

FY09-FY12 Performance Audit

Task 2: Performance Indicators

Prepared for



Metropolitan Transit Authority of Harris County

May 2013



14701 St. Mary's Lane, Suite 300
Houston, Texas 77079

In Association with

Matt & Associates

McConnell & Jones

Contents

Section	Page
Section 1. Introduction	3-1
1.1 Transit Performance Audit Overview	3-1
1.2 METRO Transit Service Overview	3-2
1.3 Organization of the Report	3-2
Section 2. Compliance with State-Required Data Items	3-1
2.1 Operating Cost	3-1
2.1.1 Definition	3-1
2.1.2 Methodology	3-1
2.1.3 Assessment	3-1
2.2 Passenger Fare Revenue	3-1
2.2.1 Definition	3-1
2.2.2 Methodology	3-2
2.2.3 Assessment	3-2
2.3 Sales and Use Tax Receipts	3-2
2.3.1 Definition	3-2
2.3.2 Methodology	3-2
2.3.3 Assessment	3-2
2.4 Passenger Trips	3-2
2.4.1 Definition	3-2
2.4.2 Methodology	3-2
2.4.3 Assessment	3-3
2.5 Revenue Vehicle Hours and Miles	3-3
2.5.1 Definition	3-3
2.5.2 Methodology	3-3
2.5.3 Assessment	3-3
2.6 Total Vehicle Miles	3-3
2.6.1 Definition	3-3
2.6.2 Methodology	3-3
2.6.3 Assessment	3-3
2.7 Passenger Miles	3-4
2.7.1 Definition	3-4
2.7.2 Methodology	3-4
2.7.3 Assessment	3-4
2.8 Accidents	3-5
2.8.1 Definition	3-5
2.8.2 Methodology	3-5
2.8.3 Assessment	3-5
2.9 Mechanical Road Calls	3-5
2.9.1 Definition	3-5
2.9.2 Methodology	3-5
2.9.3 Assessment	3-6
2.10 On-Time Performance	3-4
2.10.1 Definition	3-4
2.10.2 Methodology	3-4
2.10.3 Assessment	3-4
Section 3. State-Required Performance Indicators	3-1
3.1 Operating Cost per Passenger	3-1

3.2	Operating Cost per Revenue Hour.....	3-2
3.3	Operating Cost per Revenue Mile	3-2
3.4	Sales and Use Tax Receipts per Passenger	3-3
3.5	Farebox Recovery Ratio	3-3
3.6	Average Vehicle Occupancy.....	3-4
3.7	On-Time Performance	3-4
3.8	Accidents per 100,000 Total Miles	3-5
3.9	Miles between Road Calls.....	3-5
Section 4. Findings and Recommendations		1
4.1	Compliance with Data Definition and Data Collection	1
4.2	Transit Performance	1
4.3	Recommendation	2
4.3.1	Recommendation: Develop strategies to increase ridership as the economy improves.....	2

Appendices

- A Operating Data by Performance Indicator
- B Performance Data by Mode

Section 1. Introduction

1.1 Transit Performance Audit Overview

CH2M HILL worked with agency staff to conduct the Fiscal Year (FY) 2009 to FY 2012 performance audit of the Metropolitan Transit Authority of Harris County (METRO). Section 451.454 of the Texas Transportation Code mandates quadrennial performance audits of Texas transit agencies for municipalities with a population of more than 1.9 million.

The purpose of the performance audit is to provide evaluative information necessary for state and local officers to perform oversight functions and useful information to the transit agency for improving efficiency and effectiveness of its operations.

The performance audit is required to assess METRO's:

- Compliance with applicable state law from Chapter 451 of the Texas Transportation Code (Task 1)
- Collection and compilation of base statistics and measurement of specified state-mandated performance indicators (Task 2)
- Performance in one of three areas (i.e., administration and management, transit operations or system maintenance). Each functional area must be addressed once every three audit cycles (Task 3). The focus of the functional review for this audit focuses on information technology (IT) and finance.

This report summarizes the performance indicator data definitions and trends between October 1, 2008 through September 30, 2012 (FY 2009, FY 2010, FY 2011, and FY 2012). The nine following performance indicators are required under the Texas Transportation Code:

- Operating cost per passenger
- Operating cost per revenue hour
- Operating cost per revenue mile
- Sales and use tax receipts per passenger
- Fare recovery ratio
- Average vehicle occupancy
- On-time performance
- Accidents per 100,000 total miles
- Miles between mechanical road calls.

The data verification process included review of the data reporting methods to ensure conformity with the State-mandated definitions for the statistics used to calculate performance measures. Performance indicator trends have been reviewed and discussed with staff.

Interviews were conducted with over 80 METRO (i.e., Metropolitan Transit Authority of Harris County) staff for this performance audit. Key personnel who are knowledgeable of data sources data collection, data reporting and performance trends include:

- Senior Vice President of Service Delivery
- Vice President of Performance Improvement
- Senior Director of Service Planning & Evaluation
- Director of Budget Services
- Director of Grant Programs
- Manager of Fare Media & Revenue Analysis
- Manager of Operations Management Analysis

- Manager of POS & Fare Collection Systems
- Manager of Scheduling
- Manager of Service Evaluation
- Lead Management Analyst, Office of Management & Budget
- Senior Grant Programs Specialist

Documents reviewed to compile the performance indicator results include:

- METRO National Transit Database (NTD) Reports, FY 2008 – FY 2012
- METRO Monthly Year End Board Reports (include revenue, expense, ridership, and other performance indicators), FY 2008 – FY 2012
- Oracle Financial Data, FY 2008 – FY 2012
- Data collection and reporting documents provided by METRO staff.

1.2 METRO Transit Service Overview

METRO provides transit service in a 1,285-square mile service area that includes the City of Houston, fourteen other municipalities, and portions of adjacent counties. The population of the service area is approximately 3,527,625. METRO has a nine-member Board of Directors and over 3,000 salaried and hourly employees.

