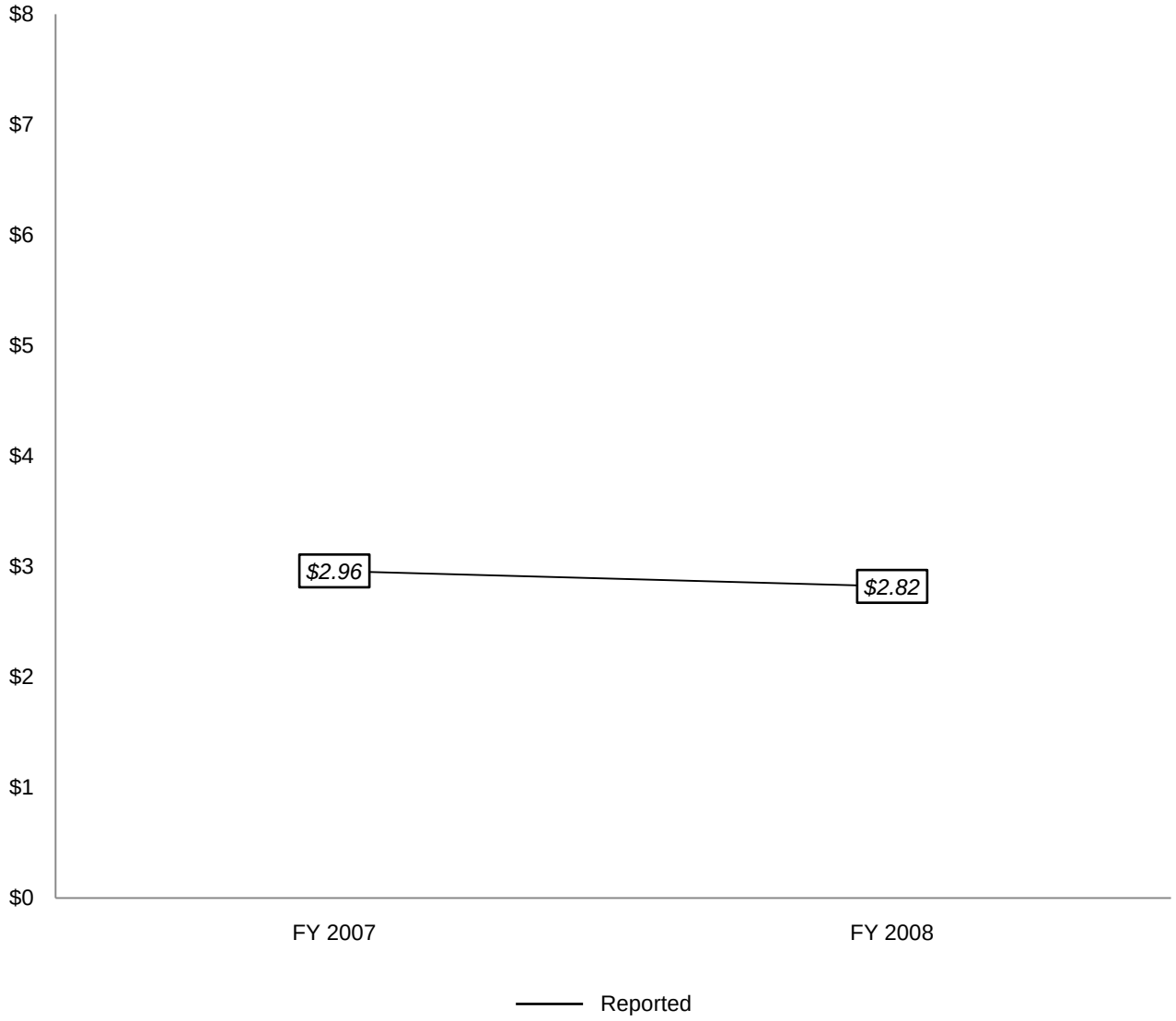
B5 Cost Effectiveness



Systemwide (Audit Period)

Operating cost per boarding is an industry standard measure, reported by transit operators to the Federal Transit Administration, which Muni began reporting in Service Standards reports in Fiscal Year 2008. However, 2007 figures were included in 2008 reports. 2008 figures have not yet been audited by the FTA. In 2008, costs per boarding increased by about 8%.

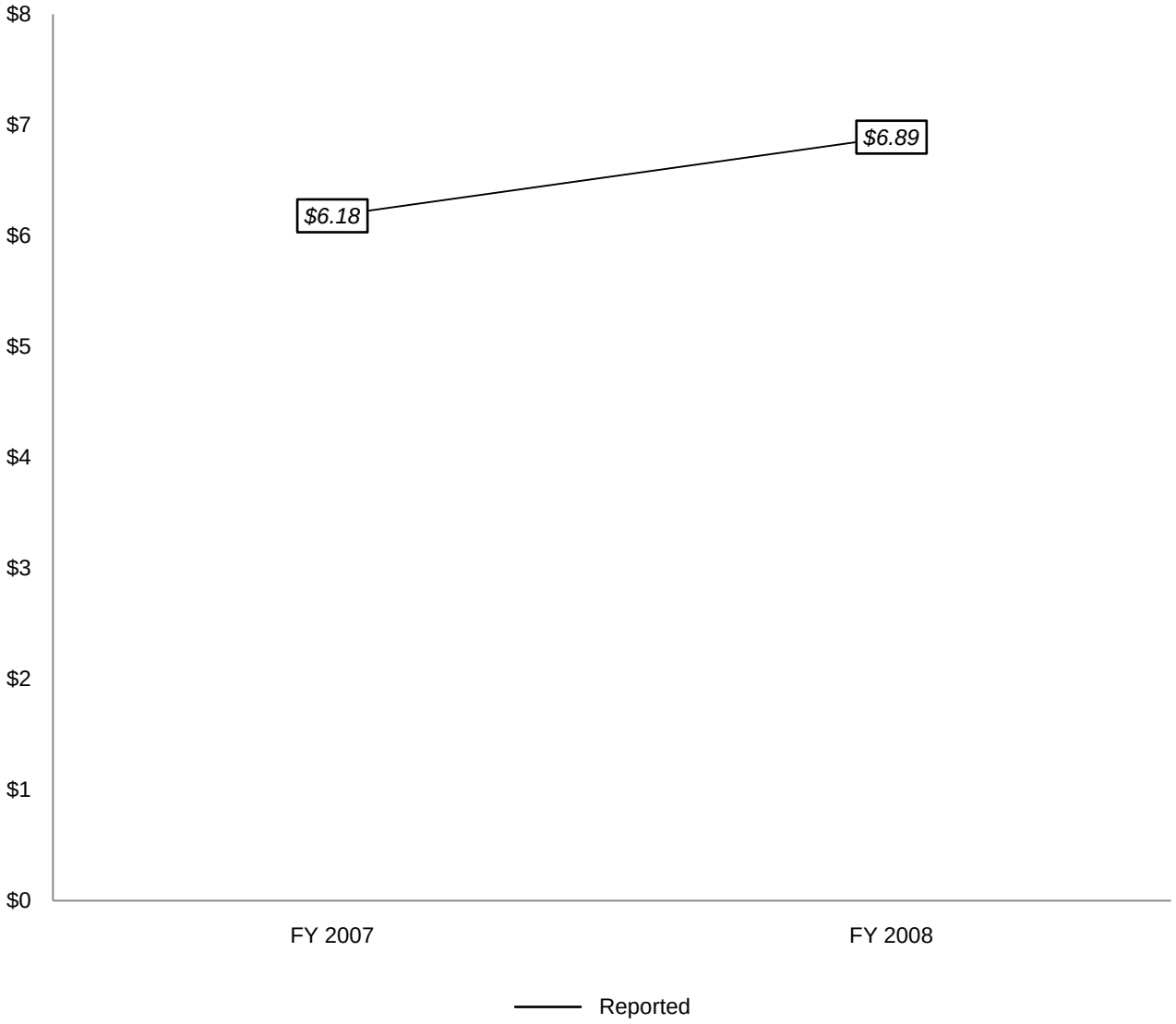
B5 Cost Effectiveness



Light Rail (Audit Period)

While light rail costs per hour increased in Fiscal Year 2008, ridership grew at a slightly faster rate, resulting in a decrease in average cost per boarding.

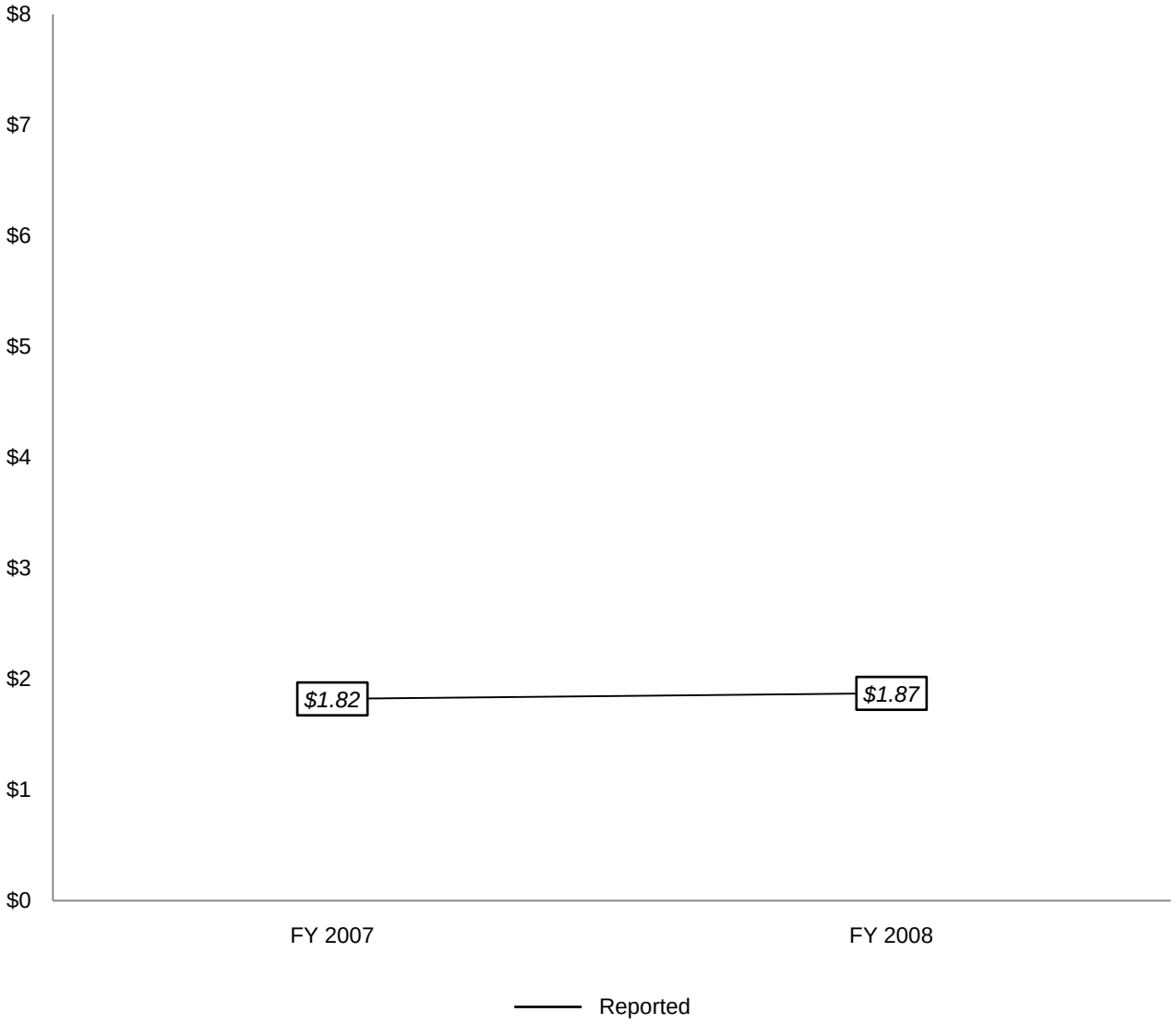
B5 Cost Effectiveness



Cable Car (Audit Period)

Cable car costs per boarding increased 11.5%, slightly less than the 13.5% increase in cost per hour.

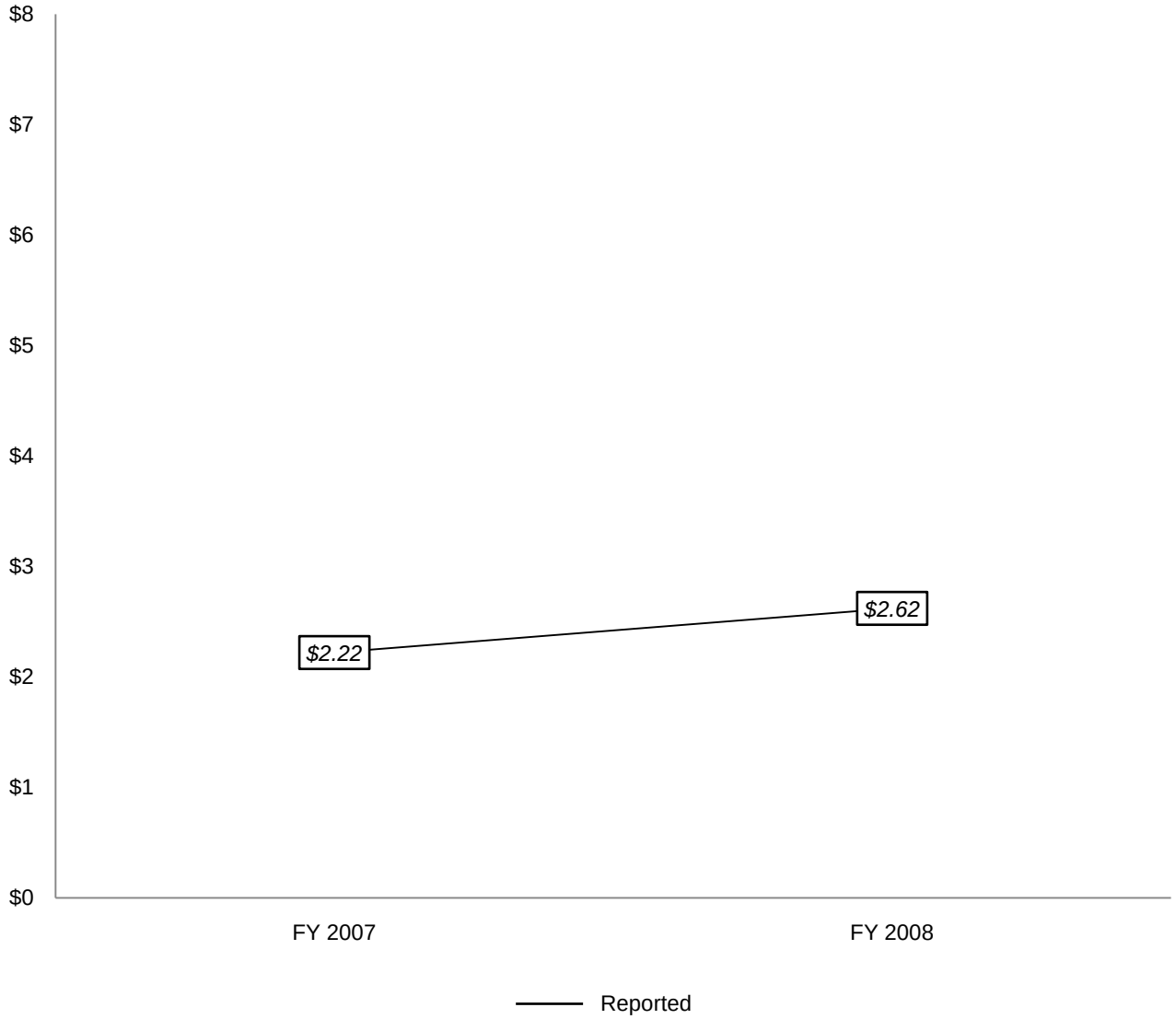
B5 Cost Effectiveness



Trolley Coach (Audit Period)

Electric trolley bus costs per boarding increased slightly from Fiscal Year 2007 to 2008.

B5 Cost Effectiveness



Motor Coach (Audit Period)
Diesel bus costs per boarding increased 18 percent from Fiscal Year 2007 to 2008.

C Customer Focus

Service standards in this category measure, both directly and indirectly, the Muni customer experience. Muni customer service includes responsiveness to perceived problems (C2, Operator Complaint Resolution Rate) as well as the ability to protect customers from accidents (C4, Safety) and criminal activity (C6, Security Incidents). Over the course of the audit period, Muni made significant improvements to its methods for keeping track of crime; however, these changes have made it hard to track long-term trends in criminal activity on Muni.

Following are brief summaries of Muni's Fiscal Year 2007-2008 performance for each of the Customer Focus service standards, including arrows indicating general trends (up for "positive," facing right for "neutral," and turned down for "negative") in terms of both historic patterns and performance over the course of the audit period. More detailed information about each service standard can be found on the following pages, including historic trends and data from recent quarters, since the end of the audit period. Recommendations and issues identified in the data collection and reporting processes can be found at the end of the sections for some service standards.

C1 Customer Perceptions

In 2008, Muni did not conduct its annual telephone survey of customer satisfaction. However, in 2007 overall satisfaction improved slightly from 2006, with a majority of respondents rating service as "excellent" or "good."

C2 Operator Complaint Resolution Rate/ Customer Feedback Received

In Fiscal Years 2007 and 2008, the number of Passenger Service Reports (PSRs) submitted to Muni increased significantly, apparently due to implementation of 24-hour 311 service. Also, late in Fiscal Year 2008, the rate of timely resolution for ADA-related PSRs declined significantly, although this was apparently caused by a transition to new software, and the problem has since been resolved.

C Customer Focus

N/A C3 Operator Training

In Fiscal Year 2008, Muni began no longer counting training for new operators and supervisors toward training hour totals, and this change in methodology made any assessment of long-term trends impractical. However, Muni continued to achieve its goal of 50,000 hours of annual training.

C4 Safety

In Fiscal Year 2008, the number of accidents involving Muni (including collisions with Muni vehicles and falls on board) increased somewhat.

N/A C6 Security Incidents

Muni's methodology for tracking and reporting crime changed significantly in Fiscal Year 2008, making any historic comparison essentially meaningless (see recommendation at end of Section C6 for additional details).

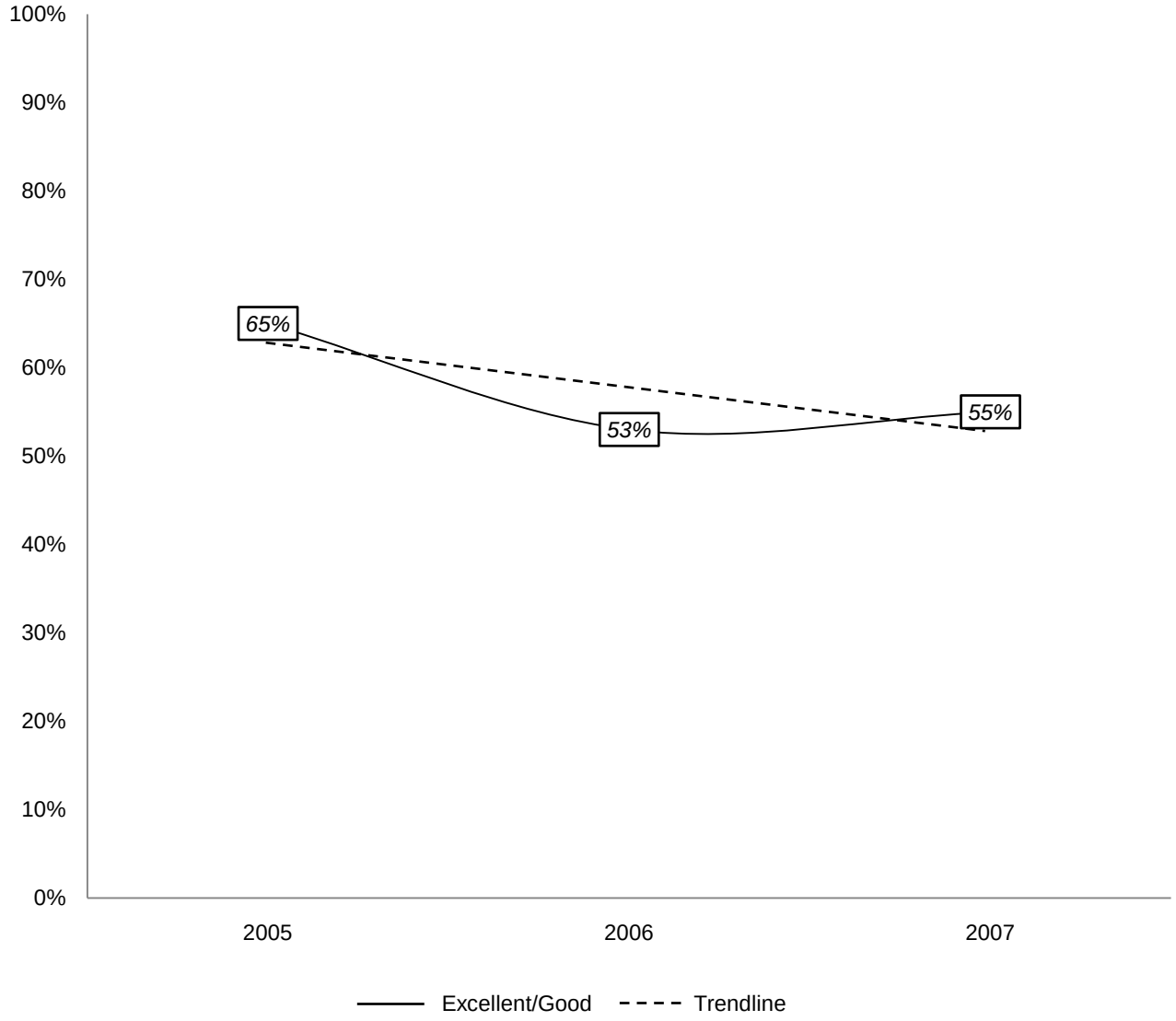
C1 Customer Perceptions

Goal *Annual improvement* **FY07-08 Performance**  **Trend** 

Near Goal *Neutral*

Method From Muni customer survey.