METRO provides bus, light rail, paratransit, and vanpool services. METRO's bus services carry over 65 million passenger trips annually throughout greater Houston with a fleet of over 1,200 vehicles. METRO has 75 local and 32 commuter bus routes, 20 transit centers, and 29 park-and-ride lots with more than 33,000 parking spaces. METRO also runs some special event services. Bus services are partially directly operated and partially operated under contract. METRO has five operating facilities for its directly operated services (Fallbrook, Polk, West, Hiram Clarke, and Kashmere). Contracted services, provided by First Transit, Inc., operate from METRO's Northwest bus operating facility.

METRO Rail, METRO's light rail service, began operations in January 2004 and now carries over 11 million passenger trips annually with an 18-vehicle fleet. The METRO Rail line runs 7.5 miles and serves 16 stations, linking Downtown, Midtown, the Museum District, Hermann Park, the Texas Medical Center (TMC), and Reliant Park. METRO currently has an extension of its existing North Light Rail Transit (LRT) line under construction as well as new Southeast and East lines under construction.

METRO Lift, METRO's paratransit service, provides pre-scheduled, curb-to-curb shared-ride transportation for persons with disabilities. METRO Lift serves about 1.6 million passenger trips annually, augmented by additional taxi service. METRO contracts this service out to five operators.

1.3 Organization of the Report

The remaining sections of this report provide the results of the performance indicator review:

- **Section 2: Compliance with State-Required Data Items** – includes the verification of METRO's compliance with State-mandated data collection and reporting definitions for eleven data items.
- **Section 3: State-Required Performance Indicators** – provides an assessment of METRO's performance over the audit period as measured by nine State-mandated performance indicators.
- **Section 4: Findings and Recommendations** – identifies opportunities to improve compliance with State requirements with respect to reporting performance indicators and improving performance trends.

- **Appendix A** – provides the annual data used in calculating the performance indicators as well as the annual performance measures.
- **Appendix B** – provides the performance indicators by mode, including two additional service effectiveness indicators (passengers per revenue hour; passengers per revenue mile) that are frequently reported as a basis for evaluating performance in the transit industry.

Section 2. Compliance with State-Required Data Items

The data items used to calculate the required performance indicators include the following:

- Operating cost
- Passenger fare revenues
- Sales and use tax receipts
- Passenger trips
- Revenue vehicle hours
- Revenue vehicle miles
- Total vehicle miles
- Passenger miles
- Accidents
- Road calls
- On-time performance.

Data were provided by and discussed with METRO staff. The audit team confirmed that collection and reporting procedures provide data that comply with State definitions. METRO complies with State reporting requirements for the data items used in the State-required performance measures.

The definitions and methodologies used by METRO for each data item are described on the following pages.

2.1 Operating Cost

2.1.1 Definition

Operating cost includes an authority's cost of providing public transit service, including the cost of purchased transit service not performed by an authority, but excluding depreciation, amortization and capitalized charges, charter bus operations cost, and costs associated with coordination of carpool and vanpool activities.

2.1.2 Methodology

METRO maintains a computerized chart of accounts suitable to capture expenses and revenues by object class, including wages and salaries, fringe benefits, temporary help and other services, materials and supplies, fuel and utilities, and miscellaneous. Direct expenses are entered directly into appropriate expense accounts for each responsibility center (RC). Labor and parts that are attributed to capital expenses are capitalized, allocated to capital costs, and are not included in operating costs.

Most RCs are specific to a particular mode (bus, light rail, paratransit). For RCs that cover multiple modes, such as some administrative labor, costs for those RCs are allocated between METRO's service modes based on service quantities that include ridership, vehicle hours, and vehicle miles.

2.1.3 Assessment

METRO is in full compliance with data collection and reporting of operating cost as defined by the State of Texas.

2.2 Passenger Fare Revenue

2.2.1 Definition

Passenger fare revenue is defined as revenues provided by passengers of revenue vehicles of an authority or the sponsors of those passengers, and includes revenue received from cash fares and Metro Q[®] fare cards. Passenger fare revenues exclude charter revenues and non-farebox revenue such as advertising income, interest income and other non-farebox operating sources.

2.2.2 Methodology

METRO collects, counts and reports fare revenue on a daily basis. On buses, registering fareboxes collect cash revenue. For METRORail, cash revenue is collected from ticket vending machines (TVMs) located in rail stations. Paratransit fares are accounted for by the contractor and submitted to METRO on a monthly basis.

METRO Q[®] stored value fare cards can be purchased and reloaded at fare card retailers, the METRO RideStore, or the METRO website. METRO Q[®] fare cards can also be reloaded at rail TVMs, credit vending machines (CVMs) at park & ride lots, and at on-board METRO Q[®] fare card reloader machines on buses. Revenue from each of these sources is tracked and recorded separately.

2.2.3 Assessment

METRO is in full compliance with data collection and reporting of passenger fare revenue as defined by the State of Texas.

2.3 Sales and Use Tax Receipts

2.3.1 Definition

Sales and use tax receipts of an authority.

2.3.2 Methodology

Harris County, the City of Houston, and 14 cities that comprise the METRO service area collect a one-cent sales tax that is used to fund public transportation and associated improvements. The sales tax applies to certain consumer items and is collected by the State and allocated to METRO on a monthly basis.

2.3.3 Assessment

METRO is in full compliance with data collection and reporting of sales and use tax receipts as defined by the State of Texas.

2.4 Passenger Trips

2.4.1 Definition

Passenger trips are the total of all passenger boardings, including transfers between buses, but excluding charter passengers, and carpool and vanpool passengers whose trips are only coordinated by an authority.

2.4.2 Methodology

Since FY2007, 100% of METRO's fixed route bus fleet has been equipped with automatic passenger counters (APCs). The Federal Transit Administration (FTA) approved the use of APCs for preparing METRO's ridership data, starting in FY2008. METRO samples trips based on a minimum of 23 days of each month. A methodology is used to fill in data gaps (such as when operators do not log in correctly) and to extrapolate data to the full month. The use of this methodology was verified and approved by an independent statistician.

APCs tend to undercount ridership. METRO uses a process to reconcile for APC undercounting, as determined in cooperation with the APC manufacturer. A series of point checks are conducted at major locations on an annual basis to verify boardings and alightings on individual buses.