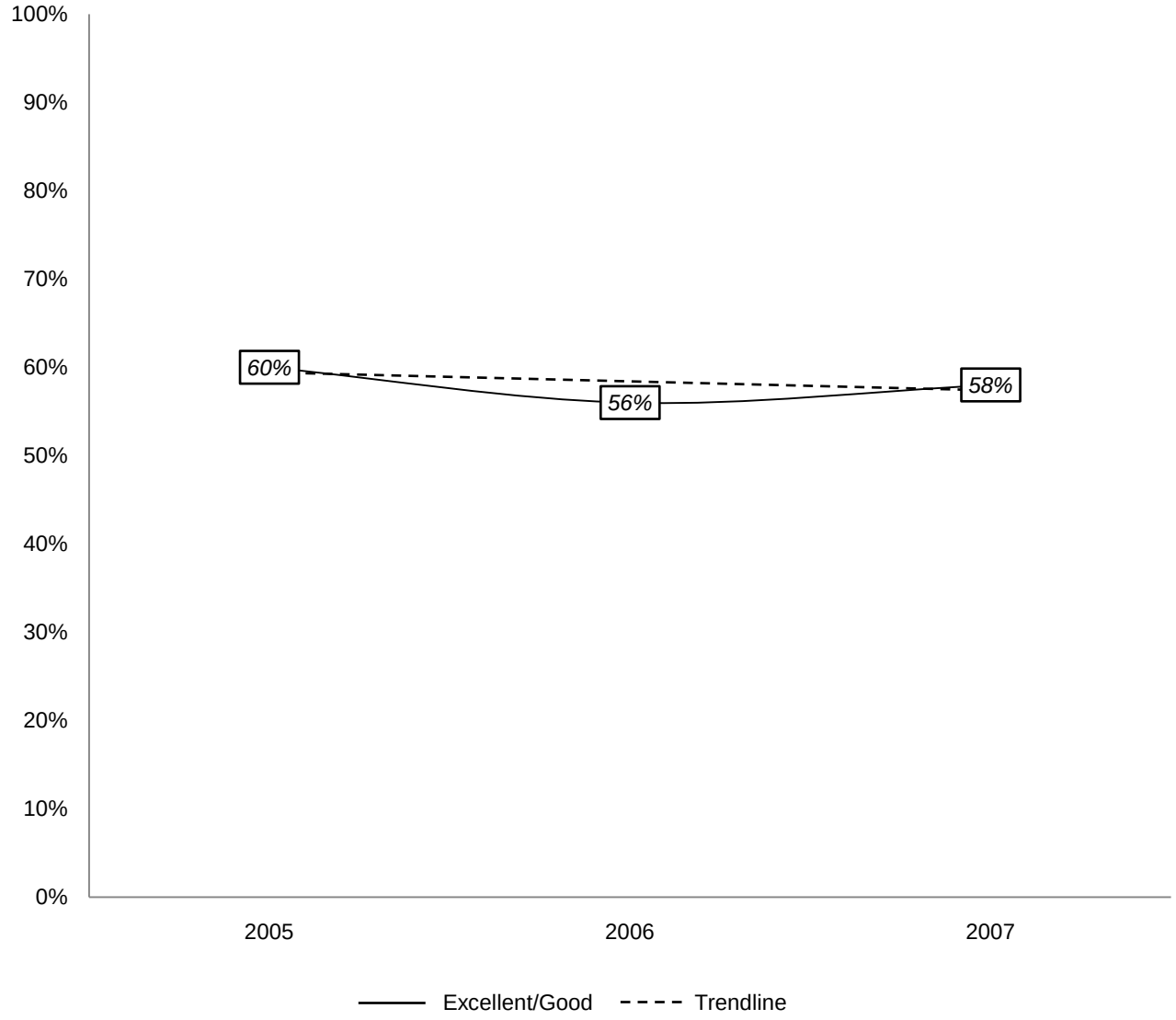
C1 Customer Perceptions



Overall Customer Satisfaction (Audit Period & Historic)

Most years, Muni conducts a customer service survey by telephone (no survey was conducted in 2008). In the 2006 survey, overall approval of Muni fell significantly. However, in 2007, it increased slightly. Notably, a majority of Muni customers rate their satisfaction with the agency as "excellent" or "good."

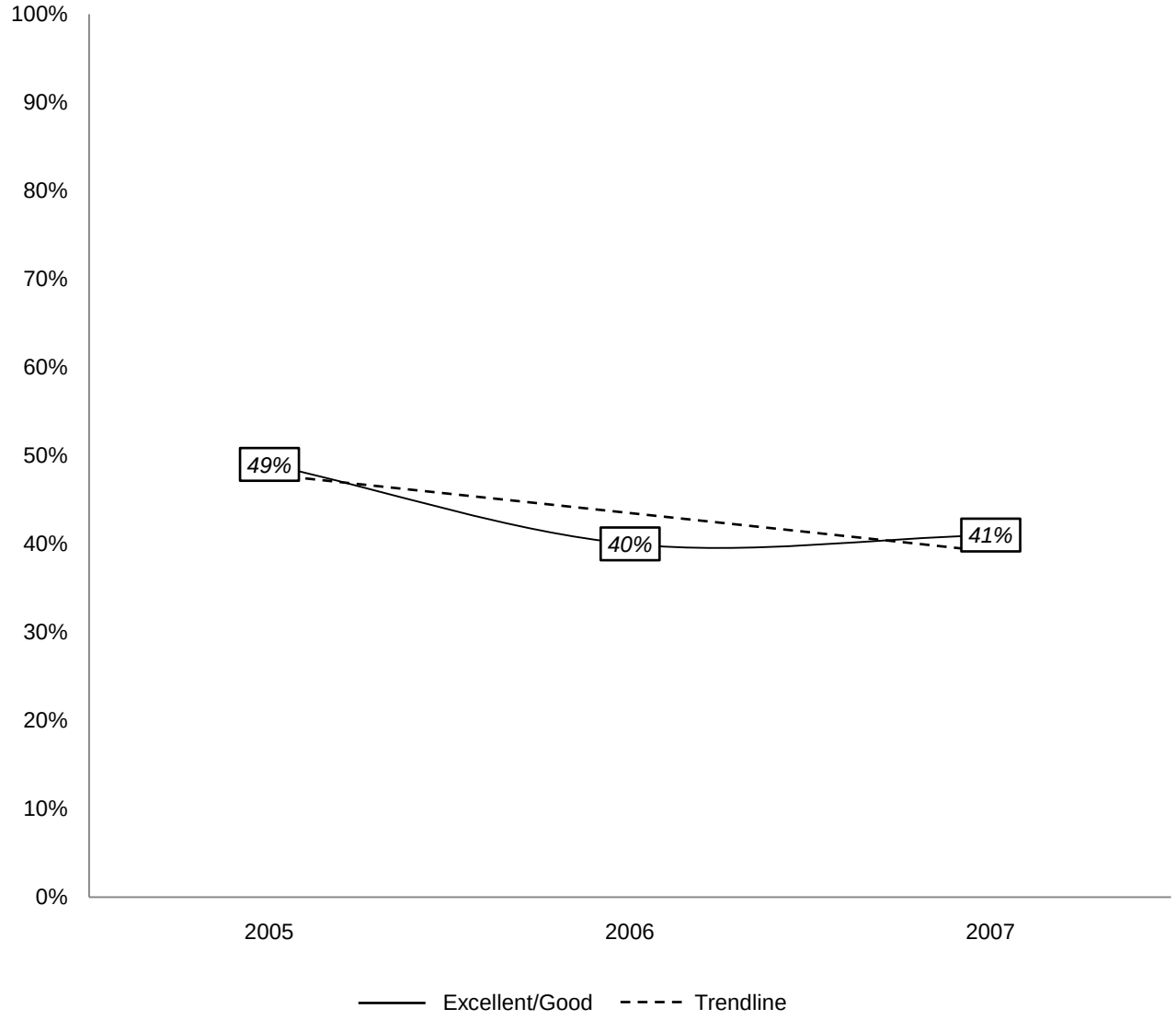
C1 Customer Perceptions



Operator Helpfulness (Audit Period & Historic)

A majority of Muni customers also rate operator helpfulness as "excellent" or "good."

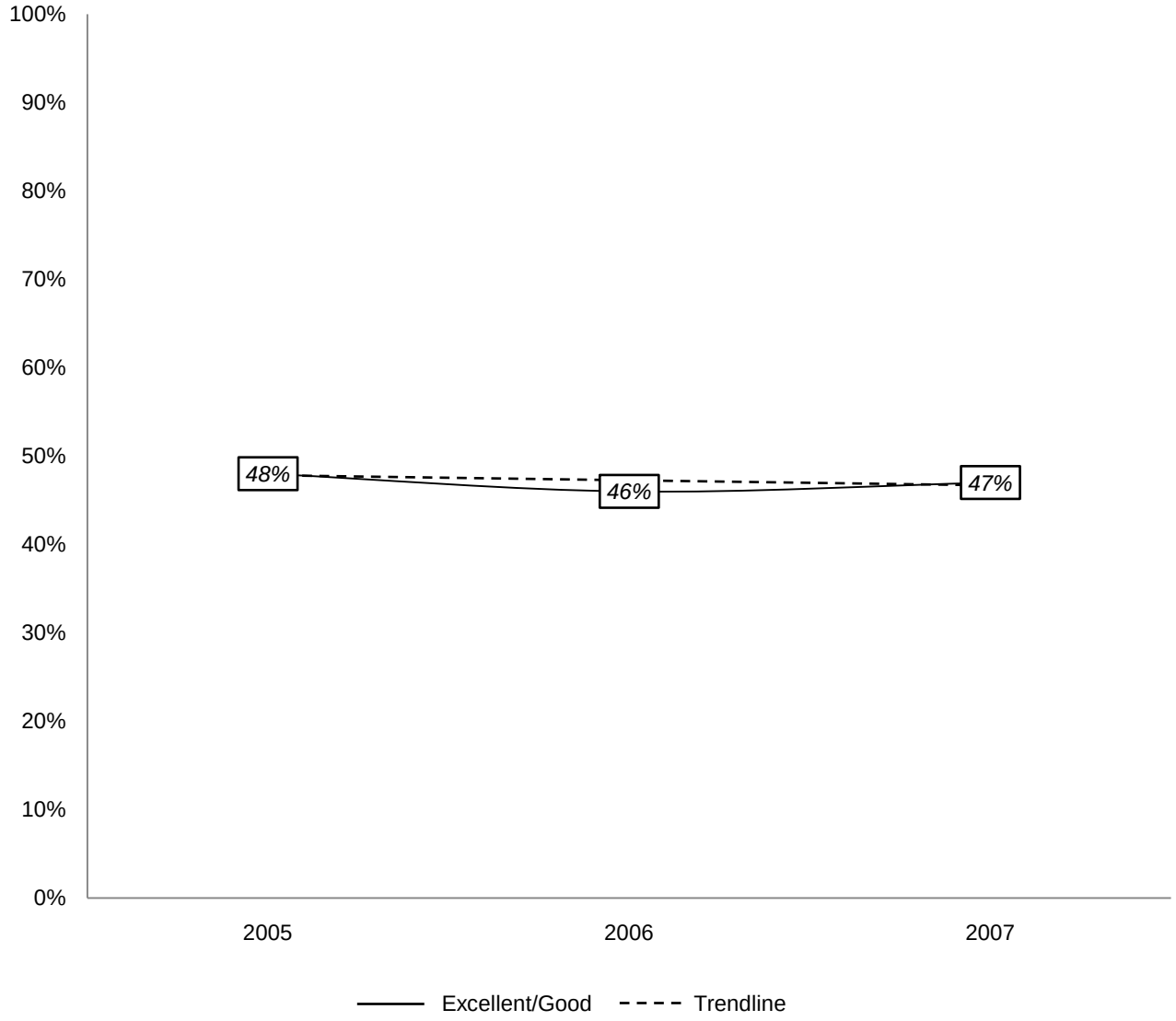
C1 Customer Perceptions



Communication with Riders (Audit Period & Historic)

By contrast, most Muni customers consider the agency's communications with riders to be "fair" or "poor." Performance declined significantly in 2006, but improved in 2007.

C1 Customer Perceptions



Vehicle Cleanliness (Audit Period & Historic)

A slim majority of customers consider the cleanliness of Muni vehicles to be "fair" or "poor."

C1 Customer Perceptions

Recommendation

Explore combining SFMTA Ridership Survey with City Survey conducted by Controller's Office.

For budgetary reasons, SFMTA has not conducted a customer survey since 2007. However, the Controller's Office conducts a biennial City Survey in which respondents grade Muni service in a number of areas, several of which overlap with categories reported in Service Standards Reports. Historically, Muni customer surveys have been conducted annually; however, the potential savings might justify a biennial cycle.

If the Muni survey is to be continued, we would endorse a number of changes already under consideration by staff:

- conduct the survey in multiple languages, not just English;
- broaden its scope beyond customer satisfaction to include questions about customer preferences;
- target not just transit users, but all those impacted by transit, including cyclists and drivers; and
- if possible, supplement telephone surveys with intercept surveys.

We would further recommend that questions about vehicle cleanliness be expanded to incorporate stop and station cleanliness.

C2 Operator Complaint Resolution Rate / Customer Feedback Received

Goal *> 75% within 30 days*

FY07-08 Performance  *Did Not Achieve Goal*

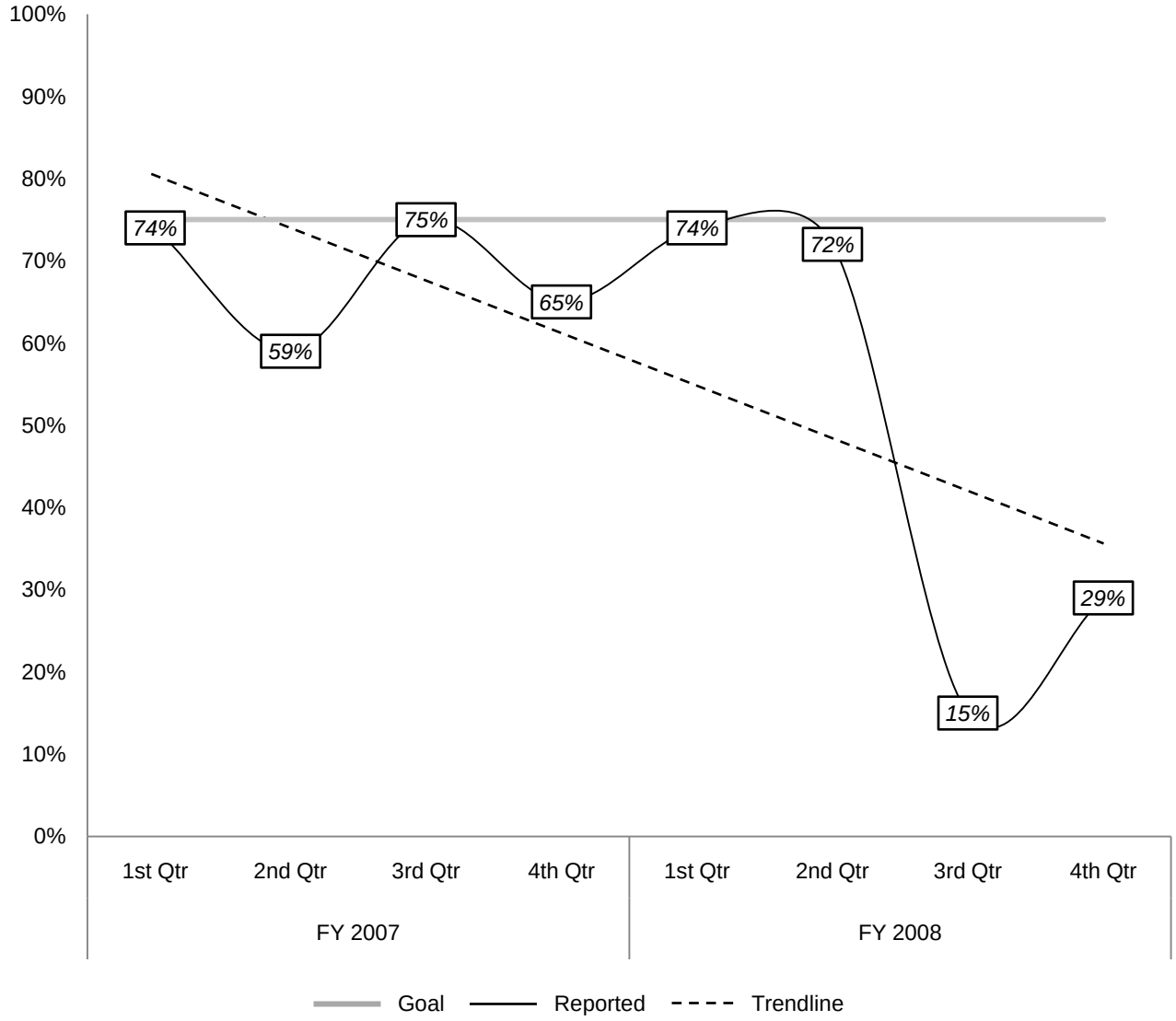
Trend  *Negative*

Purpose To measure customer satisfaction with the Municipal Railway and the effectiveness of internal processes to address the complaints.

Definition SFMTA summarizes complaints received, resolved, and outstanding on a quarterly basis.

Method Data provided from the Passenger Service Report Unit and will be reported to the Board on a quarterly basis.

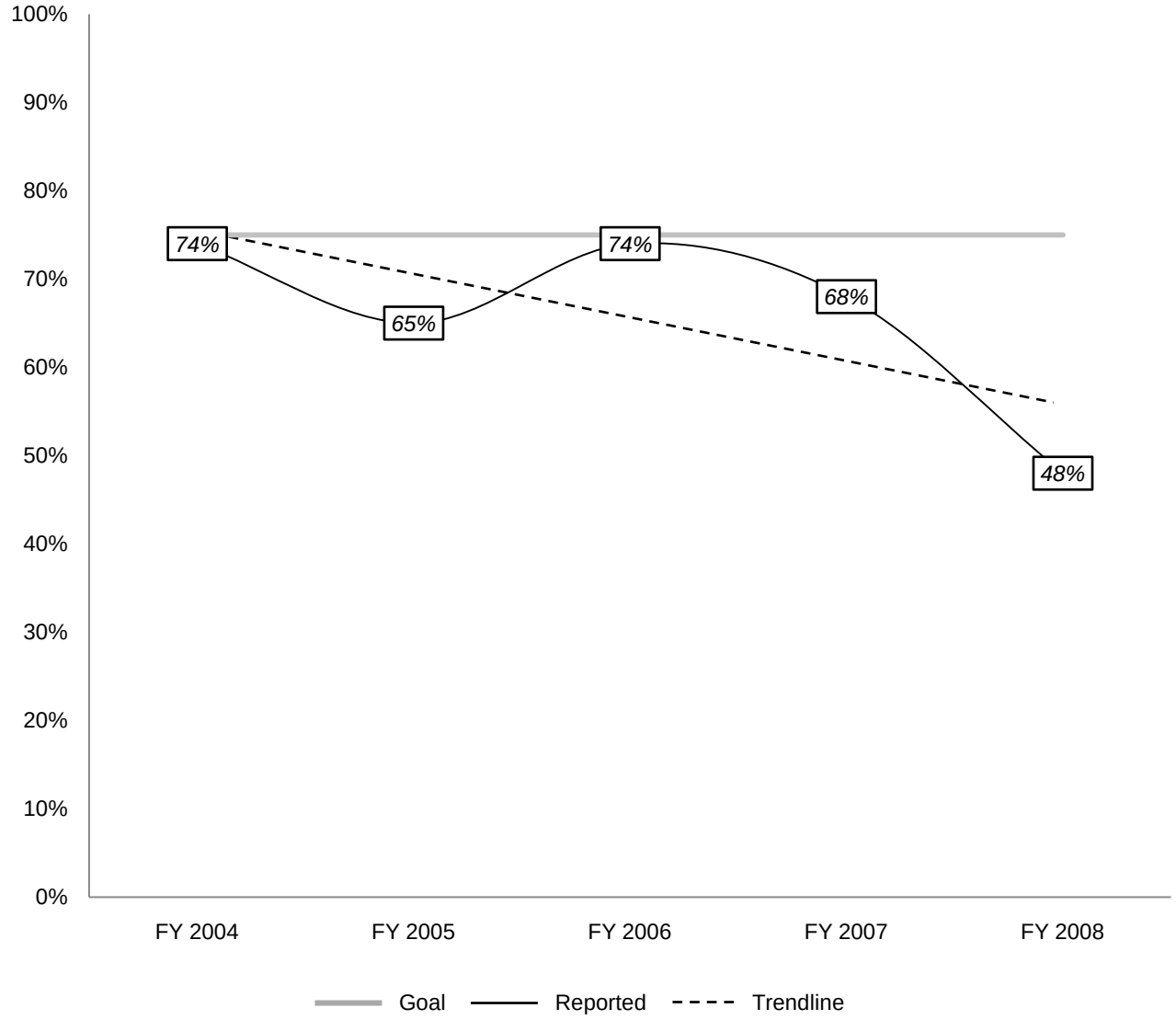
C2 Operator Complaint Resolution Rate



Operator Complaints Requiring Follow-Up – Resolution Rate (Audit Period)

Historically, only resolution rates for Americans with Disabilities Act-related complaints have been reported, although this will change starting in Fiscal Year 2010. In the 3rd Quarter of Fiscal Year 2008, resolution rates for ADA complaints declined precipitously; however, this appears to have been caused by a problematic transition to new software, and in Fiscal Year 2009 resolution rates have returned to historic levels.