For other METRO services, the methodology to collect ridership data is as follows:

- Light Rail: APCs count passengers as they board and alight from each car using a 100% sample. An annual check is done to compare manual counts to APCs.
- Paratransit: Passenger trips are derived from a 100% count, which is obtained from the scheduling system and adjusted for cancellations and no-shows.

2.4.3 Assessment

METRO is in full compliance with data collection and reporting of passenger trips as defined by the State of Texas.

2.5 Revenue Vehicle Hours and Miles

2.5.1 Definition

The total scheduled hours and miles that a revenue vehicle accumulates while in revenue service. A revenue vehicle is one that carries paying passengers in scheduled service and is operated by an authority or as a purchased service. Revenue service means the time that a revenue vehicle is in operation to carry passengers, other than charter passengers.

2.5.2 Methodology

METRO uses different methodologies to collect revenue hours and miles for each mode:

- Bus: Revenue vehicle hours and miles are developed from scheduled revenue hours and miles from METRO's scheduling system, Trapeze. Dispatchers record adjustments for missed service or detours on a daily basis. Quality Assurance staff verifies data on a monthly basis.
- Light Rail: Revenue vehicle hours and miles are based on scheduled daily revenue trips, also provided by Trapeze. Adjustments are made for variations to the schedule.
- Paratransit: Drivers track the time that passengers are on a vehicle, and this is reported as revenue vehicle hours. Revenue vehicle miles are recorded from odometers, and adjusted to exclude deadhead.

2.5.3 Assessment

METRO is in full compliance with data collection and reporting of revenue vehicle hours and miles as defined by the State of Texas.

2.6 Total Vehicle Miles

2.6.1 Definition

Total vehicle miles are the annual total number of miles for all service directly operated by an authority, including charter service and non-revenue service.

2.6.2 Methodology

METRO uses different methodologies to collect total miles for each mode:

- Bus: Total vehicle miles are taken from hubometer readings made by cleaners, which are entered into SAP. This number is compared with a figure calculated by taking the daily fuel load and multiplying it by the average miles per gallon for that vehicle.
- Light Rail: Total vehicle miles are recorded manually for each vehicle.
- Paratransit: Total vehicle miles are tracked by the contractor, based on odometer readings, and reported to METRO on a monthly basis.

2.6.3 Assessment

METRO is in full compliance with data collection and reporting of total vehicle miles as defined by the State of Texas.

2.7 Passenger Miles

2.7.1 Definition

Passenger miles are derived by multiplying annual unlinked passenger trips by the average distance ridden by passengers during the same time period.

2.7.2 Methodology

METRO reports passenger mile information through procedures specified by NTD requirements:

- **Bus:** Trips are sampled on a random basis. For the sampled trips, ridecheckers determine average passenger trip lengths. The average trip length is multiplied by the number of passenger boardings for each service category to calculate passenger miles. These calculations meet FTA requirements for sampling accuracy.
- **Light Rail:** Passengers are counted using APCs and passenger miles are calculated by multiplying the number of passengers by the average trip length, which is determined by ridecheckers who ride the line from end to end. Passenger miles are regularly compared to historical data.
- **Paratransit:** Passenger miles are calculated by multiplying the actual number of passengers (100 percent count) by the average trip length, which is determined from the scheduling database.

2.7.3 Assessment

METRO is full compliance with data collection and reporting of passenger miles as defined by the State of Texas.

2.8 On-Time Performance

2.8.1 Definition

On-time performance means the percentage of revenue vehicle trips that depart from selected locations at a time not earlier than the published departure times and not later than five minutes after the published departure time.

2.8.2 Methodology

For fixed route bus services, METRO calculates on-time performance using the IVOMS system, based on automatic vehicle location (AVL), to measure on-time performance at designated timepoints listed in the bus schedules. IVOMS data provide the time that every bus passes a designated timepoint, calculating data to the second, and generating hundreds of thousands of data points per month.

A local bus is considered on-time if it does not leave early and is within a five minute window after the scheduled departure time. A Park and Ride bus is considered on-time if it does not depart early (except in the morning when a bus can leave from a Park and Ride lot when full) and is within a five minute window after the scheduled departure time, with measurements during peak hours.

For other METRO services, on-time performance is calculated as follows:

- **Light Rail:** Scheduled departure times are not published for the light rail system. On-time performance is calculated based on actual vs. scheduled departure times from either end of the line.
- **Paratransit:** Internally, on-time performance is reported monthly according to METRO's definition, but is not required according to the state definition since there are no published departure times.

2.8.3 Assessment

METRO is in full compliance with data collection and reporting of on-time performance as defined by the State of Texas.

2.9 Accidents

2.9.1 Definition

Accidents include: (1) All collisions that involve an authority's revenue vehicle, other than a lawfully parked revenue vehicle, and that results in property damage, injury, or death; and (2) incidents that result in the injury or death of a person on board or boarding or alighting from an authority's revenue vehicle. The State definition requires agencies to report accidents for directly operated vehicles only.

2.9.2 Methodology

Initial accident data and information are based on reports filed by operators of revenue vehicles and supervisors. These reports are supplemented by reports received from witnesses and claimants. Accidents are divided into collision and non-collision categories with details by accident location, types of collision accidents, and results in terms of personal injuries/deaths and property damage. Final report information is based on the investigations and assessments of METRO's claims representatives and safety personnel.

METRO maintains records on accidents for directly operated services according to the State definition (including all accidents, regardless of the amount of damage) as well as the TxDOT safety oversight definition (specific defined thresholds pertaining to fatalities, injuries, property damage, evacuations, mainline derailments, vehicle collisions, and at-grade crossing collisions).

2.9.3 Assessment

Although METRO does not regularly report accidents by the State definition, the Authority tracks and maintains the data and those data are reported in this audit report. METRO is therefore in full compliance with data collection and reporting of accidents as defined by the State of Texas.

2.10 Mechanical Road Calls

2.10.1 Definition

Mechanical road calls are defined as an interruption in revenue service caused by equipment failure of a revenue vehicle that requires assistance from someone other than the vehicle operator before the vehicle can be operated normally. The state definition requires agencies to report road calls for directly operated vehicles only.

2.10.2 Methodology

For bus services, when an operator reports a vehicle problem, dispatch goes through a step-by-step process to diagnose the nature of the problem. If the operator is unable to resolve the issue, a repair truck is sent out. The dispatcher captures the information in SAP, including time of failure, location, and lost time incurred. When the bus goes back to the garage, the maintenance foreman prints out this information and provides it to the mechanic. The mechanic makes repairs and documents the repair work. This information is faxed back to the Quality Assurance (QA) Department each morning to code roadcalls by type and by vehicle.

METRO's road call information is comprehensive and categorized by type, including road calls for mechanical problems, fleet defects, and warranty issues. The categorization of road calls assists METRO management. For example, the data are used to compare performance across individual garages using road calls for mechanical problems, but excluding road calls such as fleet defects that are not necessarily under the control of a garage and do not provide a good basis for comparing garage performance.

For light rail service, the rail operator reports any vehicle problem to the Operations Control Center (OCC) to diagnose the nature of the problem. If the operator is unable to continue running the vehicle in revenue service, then the vehicle is taken out of service, appropriate personnel are sent out to remedy the situation, and the OCC initiates a work request for repair work. The rail vehicle maintenance superintendent reviews the work requests and determines which of the service interruptions qualify as mechanical road calls.

2.10.3 Assessment

METRO is in full compliance with data collection and reporting of mechanical road calls as defined by the State of Texas.

Section 3. State-Required Performance Indicators

Systemwide and modal performance indicators have been validated as a basis for determining performance trends. Section 451.454 of the Texas Transportation Code requires that the performance audit include an examination of the following nine indicators over the audit period:

- **Operating Cost per Passenger**, a measure of cost effectiveness
- **Operating Cost per Revenue Hour**, a measure of cost efficiency
- **Operating Cost per Revenue Mile**, a measure of cost efficiency
- **Sales and Use Tax Receipts per Passenger**, an indicator of regional subsidization
- **Fare Recovery Ratio**, a measure of the share of operating costs paid by riders
- **Average Vehicle Occupancy**, a measure of service productivity
- **On-Time Performance**, a measure of service quality
- **Accidents per 100,000 Total Miles**, an indicator of system safety
- **Miles between Service Interruptions**, a measure of service quality.

Performance indicators were calculated based on verified data and in compliance with State definitions. The raw performance statistics used to calculate the performance indicators are provided in the appendices this report.

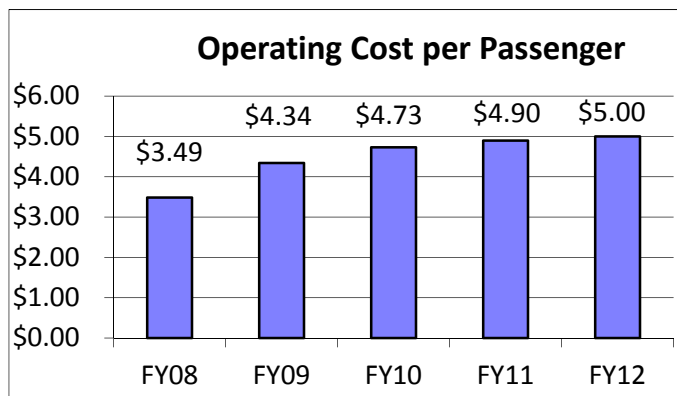
Performance indicators have been calculated for METRO services systemwide as well as separately for bus, light rail, and paratransit services. Systemwide and modal performance trends are reviewed to assess the effectiveness and efficiency of transit operations.

The performance trends cover the period from FY 2009 through FY 2012, with FY 2008 used as a base year to provide a point of reference for the analysis. Cost-based indicators are compared to the change in the CPI-All Urban Consumers for the Houston-Galveston-Brazoria metropolitan area. The growth rates shown correspond to METRO's October 1-September 30 fiscal year. Graphs on the following pages show systemwide performance trends for each performance indicator. The mode-specific performance trends discussed in this section are provided in the appendices of this report.

3.1 Operating Cost per Passenger

Operating cost per passenger measures cost effectiveness of service. During the audit period, systemwide operating cost per passenger grew from \$3.49 in FY08 to \$5.00 in FY12, an increase of 43.4%. The CPI grew by 6.8% from FY08 to FY12.

- Bus (directly operated and contracted): operating cost per passenger grew from \$3.44 in FY08 to \$5.10 in FY12, an increase of 48.2%.
- Light Rail: operating cost per passenger grew from \$1.34 in FY08 to \$1.54 in FY12, an increase of 14.6%. In FY11, light rail operating cost per passenger reached \$1.65 before dropping down in FY12.
- Paratransit: operating cost per passenger was relatively stable and only grew from \$23.86 in FY08 to \$24.33 in FY12, an increase of 1.96%.



The introduction of demand taxi in FY10, which provides paratransit service at a lower cost per passenger, allowed METRO to manage the growth of operating cost per passenger during the audit period.

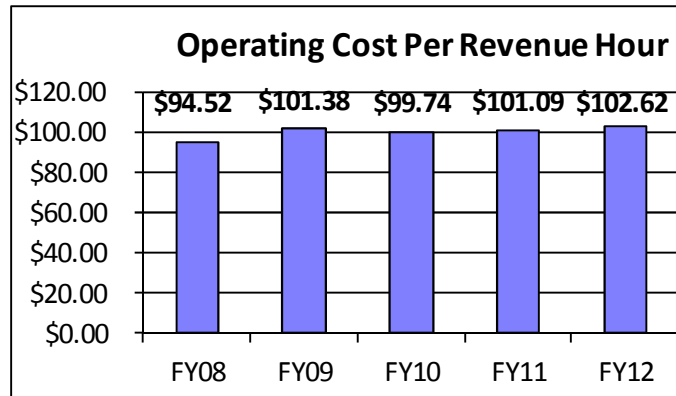
The change in operating cost per passenger was a result of these factors:

- Systemwide operating costs increased by 14.9%, from \$341.0 million in FY08 to \$392.0 million in FY12. A significant portion of the operating cost increase was due to an increase in motorbus operating costs between FY08 and FY09. The increase in operating costs was also due to an increase in fuel prices that were in part due to Hurricane Ike in September 2008.
- Systemwide passenger trips decreased 19.8%, from 97.8 million in FY08 to 78.4 million in FY12. The largest reductions in ridership occurred in FY09 and FY10 as a result of the loss of employment during the recession. The ridership loss was greatest for motorbus service, for which ridership decreased 22.6% from 84.6 million in FY08 to 65.5 million in FY12. Light rail ridership decreased by just 4.4%, while paratransit ridership increased significantly by 17.6%.