C2 Operator Complaint Resolution Rate



Operator Complaints Requiring Follow-Up – Resolution Rate (Historic)

Historically, only resolution rates for Americans with Disabilities Act-related complaints have been reported, although this will change starting in Fiscal Year 2010. In the 3rd Quarter of Fiscal Year 2008, resolution rates for ADA complaints declined precipitously; however, this appears to have been caused by a problematic transition to new software, and in Fiscal Year 2009 resolution rates have returned to historic levels.

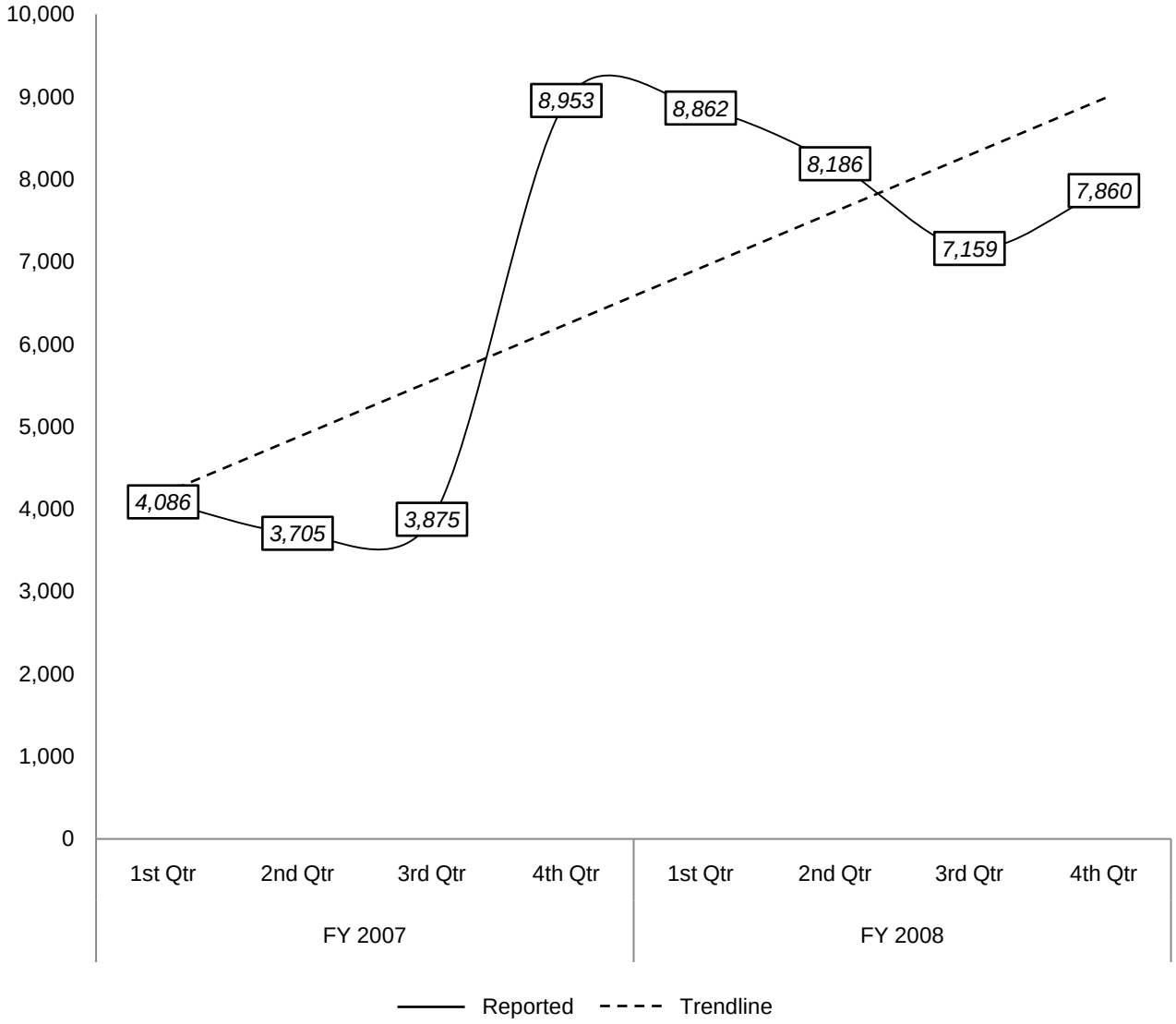
C2 Operator Complaint Resolution Rate

FY 2008	FY 2009		
4th Qtr	1st Qtr	2nd Qtr	3rd Qtr
29%	75%	63%	93%

Since the Audit Period

Since the problems with software transition were resolved, resolution rates for ADA-related complaints have returned to previous levels, reaching a high of 93% in the 3rd Quarter of Fiscal Year 2009.

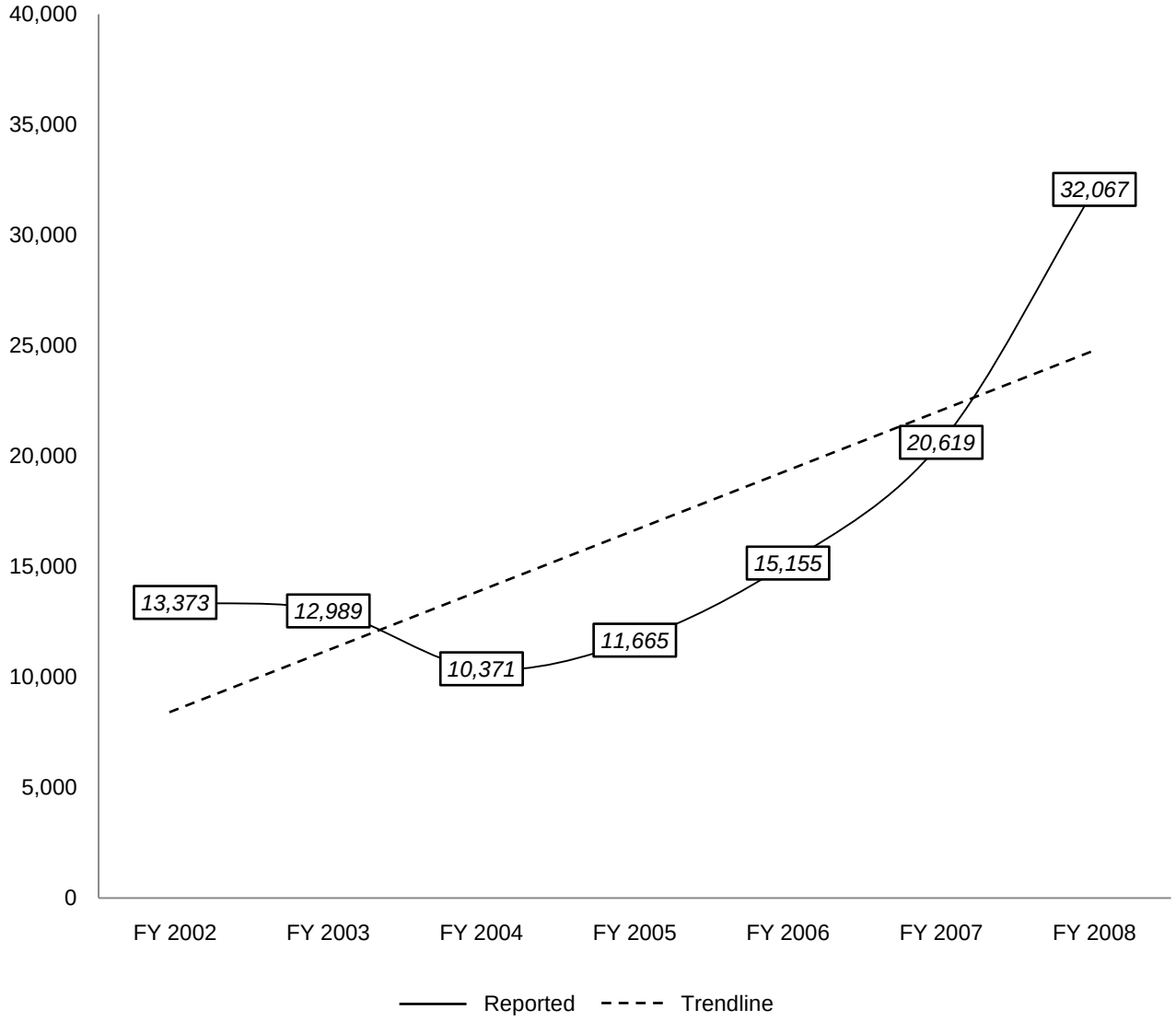
C2 Customer Feedback Received



Passenger Service Reports (Audit Period)

Numbers of PSRs submitted in all categories increased significantly in the 4th Quarter of Fiscal Year 2007, and have remained at similar levels ever since. According to staff, this corresponds with implementation of 24-hour availability of 311 phone line customer service operators, who can log Muni complaints.

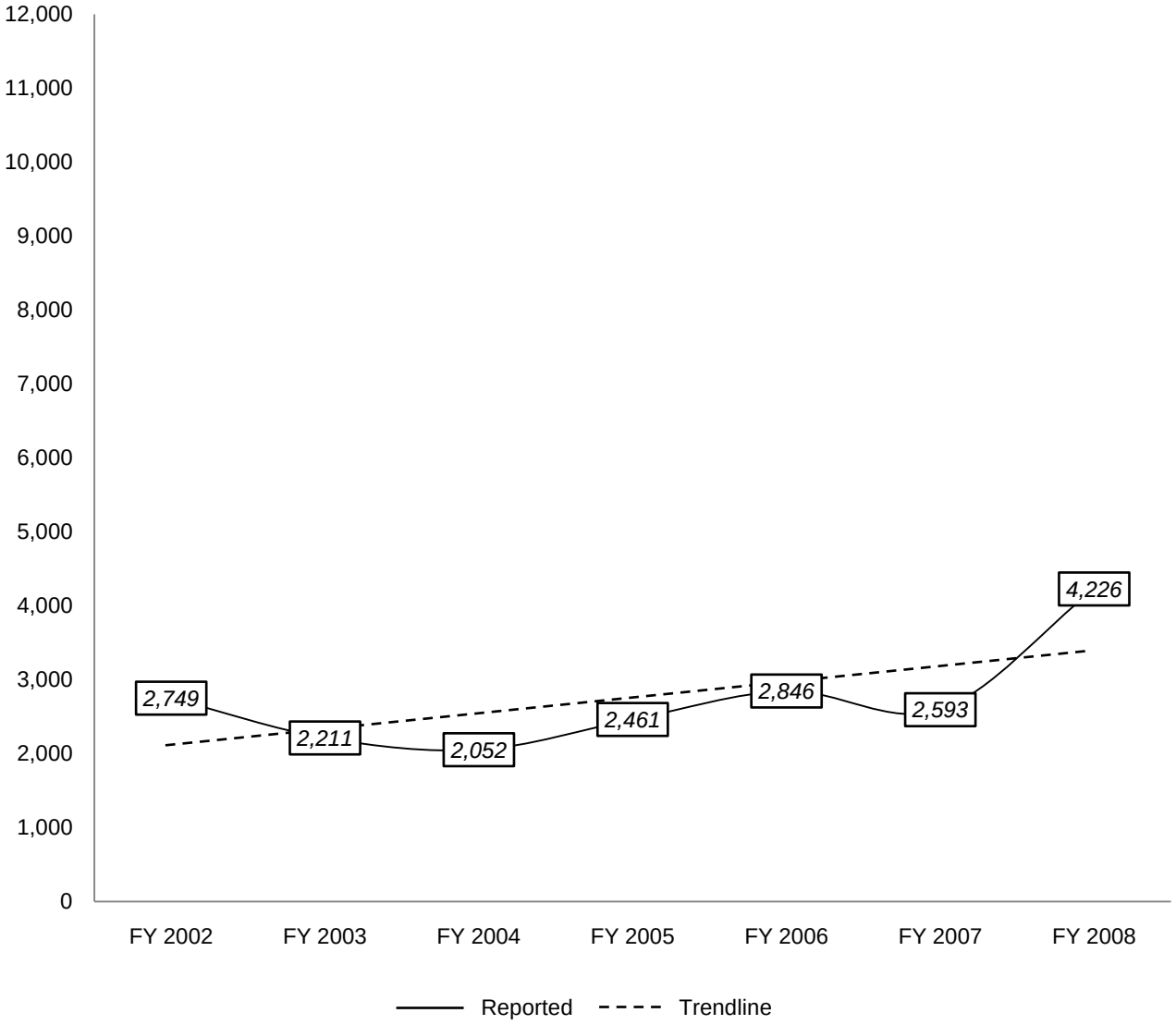
C2 Customer Feedback Received



Passenger Service Reports (Historic)

Numbers of PSRs submitted in all categories increased significantly in the 4th Quarter of Fiscal Year 2007, and have remained at similar levels ever since. According to staff, this corresponds with implementation of 24-hour availability of 311 phone line customer service operators, who can log Muni complaints.

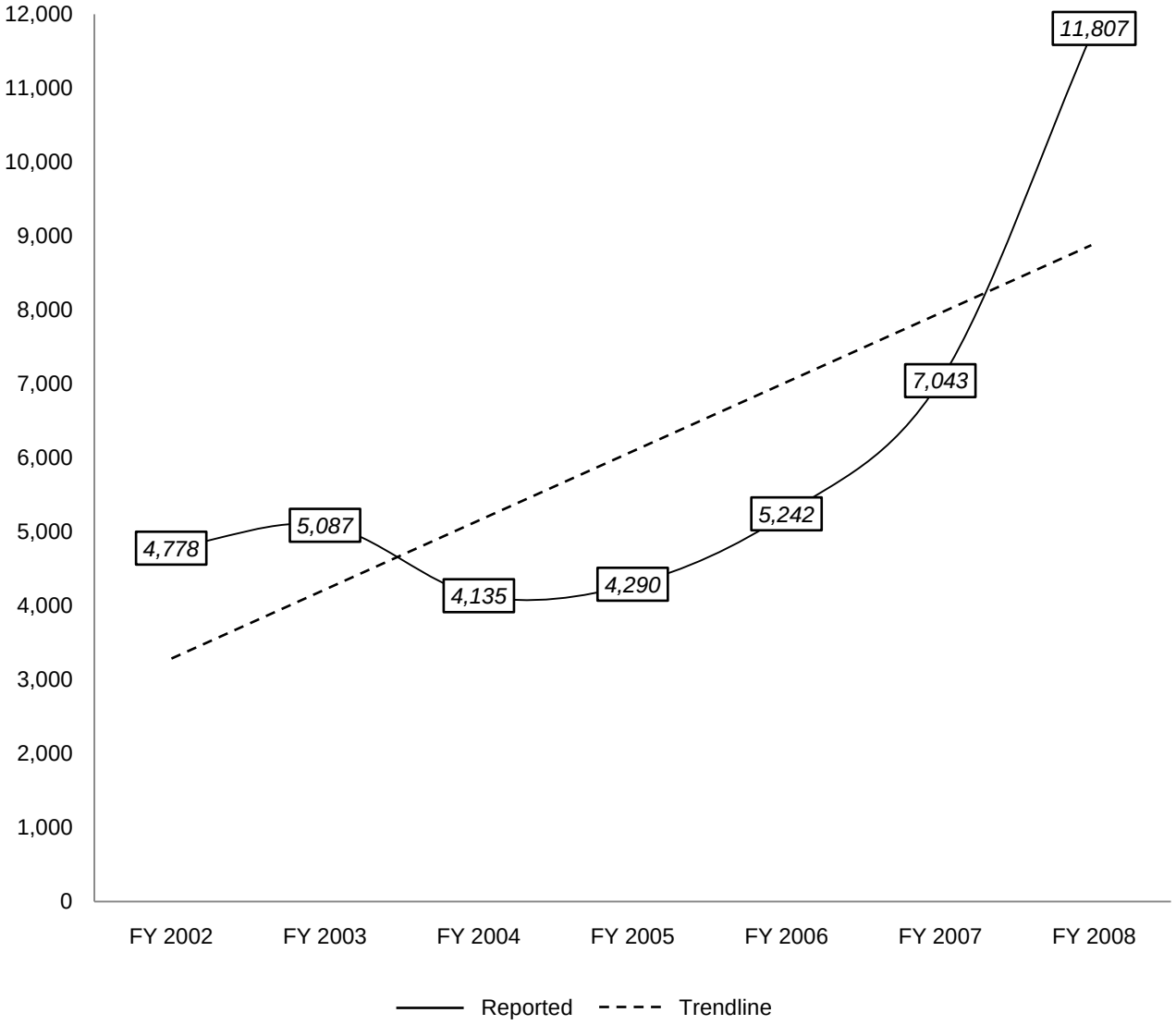
C2 Customer Feedback Received



Passenger Service Reports by Type: Operator Complaints Requiring Follow-Up (Audit Period & Historic)

Numbers of PSRs submitted in all categories increased significantly in the 4th Quarter of Fiscal Year 2007, and have remained at similar levels ever since. According to staff, this corresponds with implementation of 24-hour availability of 311 phone line customer service operators, who can log Muni complaints.

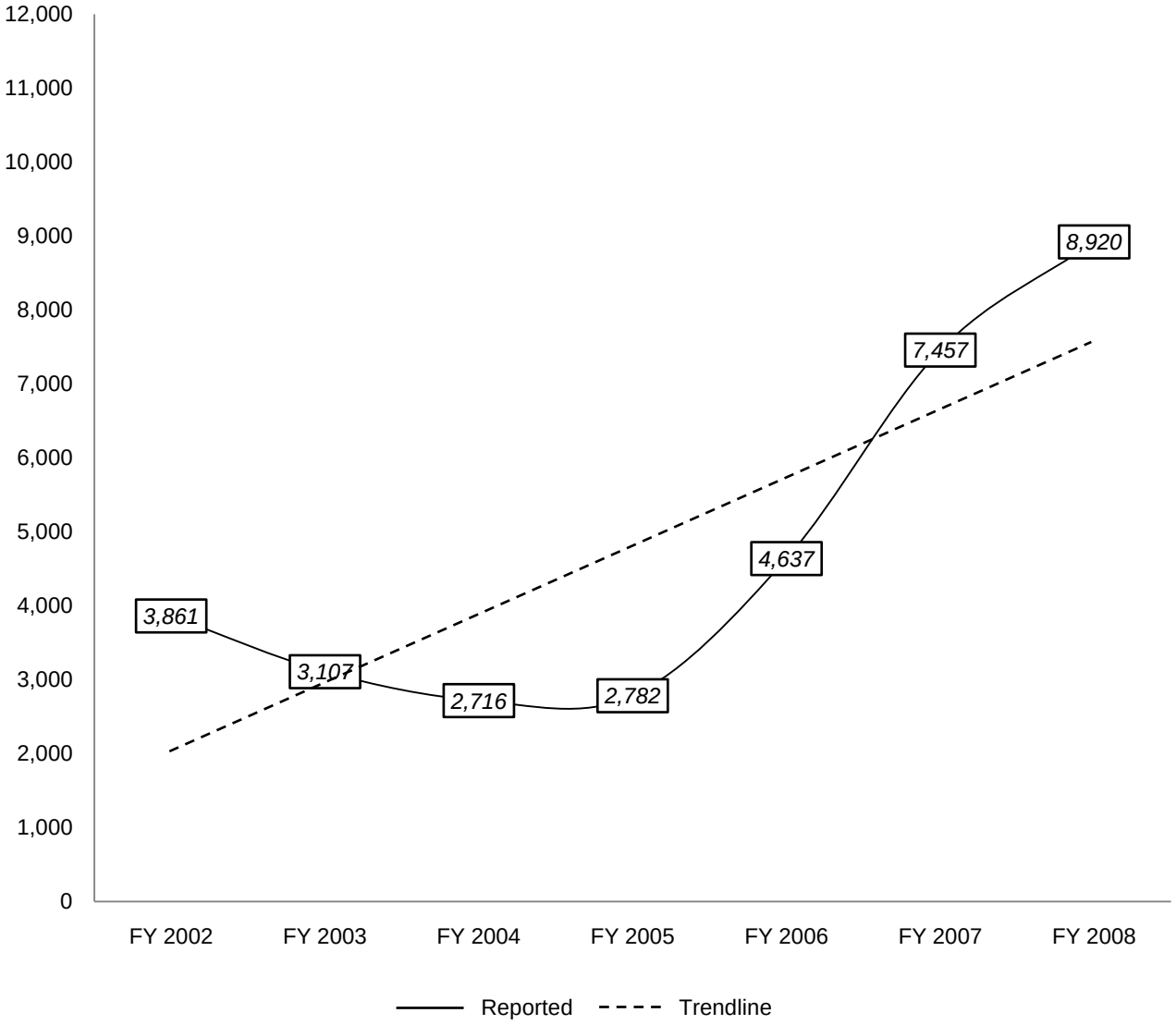
C2 Customer Feedback Received



Passenger Service Reports by Type: Other Operator Complaints (Audit Period & Historic)

Numbers of PSRs submitted in all categories increased significantly in the 4th Quarter of Fiscal Year 2007, and have remained at similar levels ever since. According to staff, this corresponds with implementation of 24-hour availability of 311 phone line customer service operators, who can log Muni complaints.

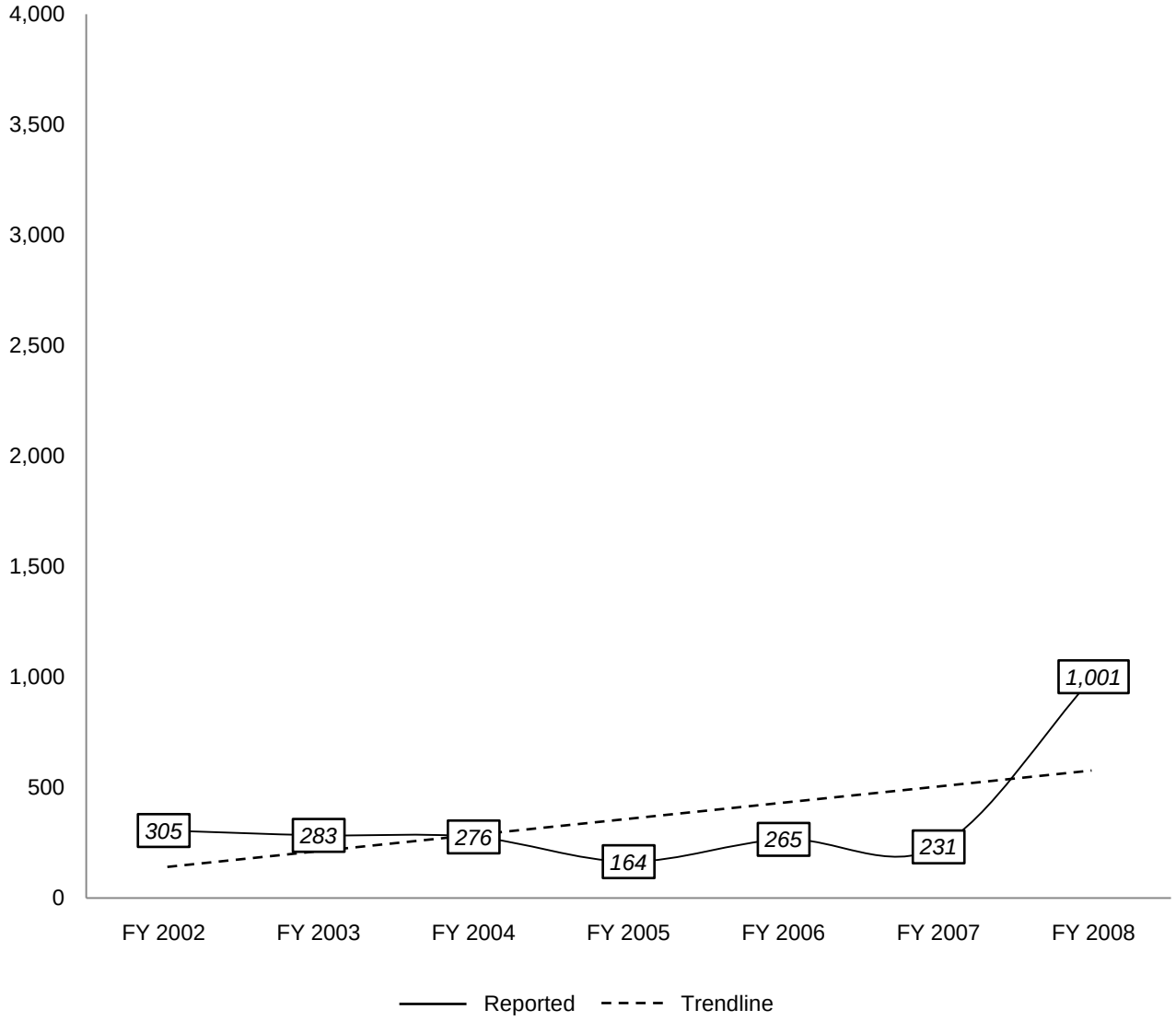
C2 Customer Feedback Received



Passenger Service Reports by Type: Service (Audit Period & Historic)

Numbers of PSRs submitted in all categories increased significantly in the 4th Quarter of Fiscal Year 2007, and have remained at similar levels ever since. According to staff, this corresponds with implementation of 24-hour availability of 311 phone line customer service operators, who can log Muni complaints.

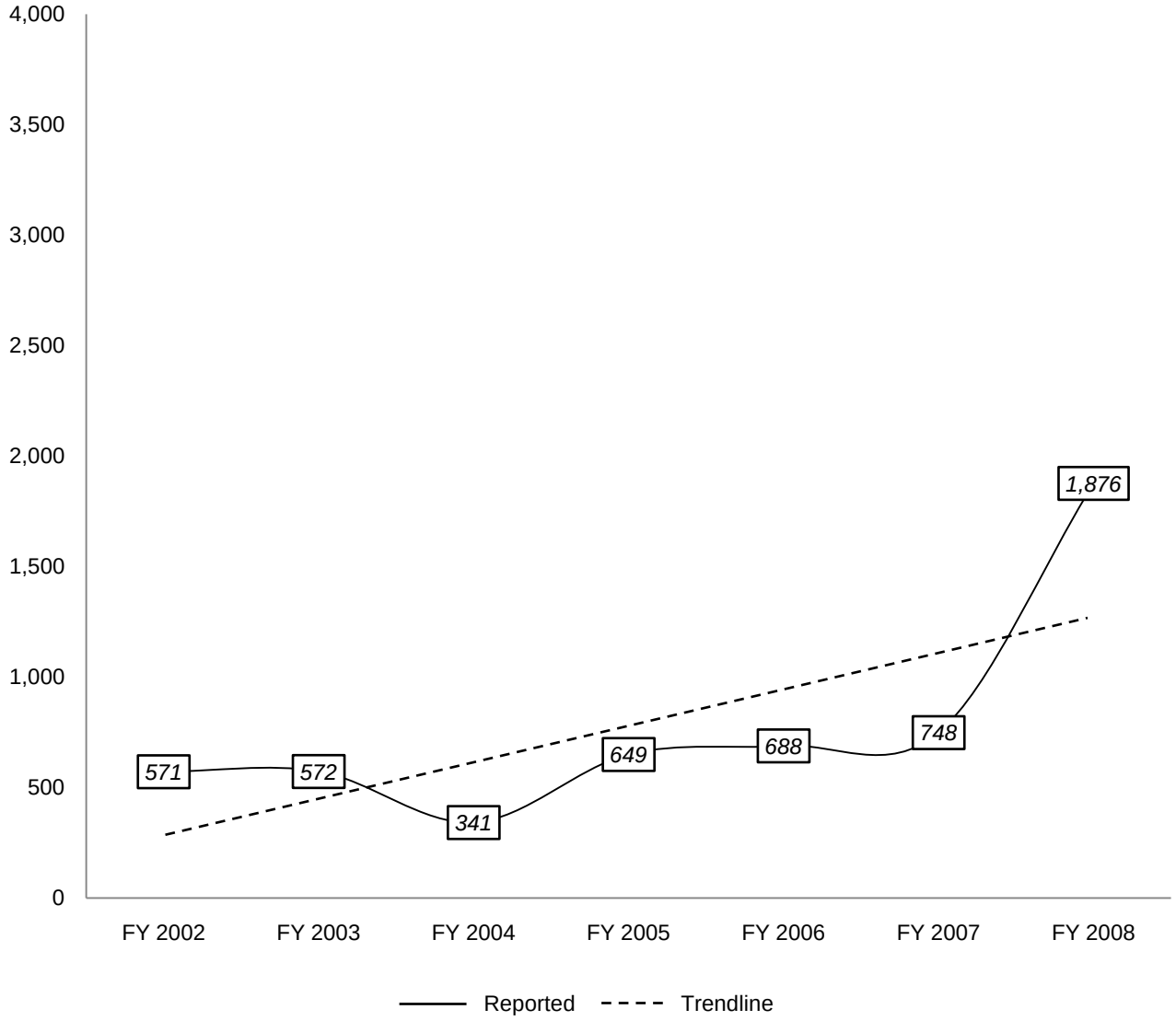
C2 Customer Feedback Received



Passenger Service Reports by Type: Vehicle (Audit Period & Historic)

Numbers of PSRs submitted in all categories increased significantly in the 4th Quarter of Fiscal Year 2007, and have remained at similar levels ever since. According to staff, this corresponds with implementation of 24-hour availability of 311 phone line customer service operators, who can log Muni complaints.

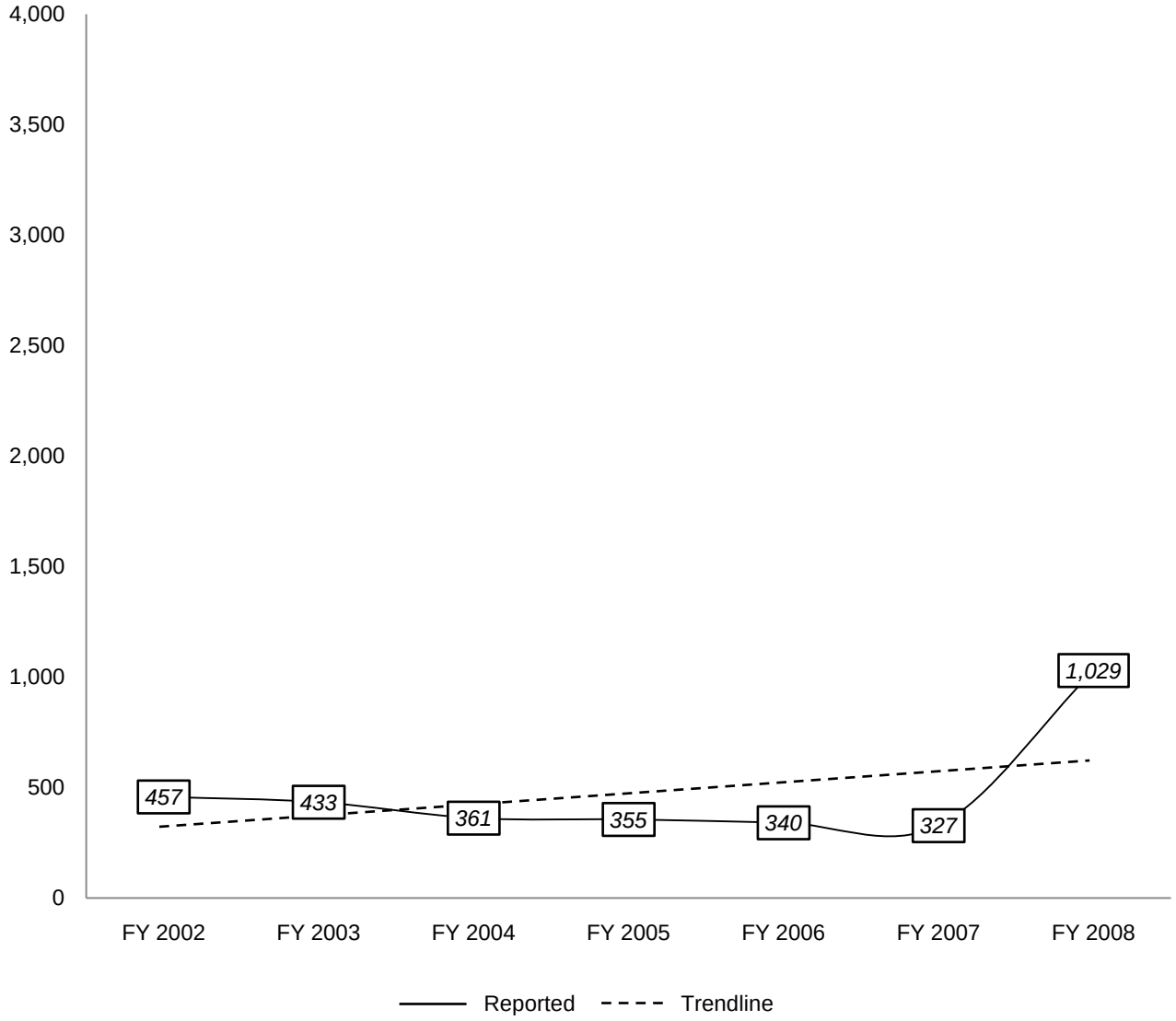
C2 Customer Feedback Received



Passenger Service Reports by Type: ADA (Audit Period & Historic)

Numbers of PSRs submitted in all categories increased significantly in the 4th Quarter of Fiscal Year 2007, and have remained at similar levels ever since. According to staff, this corresponds with implementation of 24-hour availability of 311 phone line customer service operators, who can log Muni complaints.

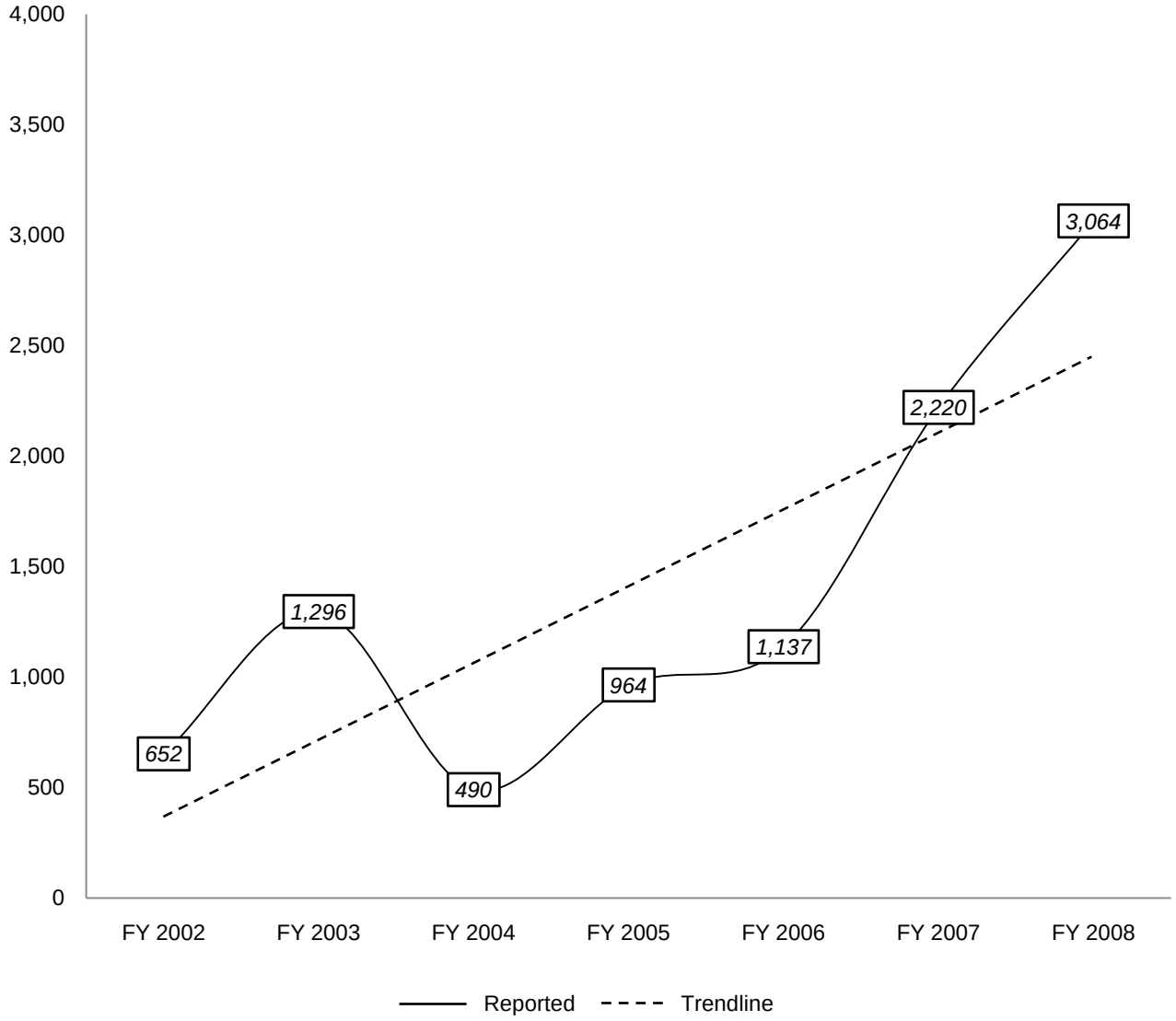
C2 Customer Feedback Received



Passenger Service Reports by Type: Criminal Activity (Audit Period & Historic)

Numbers of PSRs submitted in all categories increased significantly in the 4th Quarter of Fiscal Year 2007, and have remained at similar levels ever since. According to staff, this corresponds with implementation of 24-hour availability of 311 phone line customer service operators, who can log Muni complaints.

C2 Customer Feedback Received



Passenger Service Reports by Type: Miscellaneous (Audit Period & Historic)

Numbers of PSRs submitted in all categories increased significantly in the 4th Quarter of Fiscal Year 2007, and have remained at similar levels ever since. According to staff, this corresponds with implementation of 24-hour availability of 311 phone line customer service operators, who can log Muni complaints.

C2 Customer Feedback Received

	FY 2009		
Category	1st Qtr	2nd Qtr	3rd Qtr
Employee Conduct	4,177	4,264	4,156
Unsafe Operation	737	758	701
Inattentiveness/Negligence	2,443	2,355	2,250
Discourteous/Insensitive/Inappropriate Conduct	997	1,151	1,205
Products and Services	2,402	2,726	2,301
Criminal Activity	86	89	108
Service Delivery/Facilities	1,452	1,684	1,340
Service Planning	642	705	373
Miscellaneous	222	248	480

Since the Audit Period

In Fiscal Year 2009, reporting categories for PSRs were changed. Overall totals appear to have fallen somewhat from their previous levels of 7,000 to 9,000 per quarter.

C2 Operator Complaint Resolution Rate / Customer Feedback Received

Recommendation

Change timelines to 60 days for resolution of Americans with Disabilities Act- and product/services-related Passenger Service Reports (PSRs), and 14 days for non-ADA employee conduct complaints.

Historically, only resolution rates for ADA-related PSRs have been tracked, but starting in Fiscal Year 2010, resolution rates for all PSRs will be reported. While Muni has historically been able to achieve or nearly achieve the goal of resolution of 75% of ADA-related PSRs within 30 days, the process for resolution of ADA PSRs can involve several phases, each of which can by regulation take several weeks. Therefore, a timeline of 60 days seems appropriate. Operators, however, must under labor agreements be notified of non-ADA complaints involving them within 14 days, so a 14-day timeline for resolution of non-ADA operator conduct complaints seems appropriate. This recommendation is consistent with a proposal adopted by staff, which allows 14 days for resolution of employee conduct complaints and 60 days for ADA- and products/services-related PSRs such as criminal activity and service planning complaints. We further endorse staff's proactive approach in redefining PSR categories so that they are more logical and transparent.