3.2 Operating Cost per Revenue Hour

Operating cost per revenue hour measures cost efficiency. Systemwide operating cost per revenue hour grew from \$94.52 in FY08 to \$102.62 in FY12, an increase of 8.6%, somewhat exceeding the 6.8% growth in the CPI.

- Bus (directly operated and contracted): operating cost per revenue hour increased from \$106.13 in FY08 to \$118.10 in FY12, an increase of 11.3%.
- Light Rail: operating cost per revenue hour increased from \$224.85 in FY08 to \$226.72 in FY12, an increase of 0.8%.
- Paratransit: operating cost per revenue hour increased from \$42.70 in FY08 to \$44.37 in FY12, an increase of 3.9%.



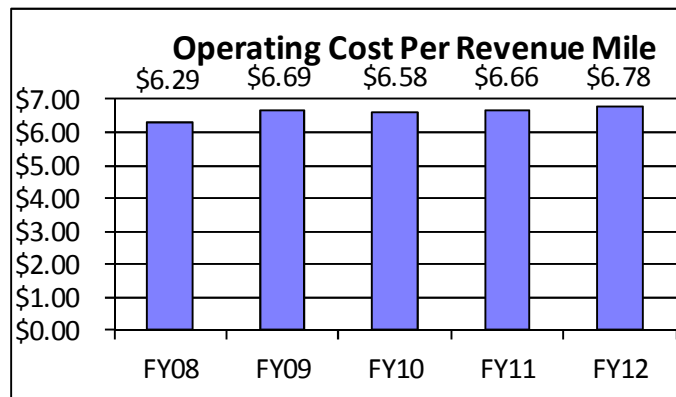
The change in operating cost per revenue hour was a result of these factors:

- While systemwide operating costs increased over the audit period as discussed previously, systemwide revenue service increased as well but at a slower rate. Between F08 and FY12, operating costs increased by 14.9% while revenue hours increased from 3.6 million to 3.8 million hours, a 5.9% increase.
- Bus and light rail revenue hours increased from FY08 to FY12. Bus revenue hours increased by 83,000 hours (3.0%), and light rail passenger car revenue hours increased by 6,000 hours (8.6%). Paratransit revenue hours grew significantly by about 122,000 hours (15.4%).

3.3 Operating Cost per Revenue Mile

Operating cost per revenue mile is another measure of cost efficiency. Systemwide operating cost per revenue mile grew 7.8%, from \$6.29 in FY08 to \$6.78 in FY12, somewhat exceeding the 6.8% growth in the CPI.

- Bus (directly operated and contracted): operating cost per revenue mile increased



from \$7.35 in FY08 to \$8.13 in FY12, an increase of 10.6%.

- Light Rail: operating cost per passenger car revenue mile increased from \$17.94 in FY08 to \$19.17 in FY12, an increase of 6.9%.
- Paratransit: operating cost per revenue mile increased from \$2.46 in FY08 to \$2.56 in FY12, an increase of 4.0%.

The growth in operating cost per revenue mile was a result of these factors:

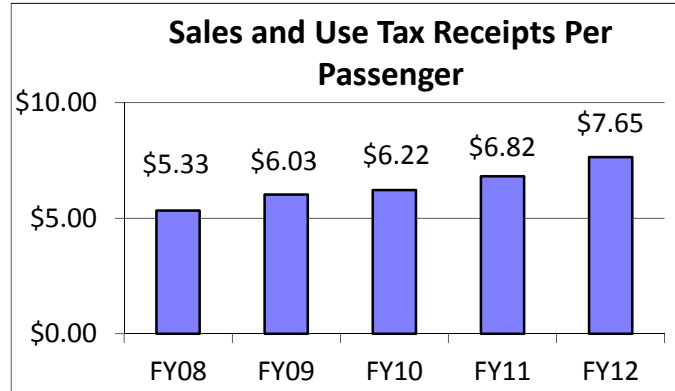
- While systemwide operating costs increased over the audit period, systemwide revenue service increased as well, however, at a slower rate. Between F08 and FY12, operating costs increased by 14.9% while revenue miles increased from 54.2 million to 57.8 million miles, a 6.6% increase.
- Bus revenue miles increased by 3.0% between FY08 to FY09, and have held fairly steady since that time for a total 3.7% increase over the audit period. Light rail revenue miles increased by 2.2% from FY08 to FY09, and have remained relatively steady since that time, resulting in a 2.5% increase over the audit period. Paratransit revenue miles increased significantly by 15.3% between FY08 and FY12, with the 8.3% increase in revenue miles between FY10 and FY11.

3.4 Sales and Use Tax Receipts per Passenger

Sales and use tax receipts per passenger boarding improved as the local economy strengthened. Sales and use tax receipts per passenger carried is a measure of the regional subsidization of METRO transit services. This measure grew from \$5.33 in FY08 to \$7.65 in FY12, an increase of 43.6%, compared to the 6.8% increase in the CPI during the same period.

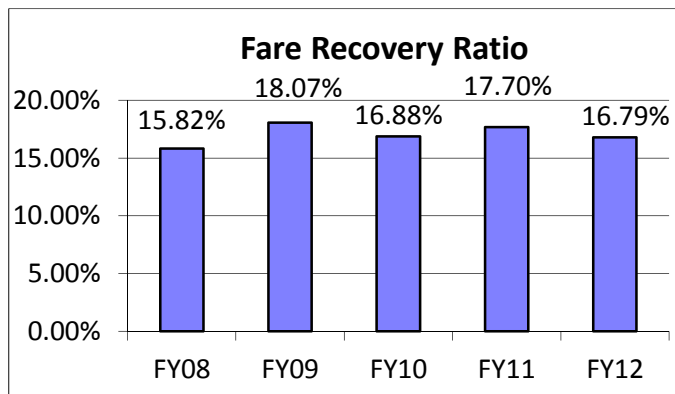
The trends in sales and use tax receipts per passenger reflect:

- The growth in sales and use tax receipts, which increased by 15.1% from \$521.2 million in FY08 to \$600.0 million in FY12. Sales receipt growth remained relatively stable in FY09, decreased in FY10, and increased in FY11 and FY12. Between FY10 and FY12, sales receipt growth increased by 22.5%. Low gross sales receipts during the first half the off audit period were due to the recession. Hurricane Ike in September 2008 delayed the impact of the economic recession on local sales and use tax receipts in FY09.
- The 19.8% decrease in passenger boardings, from 97.8 million in FY08 to 78.4 million in FY12. As a result of the ridership loss, the regional subsidization per passenger trip increased at a rate that is more than the growth rate in sales and use tax receipts.