C3 Operator Training

Goal *> 50,000 hrs./yr.*

FY07-08 Performance

Achieved Goal

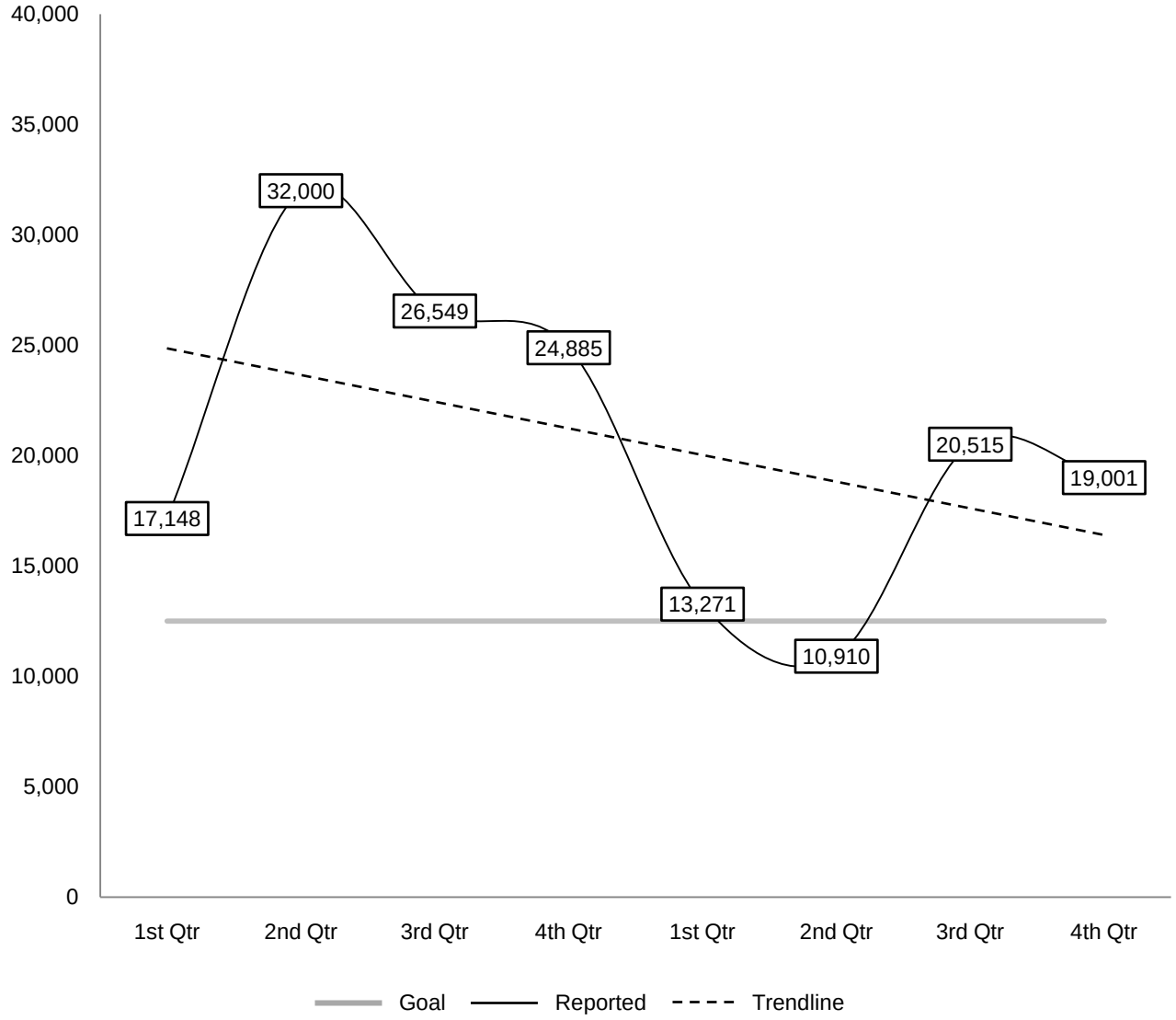
Trend *N/A (Method Changed)*

Purpose To reduce accidents through effective operator training programs as well as effective accident follow-up training.

Definition Monthly measurement of the number of training hours by type of class. Training hours are tracked for the following areas: New Operator Training, Immediate Follow-up Rides, One/Two Day Accident Retraining, Verification of Transit Training, Operator Refresher, and Passenger Relations/Conflict Training.

Method Number of reportable accidents and training hours. Data are reported to the Board on a quarterly basis. *(Note: The methodology for this Service Standard was changed in Fiscal Year 2008, when new employee training for supervisors and operators was removed from totals).*

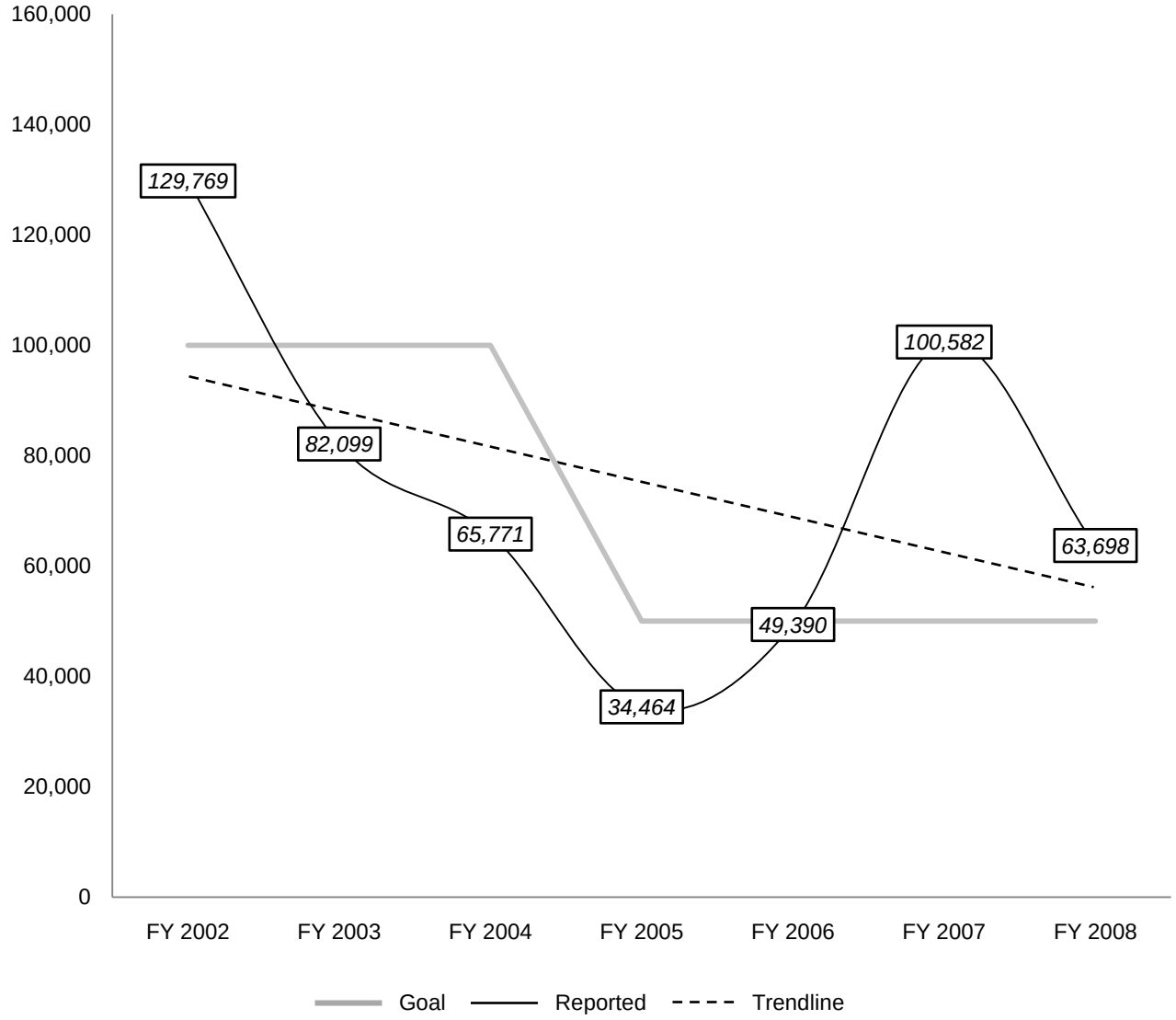
C3 Operator Training



Number of Training Hours (Audit Period)

The methodology for this Service Standard was changed in Fiscal Year 2008, when new employee training for supervisors and operators was removed from totals. Nonetheless, Muni continued to easily achieve its goal of 50,000 hours per year.

C3 Operator Training



Number of Training Hours (Historic)

The methodology for this Service Standard was changed in Fiscal Year 2008, when new employee training for supervisors and operators was removed from totals. Nonetheless, Muni continued to easily achieve its goal of 50,000 hours per year.

C3 Operator Training

FY 2008	FY 2009		
4th Qtr	1st Qtr	2nd Qtr	3rd Qtr
19,001	11,632	12,408	19,290

Since the Audit Period

In the first two quarters of Fiscal Year 2009, slightly less than the quarterly goal of 12,500 hours of training was provided. However, in the 3rd Quarter, hours increased significantly.

C4 Safety

Goal *- 5% / yr.*

FY07-08 Performance

Did Not Achieve Goal

Trend

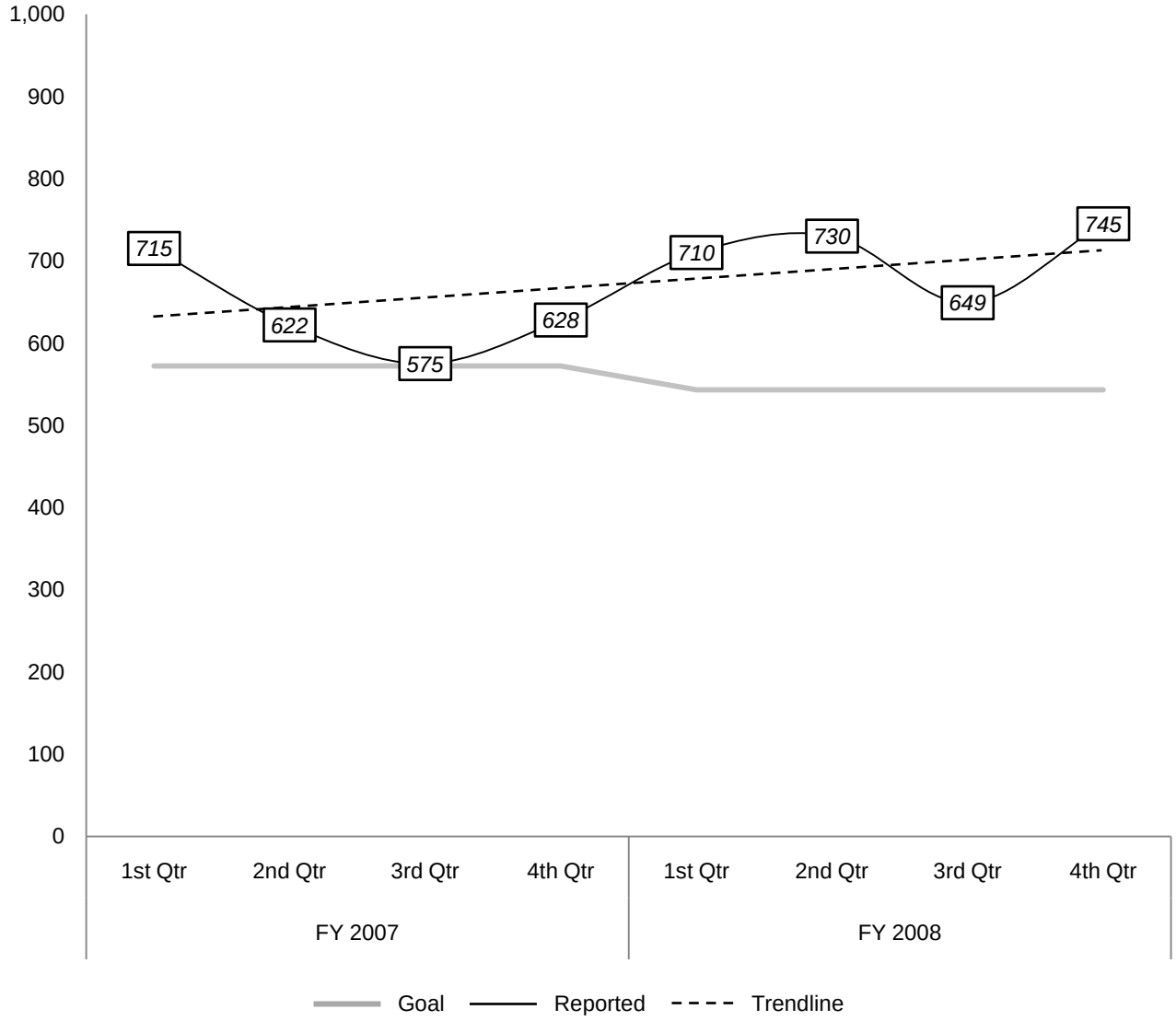
Negative

Purpose To reduce accidents through effective operator training programs as well as effective accident follow-up training.

Definition Track reduction in accidents as a result of more effective operator training and accident retraining.

Method Number of reportable revenue service accidents. Data will be reported to the Board on a quarterly basis.

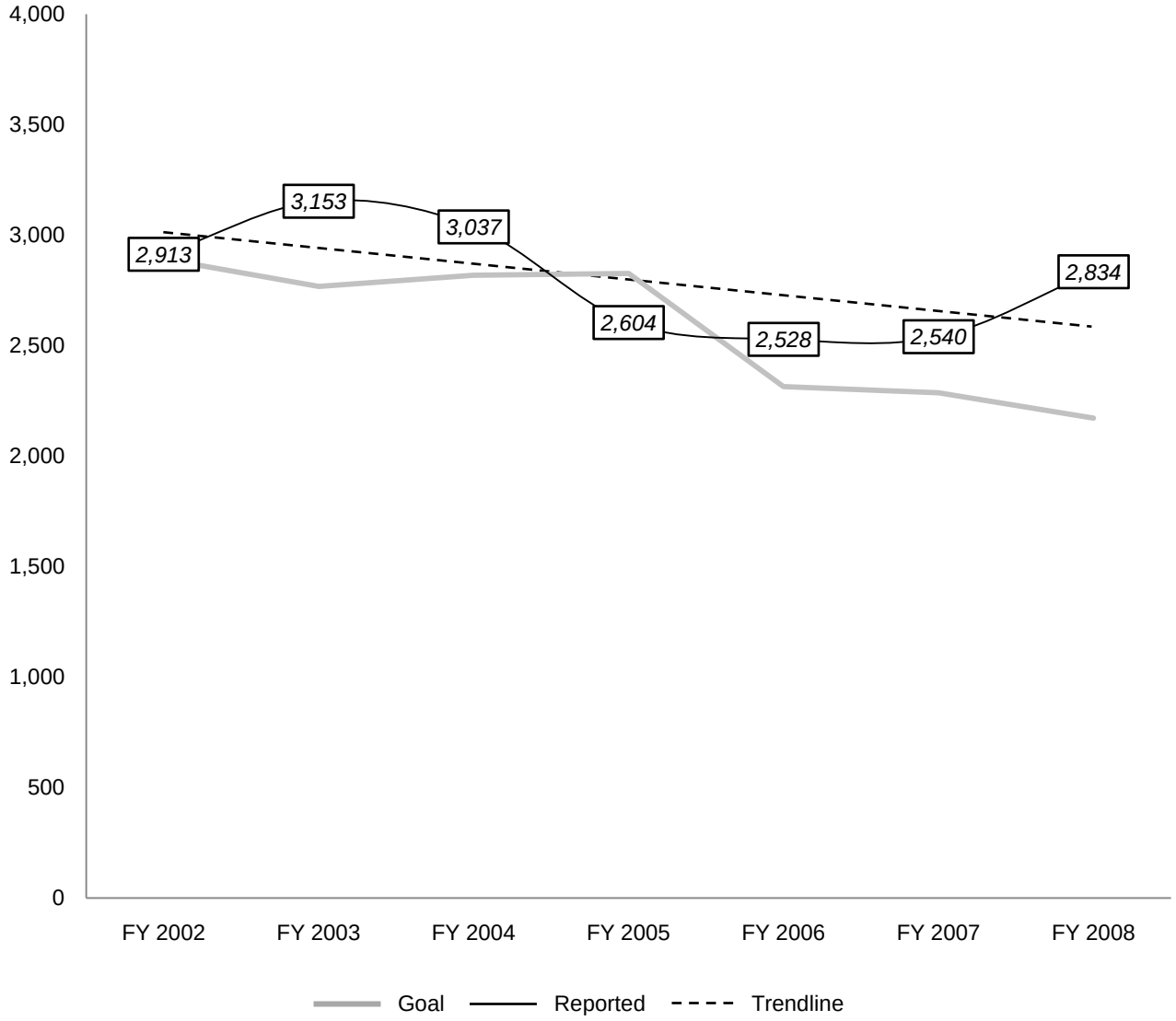
C4 Safety



Number of Passenger & Vehicle Accidents (Audit Period)

The number of accidents involving Muni (including collisions with Muni vehicles and falls on board) increased somewhat in Fiscal Year 2008. (Note: These statistics are taken from the Service Standards report for the 4th Quarter of Fiscal Year 2008 and were correct as of July 28, 2008, but may have been changed since due to reports in progress and blind claims.)

C4 Safety



Number of Passenger & Vehicle Accidents (Historic)

The number of accidents involving Muni (including collisions with Muni vehicles and falls on board) increased somewhat in Fiscal Year 2008, but remained below historic highs.

C4 Safety

Accidents Per 100,000 Miles

In Fiscal Year 2008, Muni began reporting a more meaningful measure than total numbers of accidents, rates of accidents per 100,000 miles of service. Below are quarterly rates starting in FY08, as well as historic rates. Goals were set starting in Fiscal Year 2009, based on a 5% decrease over the previous year's levels. In the first three quarters of FY09, goals have mostly been achieved, with rail collisions, which had increased in FY08, returning to previous levels.

	FY 2008					FY 2009		
Category	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	*FY09 Goal*	1st Qtr	2nd Qtr	3rd Qtr
Bus Collisions	6.86	6.63	5.97	7.78	*6.47*	6.28	6.32	5.25
Bus Falls on Board	3.05	3.28	2.74	3.12	*2.90*	2.87	3.29	2.85
Rail Collisions	4.31	5.34	5.71	4.61	*4.74*	3.39	4.22	3.88
Rail Falls on Board	3.29	2.98	1.97	2.12	*2.46*	2.30	2.40	2.05

Category	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008
Bus Collisions	6.79	6.66	6.54	6.57	6.81
Bus Falls on Board			2.81	2.99	3.05
Rail Collisions	4.8	4.13	4.22	3.80	4.99
Rail Falls on Board			2.63	2.55	2.59

C4 Safety

Recommendation

Report systemwide accident rates.

Muni has, as previously recommended, begun reporting accident rates per 100,000 miles, and it reports them in four separate categories: collisions and falls on board for both bus and rail. However, systemwide averages are not being reported, and should be.

C6 Security Incidents

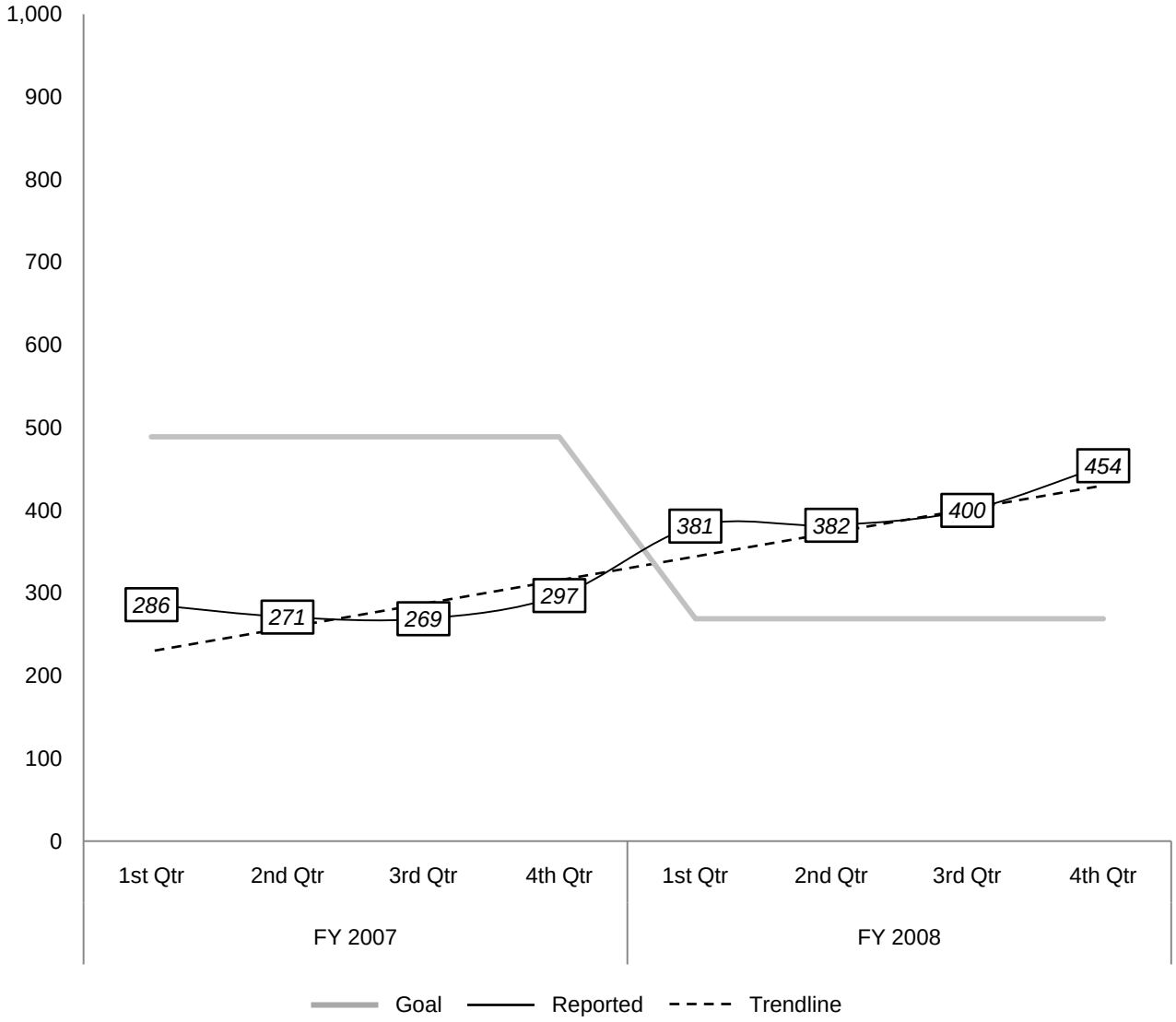
Goal	*- 5% / yr.*	**FY07-08 Performance**	*N/A (Method Changed)*	**Trend**	*N/A (Method Changed)*

Purpose To measure security incidents on transit vehicles and in facilities.