3.5 Farebox Recovery Ratio

The farebox recovery ratio is the percentage of METRO's operating costs that are derived from passenger revenues. Systemwide, the farebox recovery ratio increased from 15.8% in FY08 to 16.8% in FY12, an increase of 6.1%.



- Bus (directly operated and contracted): the farebox recovery ratio increased from 16.3% in FY08 to 18.1% in FY12.
- Light Rail: the farebox recovery ratio decreased from 33.2% in FY08 to 22.9% in FY12. The farebox recovery ratio fluctuated during the audit period and peaked at 44.4% in FY09 before declining in subsequent years.
- Paratransit: the farebox recovery ratio decreased from 3.9% in FY08 to 3.8% in FY12.

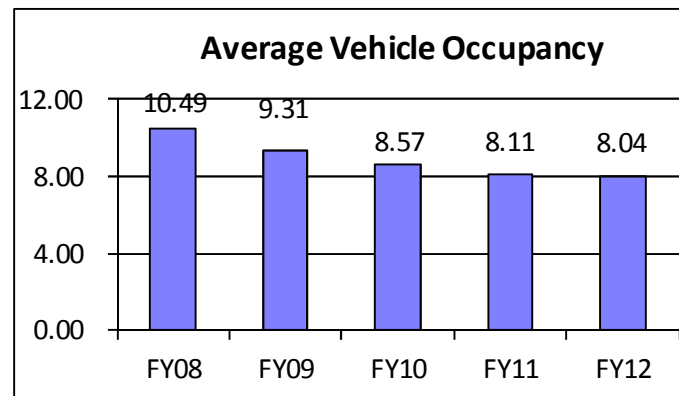
The increase in farebox recovery ratio reflects an increase in fare revenue that did not increase as rapidly as operating costs.

- Systemwide operating costs increased 14.9%, from \$341.0 million in FY08 to \$392.0 million in FY12.
- Due to the new fare policy implemented in April 2008, which reduced the number of METRO's fare payment options for over 60 to just two (cash and the METRO Q® card), METRO fare revenue increased significantly during the audit period despite the loss in ridership. Fare revenue increased from \$53.9 million in FY08 to \$65.8 million in FY12, an increase of 22.0%.

3.6 Average Vehicle Occupancy

Average vehicle occupancy is an indicator of vehicle utilization and productivity that is measured by dividing total passenger miles by total revenue vehicle miles. Systemwide average vehicle occupancy decreased from 10.49 in FY08 to 8.04 in FY12, a decrease of 23.4%.

- Bus (directly operated and contracted): average vehicle occupancy decreased 22.5%, from 13.19 in FY08 to 10.23 in FY12.
- Light Rail: average vehicle occupancy decreased from 33.70 in FY08 to 28.87 in FY12, a decrease of 14.3%.
- Paratransit: average vehicle occupancy decreased slightly by 1.2%, from 1.20 in FY08 to 1.19 in FY12.

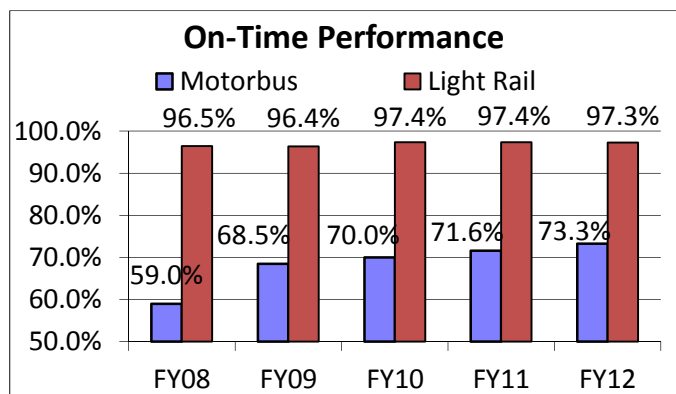


The decrease in average vehicle occupancy was a result of the following factors:

- While the average passenger trip length remained relatively constant, increasing from 5.8 miles in FY08 to 5.9 miles in FY12, systemwide boardings decreased by 19.8%. Due to the ridership loss during the audit period, passenger miles decreased by 18.3%.
- Systemwide revenue miles increased by 6.6% from 54.2 million in FY08 to 57.8 million in FY12.

3.7 On-Time Performance

Reported on-time performance for directly operated METRO bus services increased significantly from 59.0% in FY08 to 73.3% in FY12, exceeding the 69% on-time performance target in FY10, FY11, and FY12. Reported on-time performance for METRO rail services increased from 96.5% to 97.3%, exceeding the 95% on-time performance target in all years of the audit period.

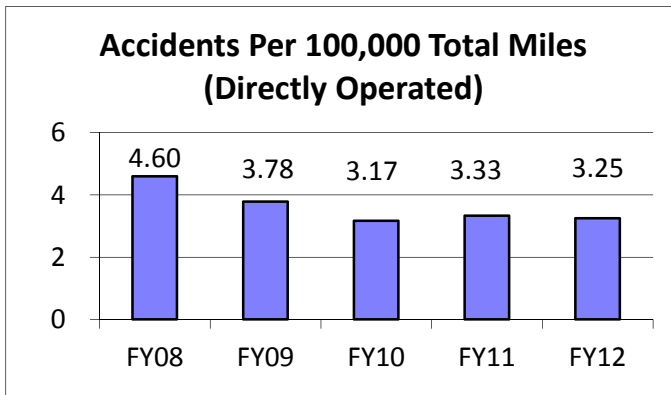


In FY08, METRO implemented the IVOMS-based on-time reporting methodology for bus service. IVOMS data provide the time that every bus passes a timepoint, generating hundreds of thousands of data points per month and the resulting on-time performance is significantly lower than those previously derived from point checks. During the audit period, METRO improved on-time performance, by identifying and analyzing low performing routes, making changes such as schedule adjustments and route adjustments, and using IVOMS capabilities and data to improve service delivery.