Definition All categories of crime incidents are reported by category on a quarterly basis.

Method Data is collected daily by Security and Enforcement. Data will be reported to the Board on a quarterly basis.

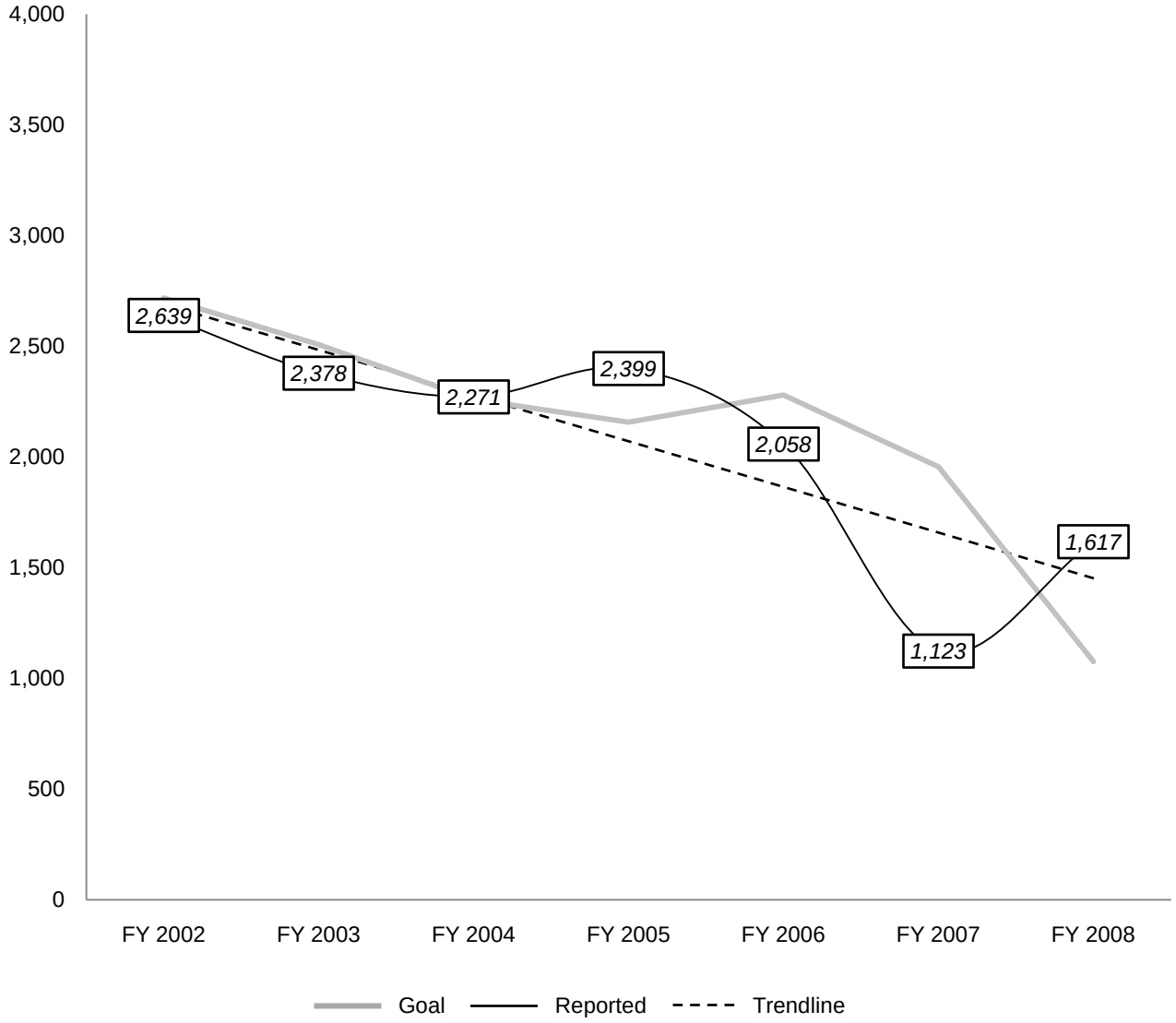
C6 Security Incidents



Criminal Activity & Other Security Incidents (Audit Period)

A staff transition at Muni during Fiscal Year 2007 resulted in crime reporting for which reliability could not be confirmed (this issue was addressed in the previous Quality Review). Then, in Fiscal Year 2008, Muni's methodology for tracking and reporting crimes was changed. As a result, 2007 data should not be compared to 2008 figures. Additionally, the goal for 2008 was based on unreliable 2007 data.

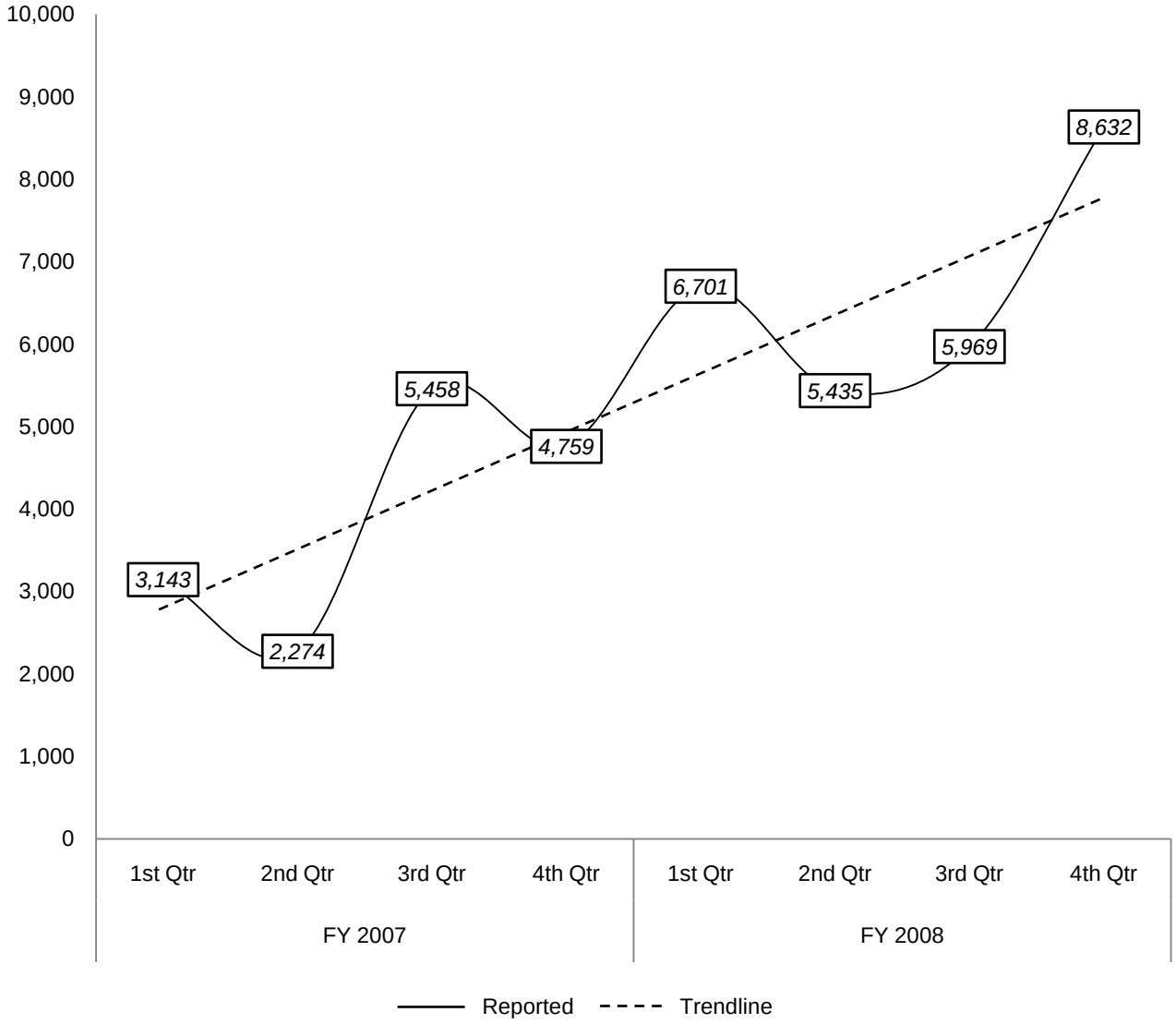
C6 Security Incidents



Criminal Activity (Historic)

A staff transition at Muni during Fiscal Year 2007 resulted in crime reporting for which reliability could not be confirmed (this issue was addressed in the previous Quality Review). Then, in Fiscal Year 2008, Muni's methodology for tracking and reporting crimes was changed. As a result, 2007 data should not be compared to 2008 figures. Additionally, the goal for 2008 was based on unreliable 2007 data.

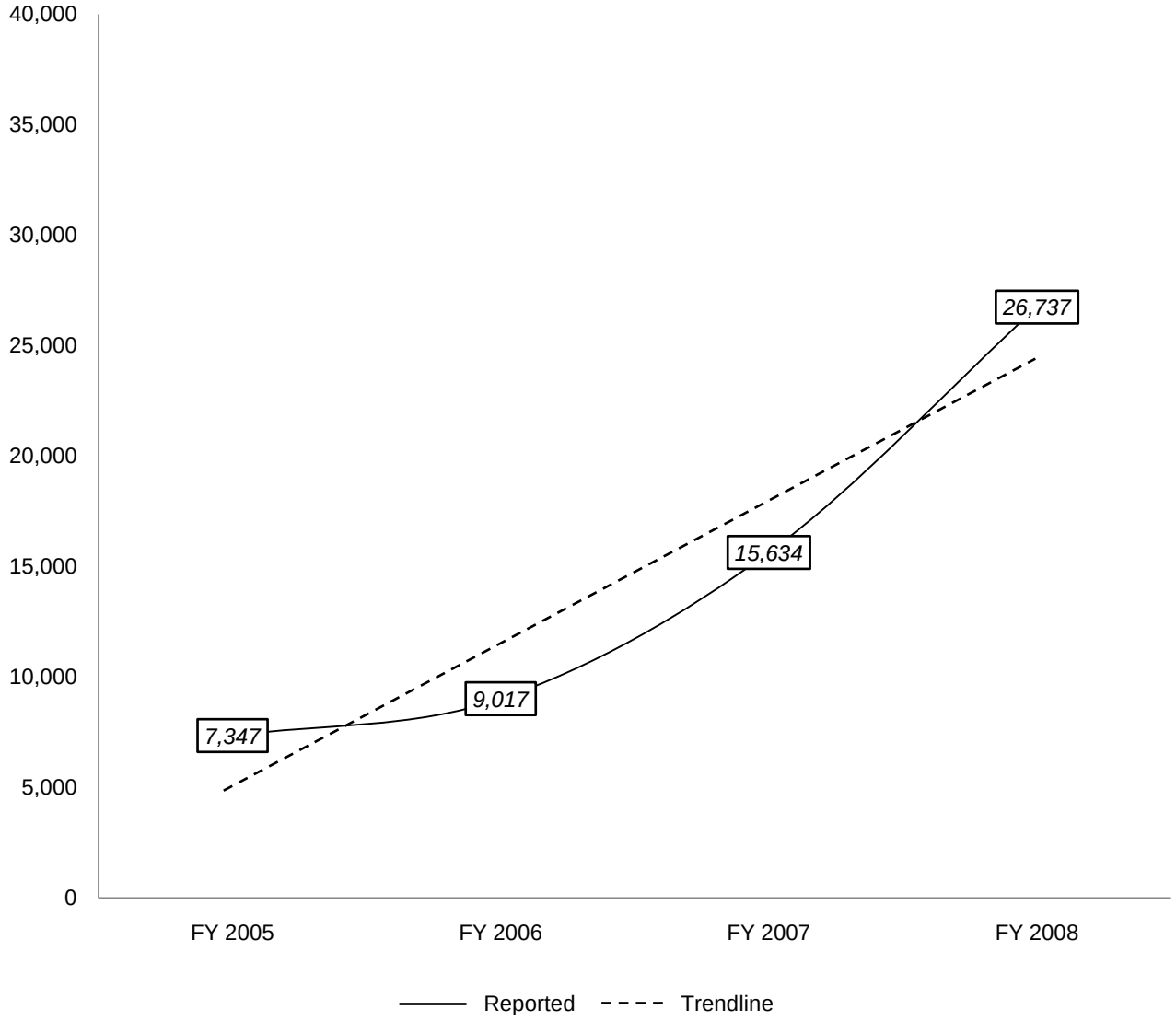
C6 Security Incidents



Fare Evasions (Audit Period)

While there has been some fluctuation from quarter to quarter, Muni has steadily expanded its fare evasion enforcement program, and increased the number of fare evasion citations it issues.

C6 Security Incidents



Fare Evasions (Historic)

Muni has steadily expanded its fare evasion enforcement program, and increased the number of fare evasion citations it issues. Prior to Fiscal Year 2005, Muni issued only a handful of citations for fare evasion annually.

C6 Security Incidents

Partial Audit Period/Since the Audit Period

In Fiscal Year 2008, Muni changed its methodology for reporting crimes. Incidents resulting in SFPD reports are now organized using FBI Parts I & II Categories (see below). Additional incidents recorded in Muni's TransitSafe database are reported as "Other Security Incidents" (see next page). In the 1st and 2nd Quarters of Fiscal Year 2009, there appears to have been an increase in crime on Muni, although there appears to have been a decline in the 3rd Quarter to near previous levels, largely due to a decrease in thefts.

	FY 2008				FY 2009		
Category	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr
SFPD Crimes	248	217	245	237	230	270	210
Homicide	0	0	0	0	0	0	0
Rape	0	0	0 *	0	0	0	0
Robbery	46	38	30	35	37	57	31
Aggravated Assault	7	9	14	8	9	12	13
Burglary	0	0	2	0	0	0	1
Larceny/Theft	141	104	114	143	136	150	101
Motor Vehicle Theft	1	1	0	0	0	0	0
Arson	0	0	1	0	0	0	0
Other Assault	27	36	51	37	34	43	44
Malicious Mischief	18	21	19	14	3	0	9
Weapons	1	1	2	0	1	0	2
Sex Offenses	2	1	5	0	1	3	1

C6 Security Incidents

Partial Audit Period/Since the Audit Period

"Other Security Incidents" – records from Muni's TransitSafe database that did not result in police reports – have increased since the audit period. Citations issued, meanwhile, appear to have stabilized at around 10,000 per quarter.

	FY 2008				FY 2009		
Category	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr
SFPD Crimes *(cont.)*							
Disorderly Conduct	2	1	3	0	4	1	1
Drunkenness	3	5	2	0	5	4	7
Other Security Incidents	133	165	155	217	232	195	216
Threats	15	22	15	42	50	47	59
Disturbances	17	21	18	48	53	50	61
Graffiti/Vandalism	64	58	68	108	122	90	83
Miscellaneous	37	64	54	19	7	8	13
Fare Evasions	6,701	5,435	5,969	8,632	10,055	9,952	10,757

* Two rapes were initially reported by SFPD to have occurred on Muni property in the 3rd Quarter of Fiscal Year 2008, and this figure was initially repeated in SFMTA quarterly reports. However, investigation by SFMTA later established that the reported figure was incorrect, likely due to human error (such as misclassification).

C6 Security Incidents

Recommendation

Develop methods to ensure more accurate and complete reporting of security incidents, and report rates of fare evasion.

In the previous Quality Review, we noted a number of problems related to reporting of crime on Muni. In part, these problems were caused by retirements in two positions – one at Muni, and one at the San Francisco Police Department – which together made it difficult to piece together a "paper trail" explaining the methodology for reporting crime on Muni. While a new methodology has since been developed, these problems continued into the audit period.

To some extent, problems in reporting of crime on Muni may be unavoidable. By necessity, data comes from two sources – SFPD reports, and additional incidents tracked internally by Muni – and it can be difficult to reconcile conflicting data. To further complicate matters, until recently three parties were responsible for reporting of crime data: the SFPD, which submits information to the SFMTA, the SFMTA's Security and Enforcement Division, which received and reviewed that information, and Muni's Safety and Training Division, which maintained the TransitSafe database of additional security incidents on Muni that, for a variety of reasons, may not have resulted in a police report (for example, an operator who is assaulted may decide to complete his or her run, rather than take the vehicle out of service in order to file a police report). Auditors found that staff in the Security and Enforcement Division and the Safety and Training Division did not appear to effectively communicate with staff from the other division; instead, Muni management attempted to reconcile conflicting data from the two divisions. Finally, security incidents on Muni aren't even necessarily reported to TransitSafe, as a separate form is available for "miscellaneous" reports.

(Continued on next page)

C6 Security Incidents

Recommendation

(Continued from previous page)

For the most part, these problems have been recognized and addressed by Muni staff. The Security and Enforcement Division and Safety and Training Division have been combined into a single Safety, Security and Enforcement Division. Acting in part on a recommendation in the previous Quality Review, a rigorous methodology for reconciling conflicting data has also been developed, as have more easily understandable categories of crime. However, because the transition in staff continued into the audit period, and because the new framework for crime reporting differs significantly from the previous method, analysis of trends in crime on Muni prior to Fiscal Year 2008 has been rendered impractical.

Nonetheless, we feel confident that going forward, crime reporting on Muni should be relatively reliable. We have identified one possible area for improvement: division superintendents should ensure that all “miscellaneous reports” result in a record in the TransitSafe database.

Finally, we are making one recommendation in the area of fare evasion reporting. Rather than simply report total numbers of citations issued, Muni should report fare evasion rates using total numbers of “contacts,” which are already tracked by fare enforcement officers. This would serve to measure whether, in addition to raising revenues through citations, the program is succeeding in improving rates of fare compliance. The goal for this measure might be an annual improvement of 1.5%.

D Employee Satisfaction

Service standards in this category measure, both directly and indirectly, the morale of Muni workers – an essential factor in the organization's health and ultimate success.

Following are brief summaries of Muni's Fiscal Year 2007-2008 performance for each of the Employee Satisfaction service standards, including arrows indicating general trends (up for "positive," facing right for "neutral," and turned down for "negative") in terms of both historic patterns and performance over the course of the audit period. More detailed information about each service standard can be found on the following pages, including historic trends and data from recent quarters, since the end of the audit period. Recommendations and issues identified in the data collection and reporting processes can be found at the end of the sections for some service standards.

D1 Grievances

While the number of grievances filed by operators in Fiscal Years 2007 and 2008 was higher than in 2006, it was close to levels recorded in 2003-2005. Grievances filed by other employees, meanwhile, increased in 2007 but returned in 2008 to previous levels.

D2 Grievance Resolution Rate

The timeline for resolution of grievances has been extended from 30 to 90 days, and the target rate of resolution from 75% to 90%. As of 2008, virtually all grievances were being resolved within 90 days.

D4 Employee Satisfaction

In 2008, Muni did not conduct an employee satisfaction survey. In 2007, satisfaction improved significantly in three of the four categories reported.

D1 Grievances

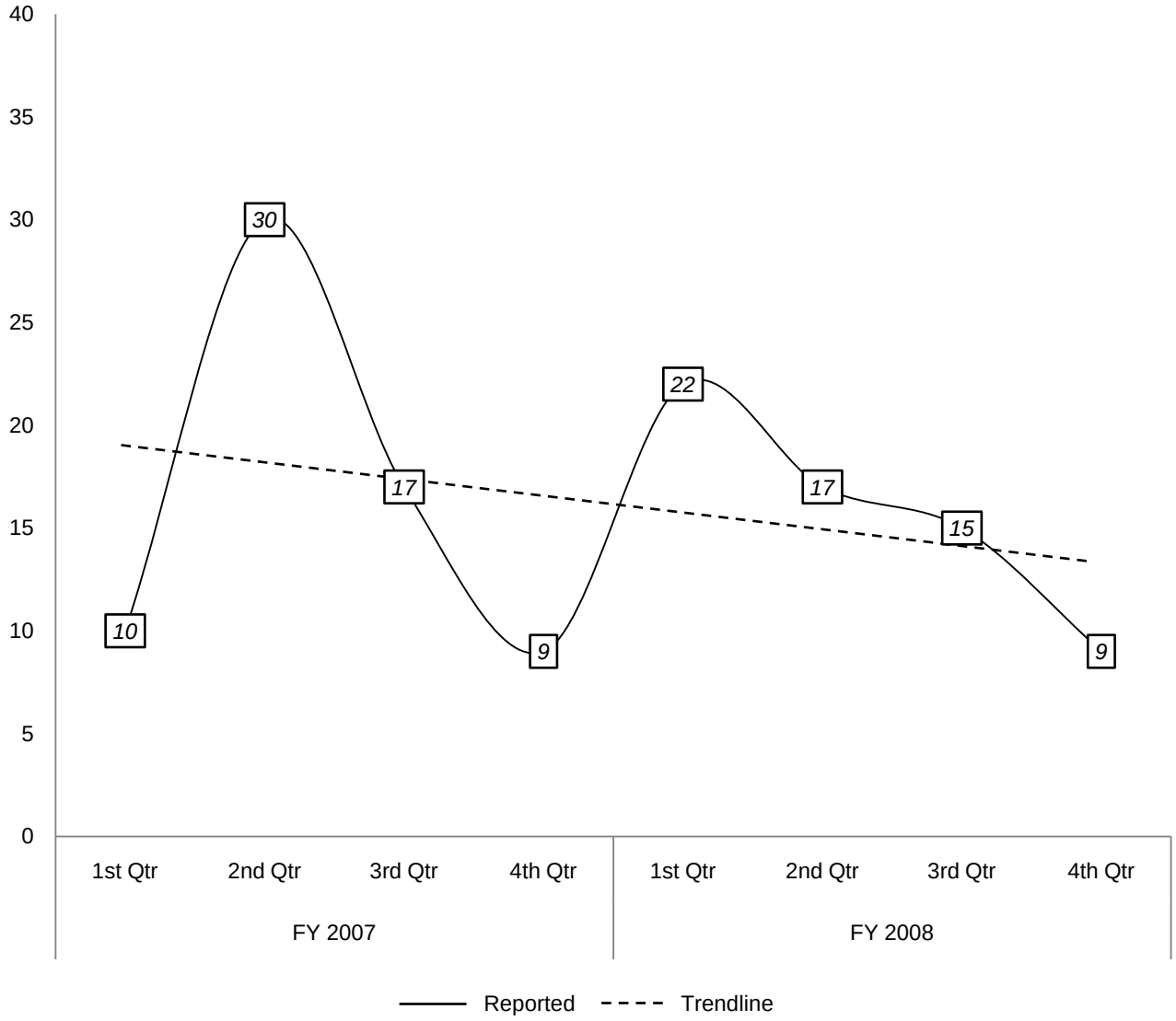
Goal	*- 5% / yr.*	**FY07-08 Performance**	*No Goal For This Standard*	**Trend**	 *Neutral*

Purpose To record and monitor the status of all grievances.

Definition Quarterly reports include the number of new grievances (filed, resolved, and active).

Method An internal tracking system is used to provide data for the Board on a quarterly basis.

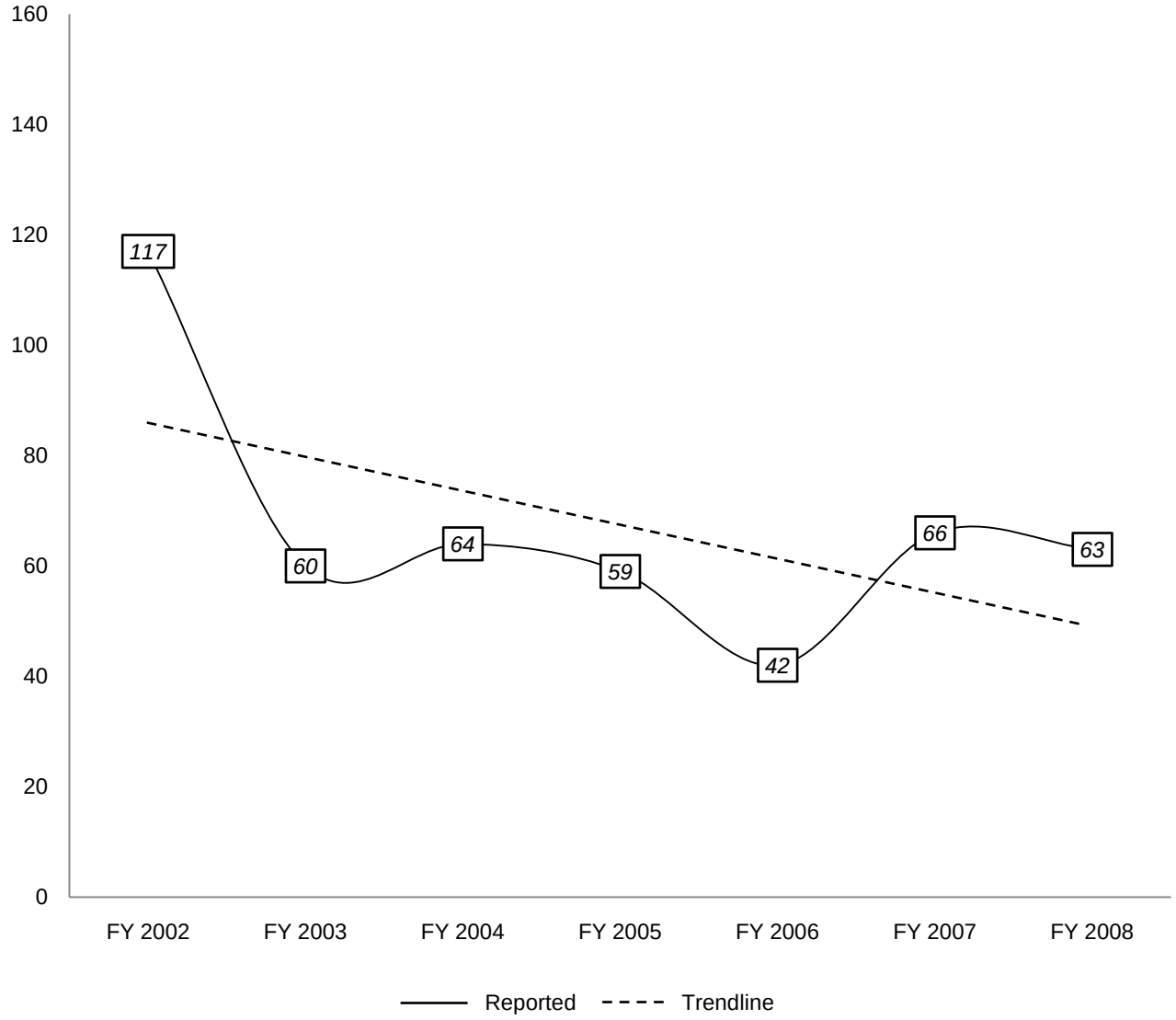
D1 Grievances



Operator Grievances (Audit Period)

The number of grievances filed by transit operators was higher in the 2nd Quarter of Fiscal Year 2007 than in any quarter since Fiscal Year 2002, but other quarters were typical.

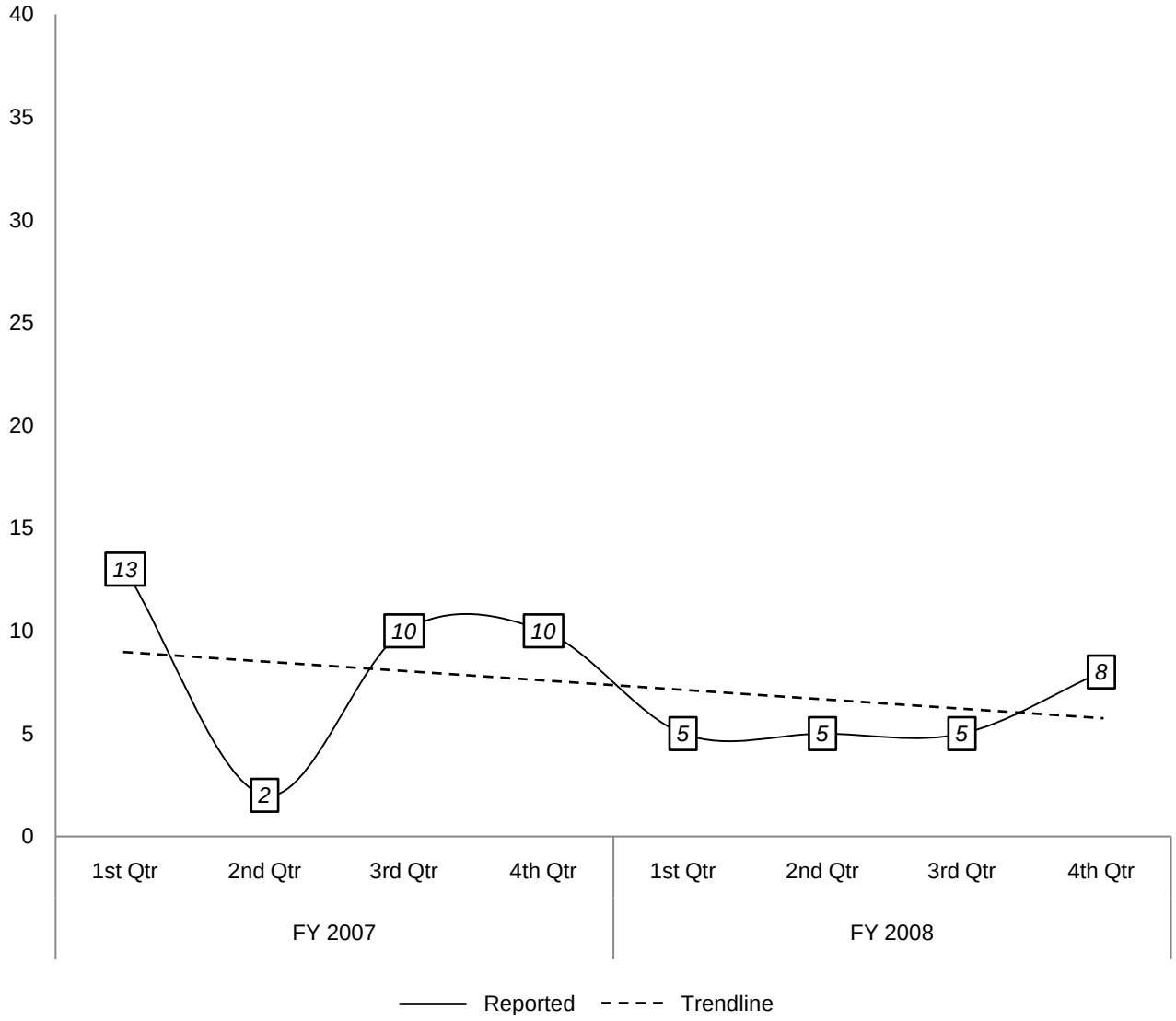
D1 Grievances



Operator Grievances (Historic)

After declining in Fiscal Year 2006, Operator Grievances returned to previous levels in Fiscal Years 2007 and 2008.

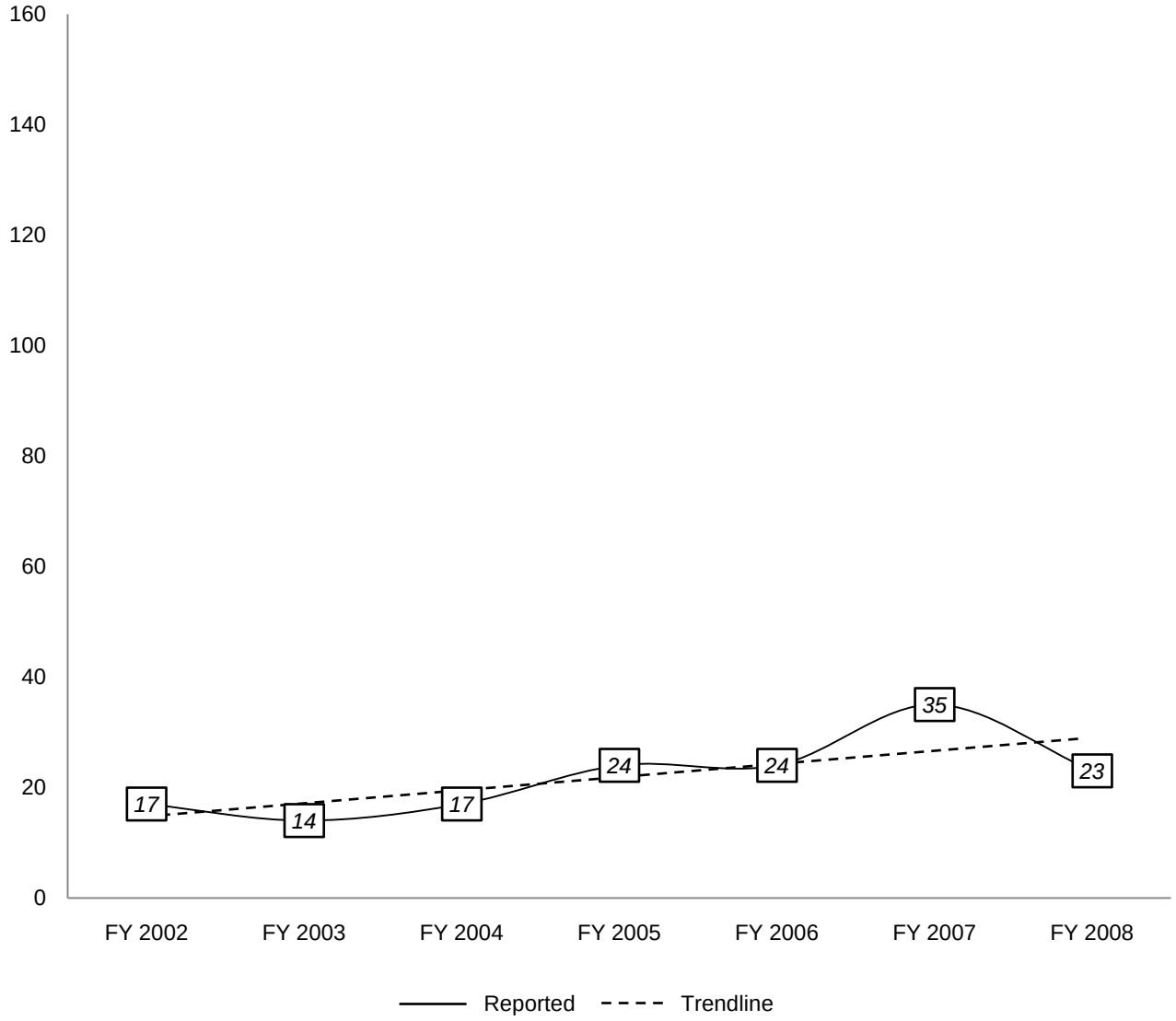
D1 Grievances



Maintenance/ Miscellaneous Employee Grievances (Audit Period)

The number of grievances filed by employees other than operators was higher than ever in the 1st Quarter of Fiscal Year 2007, but other quarters were typical.

D1 Grievances



Maintenance/ Miscellaneous Employee Grievances (Historic)

The number of grievances filed by employees other than operators was higher than ever in Fiscal Year 2007, but returned to previous levels in Fiscal Year 2008.

D1 Grievances

	FY 2008	FY 2009		
Category	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr
Transit Operators	9	29	31	24
Misc. Employees	8	5	5	10

Since the Audit Period

Already in Fiscal Year 2009, there have been more grievances filed by Transit Operators than in any year since 2002. Grievance rates among miscellaneous employees have remained relatively constant.

D1 Grievances

Recommendation

Report by division.

In previous Quality Reviews, we have recommended that grievances be reported not just for operators and miscellaneous employees, but by operating division (e.g., Green and Potrero). This could help to make superintendents more accountable for the prevention and resolution of grievances.

D2 Grievance Resolution Rate

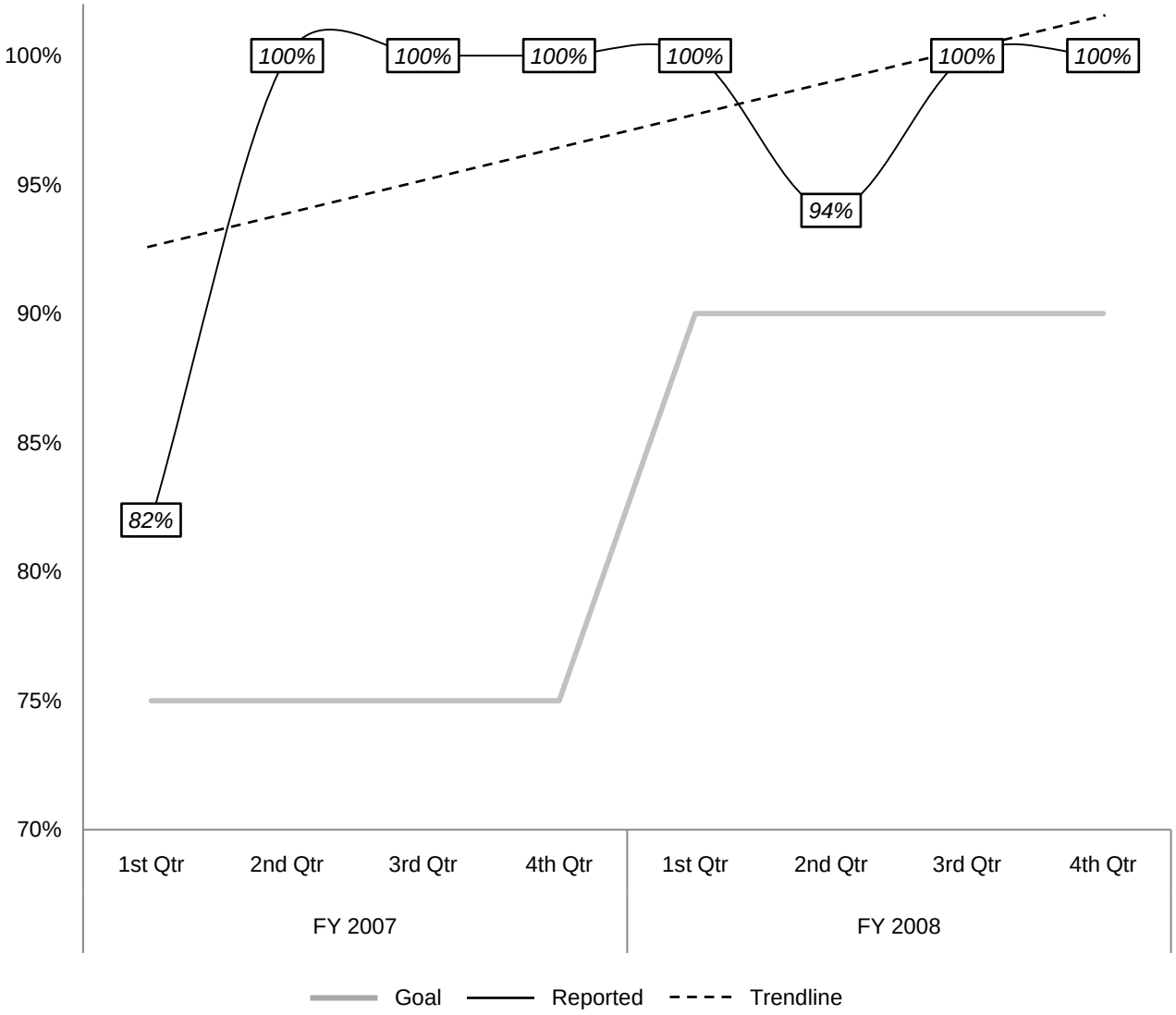
Goal	*> 90% within 90 days*	**FY07-08 Performance**	 *Achieved Goal*	**Trend**	*Cannot Compare (Method Changed)*

Purpose To measure the effectiveness of the Labor Relations in the resolution of grievances.

Definition Monthly measurement of the resolution of grievances.

Method An internal tracking system is used to provide data for the Board on a quarterly basis.