3.8 Accidents per 100,000 Total Miles

For directly operated service, accidents per 100,000 miles decreased from 4.60 in FY08 to 3.25 in FY12, a 29.3% decrease.

- Bus (directly operated): total accidents decreased by 26.5%, from 1,671 in FY08 to 1,229 in FY12. Combined with the increase in total bus miles operated during the audit period, bus accidents per 100,000 miles decreased by 29.1% from 4.57 to 3.24.
- Light Rail: total accidents decreased by 34.6%, from 52 in FY08 to 34 in FY12. The light rail accident rate per 100,000 miles decreased by 35.1% from 5.74 to 3.73.



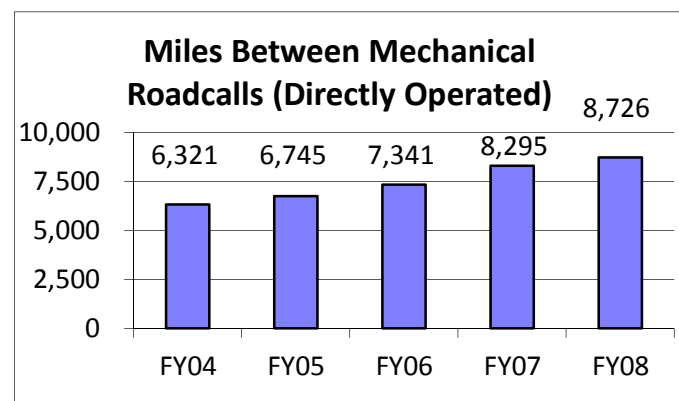
METRO's continued success in reducing accidents is due to its continued commitment to safety for both bus and light rail services. METRO watches accident trends closely, conducts extensive training for new operators and refresher training for current operators, and also takes other steps to improve safety where feasible (such as improving signaling and installing in-pavement lighting at rail grade crossings). These proactive steps have helped METRO reduce the number of accidents.

3.9 Miles between Road Calls

Miles between mechanical road calls for directly operated services significantly increased from 6,321 in FY08 to 8,726 in FY12, a 38.0% improvement.

- Bus (directly operated): the number of mechanical road calls decreased by 25.4%, from 5,797 in FY08 to 4,323 in FY12, resulting in a 39.1% improvement in the miles between mechanical road calls indicator.
- Light Rail: the number of mechanical road calls decreased by 3.0%, from 133 in FY08 to 129 in FY12, resulting in a 3.8% improvement in the miles between mechanical road calls indicator.

Replacing older vehicles in the bus fleet and annual preventive maintenance campaigns have contributed to the reduction in bus mechanical road calls and the increase in miles between mechanical road calls.



Section 4. Findings and Recommendations

4.1 Compliance with Data Definition and Data Collection

The audit team reviewed METRO's data definitions and data collection methodologies to verify that the base data used to develop the State-mandated performance indicators conform to State definitions.

METRO is in compliance with all data collection and verification requirements. In the case of accidents, METRO uses a different definition for internal reporting, but maintains the data needed to comply with State requirements. Internally, METRO reports accidents using the old FTA definition and the current NTD definition rather than the State's definition of accidents. METRO does track and maintain the State-required accident data, and they have been used for this report.

4.2 Transit Performance

During the audit period, METRO managed its system through a significant recession that started in the year 2008. Despite declining ridership as a result of the loss of regional employment, METRO controlled cost efficiency effectively (operating cost per hour and per mile). METRO improved customer service quality by improving bus on-time performance. METRO improved system safety by reducing accidents per 100,000 total miles. Capital investments to purchase new buses and perform annual preventive maintenance helped METRO improve service quality and reliability by increasing the mean distance between road calls. The loss in ridership negatively impacted service productivity (vehicle occupancy) and cost effectiveness (operating cost per passenger). Farebox recovery increased slightly due to a major fare change that took place in April 2008.

- Bus: operating cost per passenger increased by 48.2% during the audit period, compared to the 6.8% growth in the CPI. Operating cost per revenue hour and per revenue mile increased by 11.3% and 10.6%, respectively. Average vehicle occupancy decreased 22.5%. On-time performance improved by 24.2% for directly operated service. Accidents per 100,000 total miles decreased by 29.1% for directly operated service. Miles between mechanical road calls improved 39.1% for directly operated service.
- Light rail: operating cost per passenger increased by 14.6% during the audit period, compared to the 6.8% growth in the CPI. Operating cost per revenue hour and per revenue mile increased by 0.8% and 6.9%, respectively. Average vehicle occupancy decreased by 14.3%. On-time performance continued to exceed METRO's target and further improved by 0.8%. Accidents per 100,000 total miles decreased by 35.1%. Miles between mechanical road calls improved 3.8%.
- Paratransit services: operating cost per passenger increased by 2.0% during the audit period, compared to the 6.8% growth in the CPI. Operating cost per revenue hour and per revenue mile increased by 3.9% and 4.0%, respectively. Average vehicle occupancy decreased by 1.2%. METRO should monitor its performance going forward to ensure that it continues to meeting the growing demand for paratransit effectively and efficiently.
- Revenue: systemwide farebox recovery increased from 15.8% in FY08 to 16.8% in FY12, as fare revenues increased at a faster rate than operating costs. Sales and use tax receipts per passenger trip increased by 43.6%.

4.3 Recommendation

Findings from this report indicate both positive performance and opportunities to improve transit service efficiency and productivity. One recommendation is offered for METRO's consideration:

- **Recommendation:** Develop strategies to increase ridership as the economy improves.