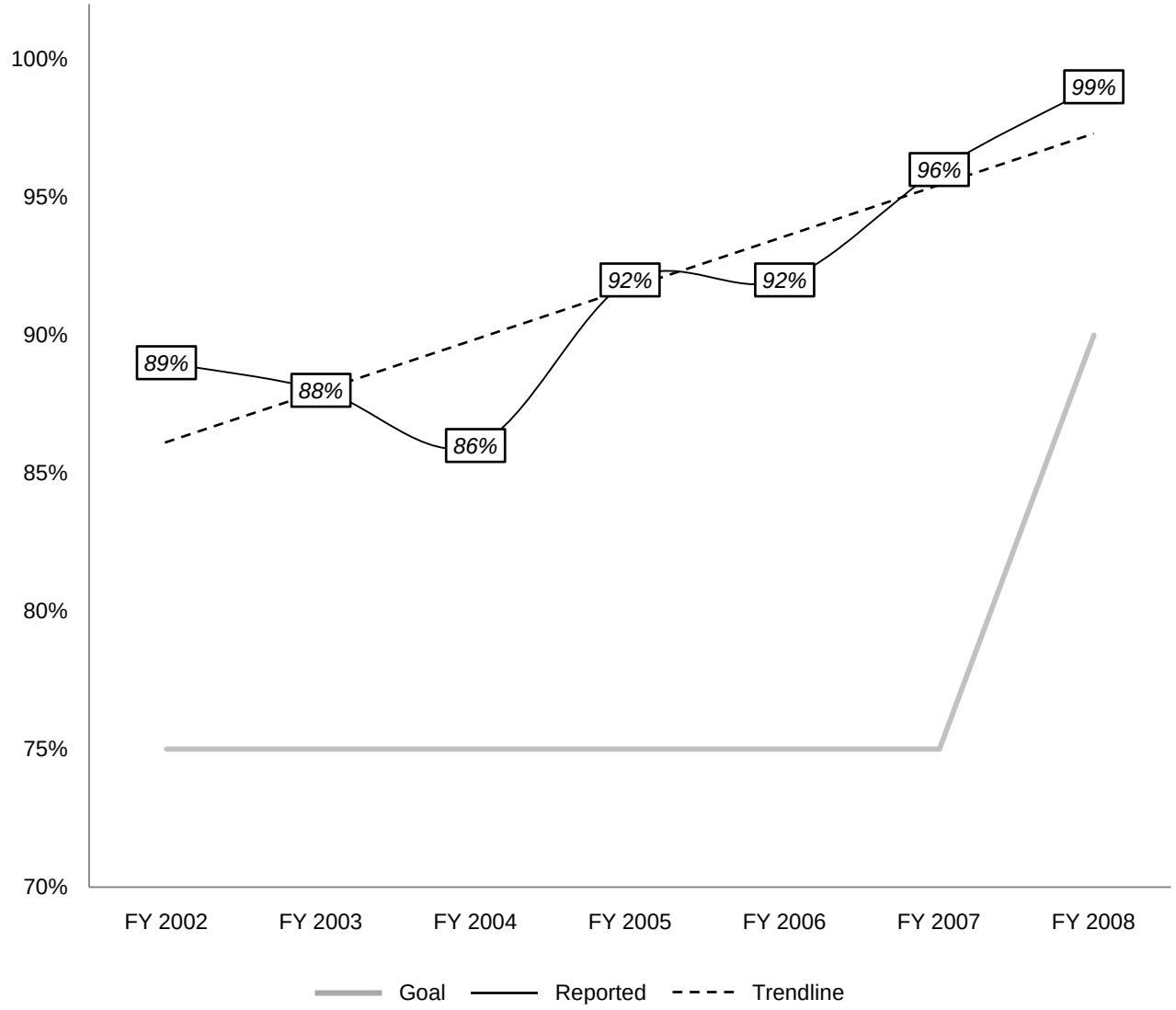
D2 Grievance Resolution Rate



% of Operator Grievances Resolved Within 90 Days (Audit Period)

The goal for this standard was changed from a resolution rate of 75% within 30 days to a rate of 75% within 45 days in Fiscal Year 2007, then to a rate of 90% within 90 days in Fiscal Year 2008. The goal was easily achieved in all quarters.

D2 Grievance Resolution Rate



% of Operator Grievances Resolved Within 90 Days (Historic)

The goal for this standard was changed from a resolution rate of 75% within 30 days to a rate of 75% within 45 days in Fiscal Year 2007, then to a rate of 90% within 90 days in Fiscal Year 2008. Goals for this standard have always been easily achieved. Because the time frame for resolution was changed from 30 to 45 days in 2007, then to 90 days in 2008, it is difficult to place the audit period in the context of historic trends.

D2 Grievance Resolution Rate

FY 2008	FY 2009		
4th Qtr	1st Qtr	2nd Qtr	3rd Qtr
100%	0%	55%	100%

Since the Audit Period

In the 1st Quarter of Fiscal Year 2009, the resolution rate for operator grievances declined from 100% to zero. SFMTA staff have attributed this to a personnel transition, and the rate has since returned to 100%.

D4 Employee Satisfaction

Goal *Annual Improvement*

FY07-08 Performance

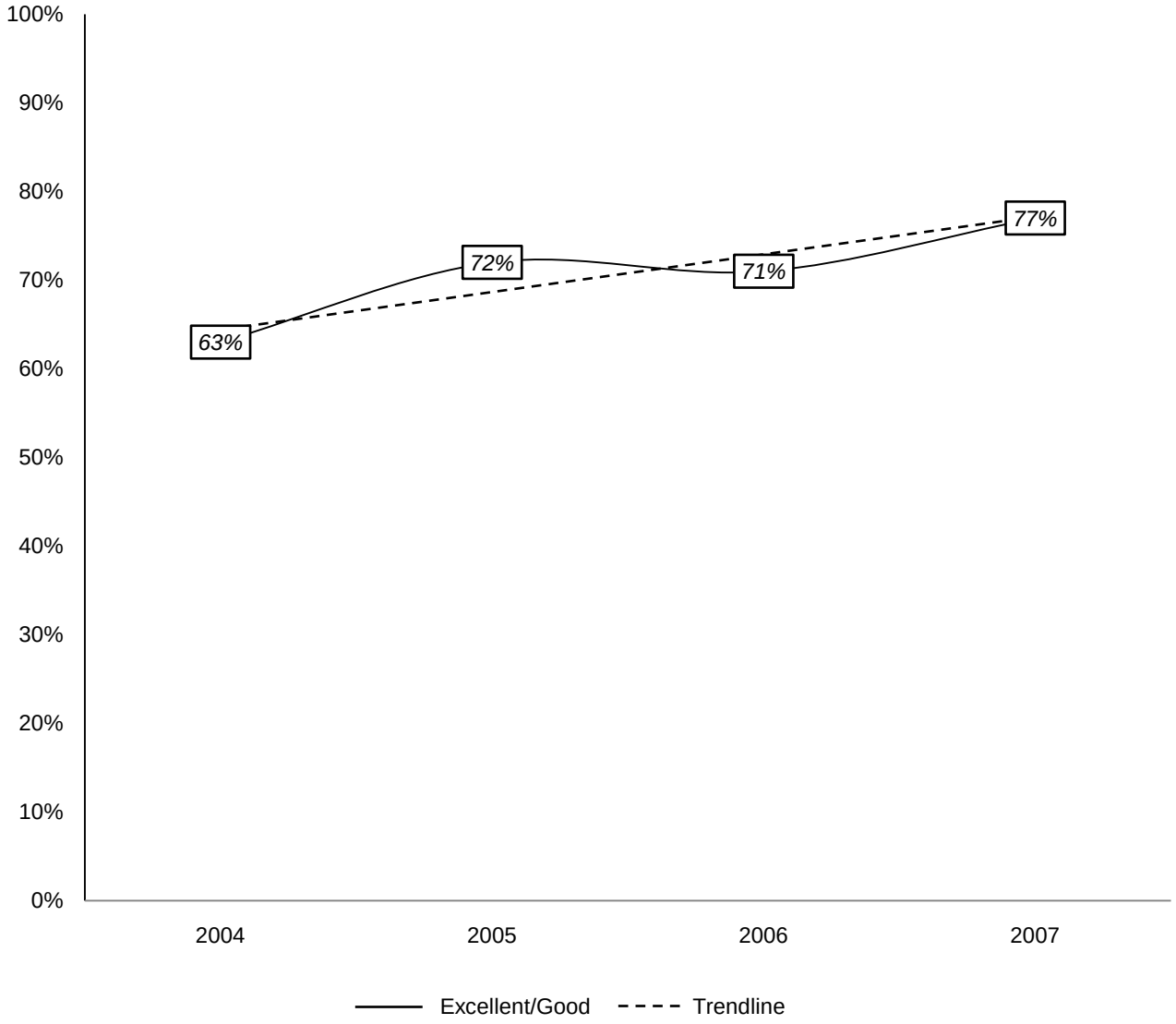
Achieved Goal

Trend

Positive

Method From Muni employee survey.

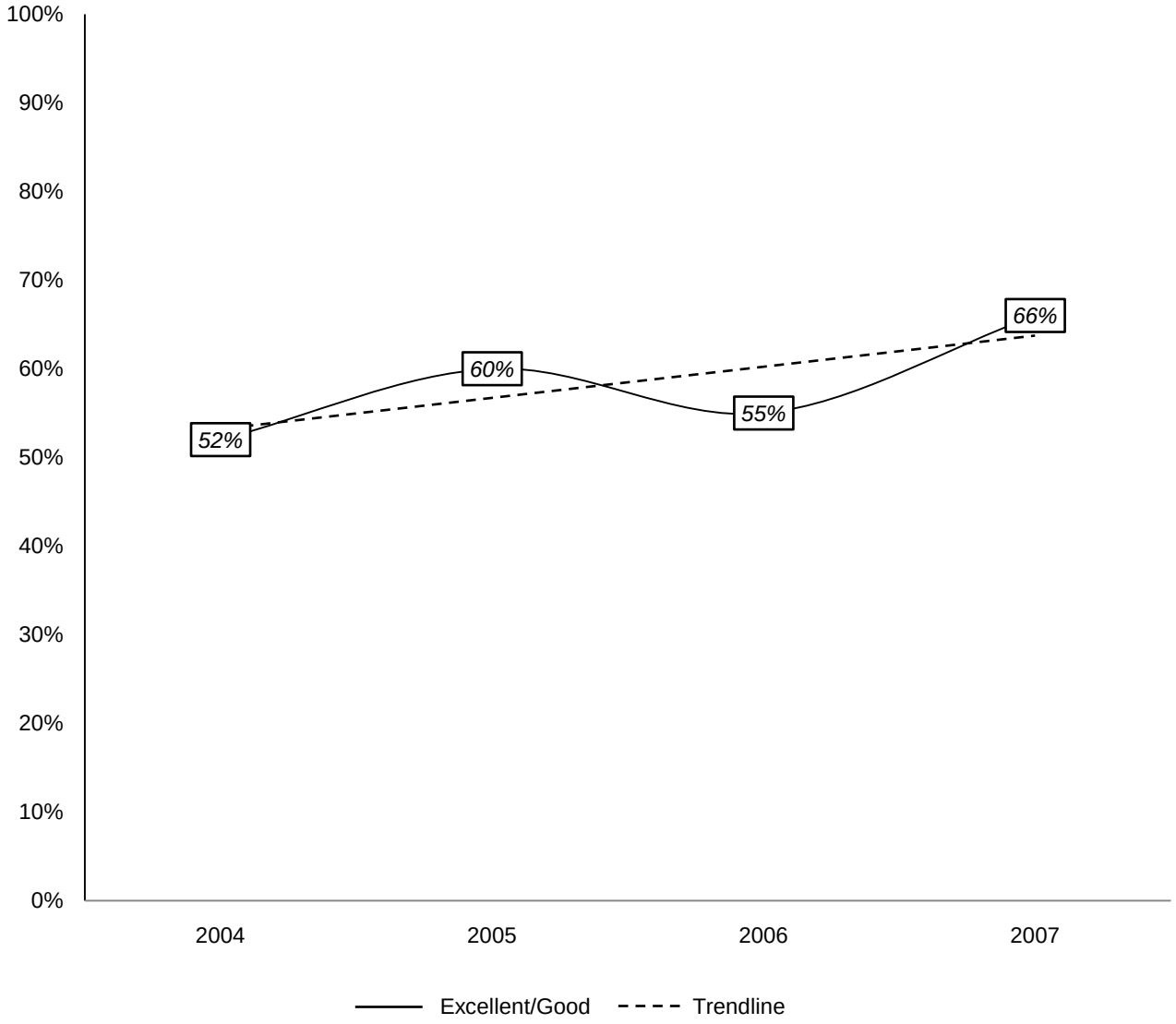
D4 Employee Satisfaction



Working Relationship with Supervisor (Audit Period & Historic)

Most years, Muni conducts an employee satisfaction survey (no survey was conducted in 2008). From 2004 to 2007, the proportion of Muni employees describing their relationships with their supervisors as "excellent" or "good" increased significantly.

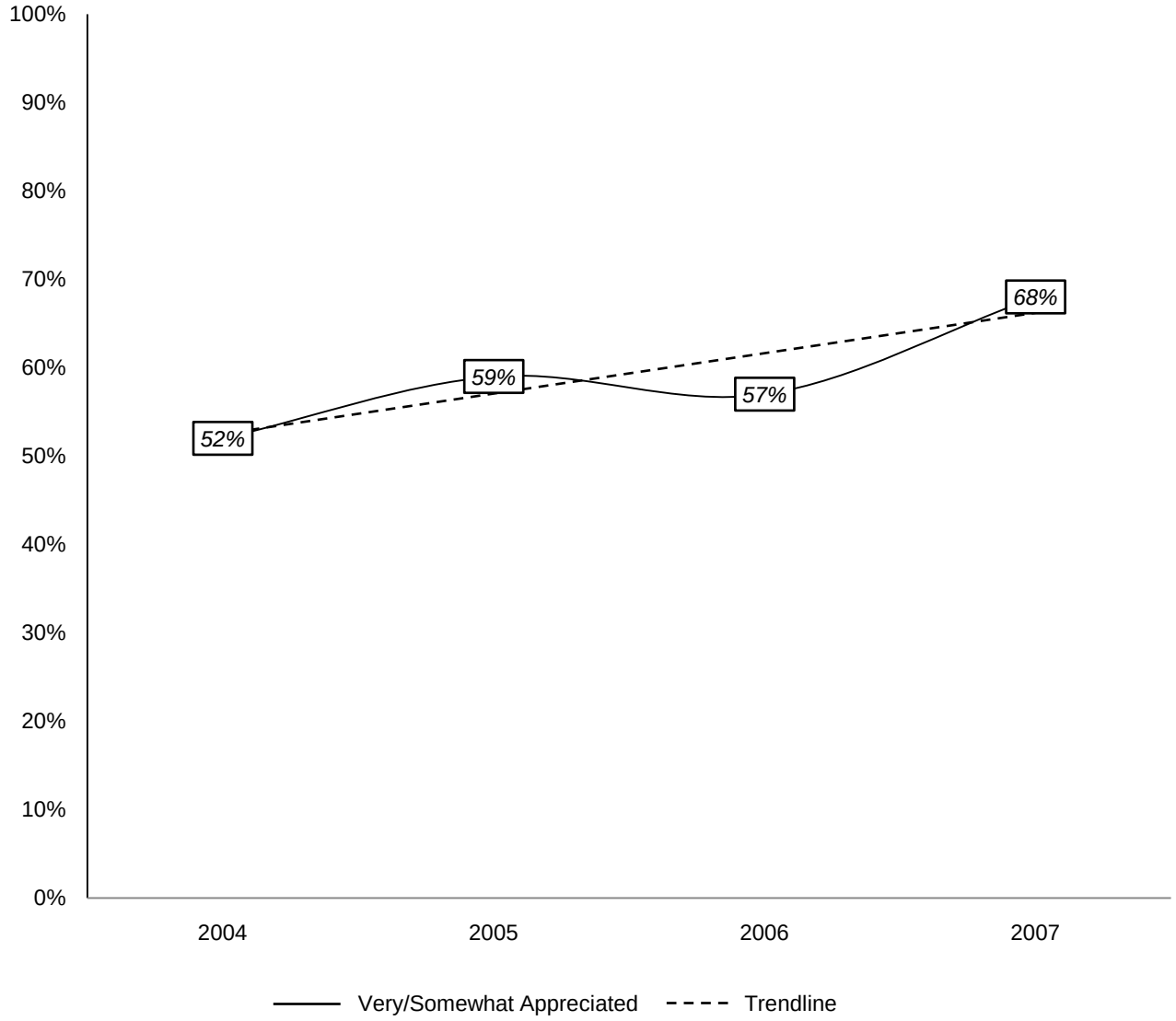
D4 Employee Satisfaction



Communication Within Division (Audit Period & Historic)

From 2004 to 2007, the percentage of Muni employees describing communication within their divisions as "excellent" or "good" increased significantly.

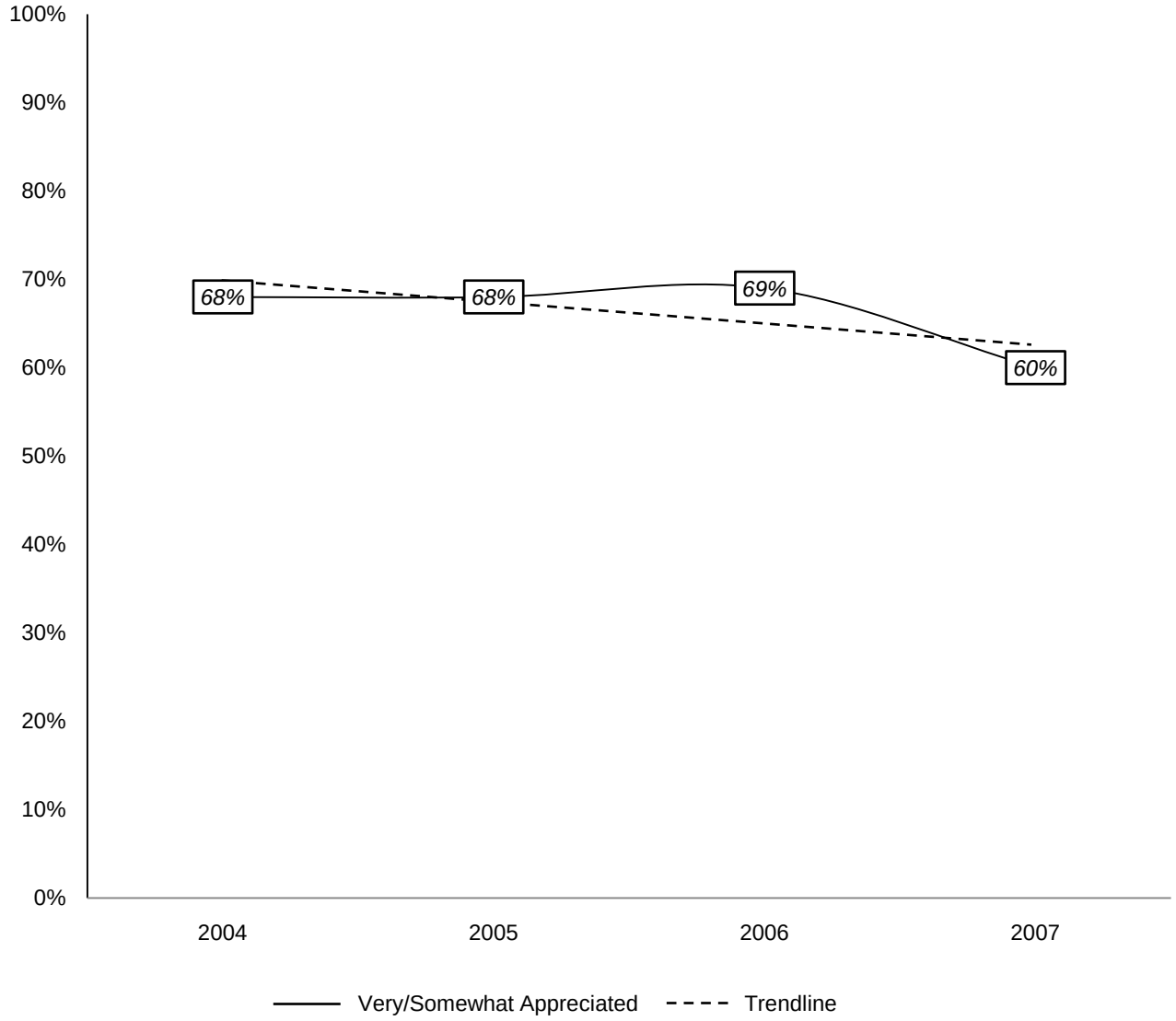
D4 Employee Satisfaction



Work Effort Appreciated by Management (Audit Period & Historic)

From 2004 to 2007, the percentage of Muni employees who said their efforts were "very" or "somewhat" appreciated by management increased significantly.

D4 Employee Satisfaction



Work Effort Appreciated by Public (Audit Period & Historic)

Interestingly, the one area in which employee satisfaction declined from 2004 to 2007 was appreciation by members of the public.

INTRODUCTION FORM

By a member of the Board of Supervisors or the Mayor

Time Stamp or Meeting Date

RECEIVED
BOARD OF SUPERVISORS
SAN FRANCISCO
2010 FEB 23 PM 12: 26
BY

I hereby submit the following item for introduction:

_____ 1. For reference to Committee:
An ordinance, resolution, motion, or charter amendment.
_____ 2. Request for next printed agenda without reference to Committee

__X__ 3. Request for Committee hearing on a subject matter.
_____ 4. Request for letter beginning "Supervisor _____ inquires…".
_____ 5. City Attorney request.
_____ 6. Call file from Committee.
_____ 7. Budget Analyst request (attach written motion).
_____ 8. Substitute Legislation File Nos.

Please check the appropriate boxes. The proposed legislation should be forwarded to the following:

☐ Small Business Commission
☐ Ethics Commission
☐ Building Inspection Commission
☐ Youth Commission
☐ Planning Commission

Note: For the Imperative Agenda (a resolution not on the printed agenda), use a different form.]

Sponsor(s): Supervisor Eric Mar

SUBJECT: Request for a hearing to consider the recently completed biennial review of the San Francisco Municipal Transportation Agency's progress toward its adopted goals, objectives, and performance standards as required under Charter Section 8A.107.

This is the fourth Municipal Transportation Quality Review conducted since Proposition E was enacted. This review covers Fiscal Years 07-08 and 08-09. The transportation consulting firm Nelson/Nygaard conducted the review.

Signature of Sponsoring Supervisor: _____

For Clerk's Use Only:

100202