The recommendation is not intended to be viewed negatively, but rather as an opportunity for improvement. The recommendation needs to be balanced with consideration of METRO's positive performance results during the audit review period, despite the economic recession that resulted in a loss of employment in the region and consequently ridership.

METRO successfully addressed the two recommendations from the previous FY05-08 performance indicators audit report. During the audit period, METRO significantly improved bus on-time performance and improved safety by addressing and reducing bus accidents.

4.3.1 Recommendation: Develop strategies to increase ridership as the economy improves.

Issues and Opportunities. METRO's ridership fell significantly from FY08 to FY12, by 19.8% systemwide, due to the impacts of the economic recession.

Recommended Actions. As the regional economy strengthens, METRO should actively plan and implement market-based strategies to generate additional ridership. This includes increasing service frequencies on high performing routes, enhancing service connectivity, and considering new services in areas with high population and employment growth. Such service changes should be viewed in conjunction with potential fare changes to further promote ridership increases.

Expected Results. METRO should observe ridership growth during the next audit period, getting closer to pre-recession levels. This will improve cost effectiveness and cost efficiency as well as service productivity.

Appendix A: Operating Data by Performance Indicator

Information in this appendix includes both operating statistics and performance measures used to calculate the nine State-mandated performance indicators.

Each performance indicator has been calculated at the mode level for each of the three services that METRO operates (i.e., bus, light rail, paratransit), as well as at the systemwide level.

Operating Cost per Passenger

Performance Indicators	Base Year FY08	Audit Review Period				Total Change FY08-FY12
		FY09	FY10	FY11	FY12	
Total Operating Cost	\$341,033,743	\$372,525,381	\$372,079,066	\$385,420,081	\$391,981,927	\$50,948,184
Percent Change		9.23%	-0.12%	3.59%	1.70%	14.94%
Motorbus Operating Cost	\$291,326,047	\$321,401,200	\$321,224,948	\$328,885,459	\$334,021,714	\$42,695,667
Percent Change		10.32%	-0.05%	2.38%	1.56%	14.66%
Light Rail Operating Cost	\$15,858,496	\$15,770,959	\$14,817,148	\$17,502,671	\$17,365,999	\$1,507,503
Percent Change		-0.55%	-6.05%	18.12%	-0.78%	9.51%
Paratransit Operating Cost	\$33,849,200	\$35,353,222	\$36,036,970	\$39,031,951	\$40,594,214	\$6,745,014
Percent Change		4.44%	1.93%	8.31%	4.00%	19.93%
Total Transit Passenger Trips	97,814,426	85,891,637	78,728,246	78,673,659	78,412,710	-19,401,716
Percent Change		-12.19%	-8.34%	-0.07%	-0.33%	-19.84%
Motorbus Passenger Trips	84,594,867	72,795,199	66,538,892	66,401,692	65,467,310	-19,127,557
Percent Change		-13.95%	-8.59%	-0.21%	-1.41%	-22.61%
Light Rail Passenger Trips	11,800,912	11,613,720	10,616,292	10,618,061	11,276,769	-524,143
Percent Change		-1.59%	-8.59%	0.02%	6.20%	-4.44%
Paratransit Passenger Trips	1,418,647	1,482,718	1,573,062	1,653,906	1,668,631	249,984
Percent Change		4.52%	6.09%	5.14%	0.89%	17.62%
Total Operating Cost per Passenger	\$3.49	\$4.34	\$4.73	\$4.90	\$5.00	\$1.51
Percent Change		24.40%	8.97%	3.66%	2.04%	43.38%
Motorbus Operating Cost per Passenger	\$3.44	\$4.42	\$4.83	\$4.95	\$5.10	\$1.66
Percent Change		28.21%	9.34%	2.60%	3.01%	48.15%
Light Rail Operating Cost per Passenger	\$1.34	\$1.36	\$1.40	\$1.65	\$1.54	\$0.20
Percent Change		1.05%	2.78%	18.10%	-6.58%	14.60%
Paratransit Operating Cost per Passenger	\$23.86	\$23.84	\$22.91	\$23.60	\$24.33	\$0.47
Percent Change		-0.07%	-3.92%	3.02%	3.08%	1.96%
Change in Consumer Price Index		0.24%	1.82%	3.23%	1.36%	6.80%

Source: NTD Reports, Bureau of Labor Statistics. Excludes charter service and METROVan rideshare data.

Operating Cost per Revenue Hour

Performance Indicators	Base Year	Audit Review Period				Total Change
	FY08	FY09	FY10	FY11	FY12	FY08-FY12
Total Operating Cost	\$341,033,743	\$372,525,381	\$372,079,066	\$385,420,081	\$391,981,927	\$50,948,184
Percent Change		9.23%	-0.12%	3.59%	1.70%	14.94%
Motorbus Operating Cost	\$291,326,047	\$321,401,200	\$321,224,948	\$328,885,459	\$334,021,714	\$42,695,667
Percent Change		10.32%	-0.05%	2.38%	1.56%	14.66%
Light Rail Operating Cost	\$15,858,496	\$15,770,959	\$14,817,148	\$17,502,671	\$17,365,999	\$1,507,503
Percent Change		-0.55%	-6.05%	18.12%	-0.78%	9.51%
Paratransit Operating Cost	\$33,849,200	\$35,353,222	\$36,036,970	\$39,031,951	\$40,594,214	\$6,745,014
Percent Change		4.44%	1.93%	8.31%	4.00%	19.93%
Total Transit Revenue Hours	3,608,113	3,674,480	3,730,511	3,812,564	3,819,634	211,521
Percent Change		1.84%	1.52%	2.20%	0.19%	5.86%
Motorbus Revenue Hours	2,744,941	2,794,486	2,827,925	2,848,954	2,828,231	83,290
Percent Change		1.80%	1.20%	0.74%	-0.73%	3.03%
Light Rail Revenue Hours	70,528	74,640	74,336	74,235	76,596	6,068
Percent Change		5.83%	-0.41%	-0.14%	3.18%	8.6%
Paratransit Revenue Hours	792,644	805,354	828,250	889,375	914,807	122,163
Percent Change		1.60%	2.84%	7.38%	2.86%	15.41%
Total Operating Cost per Revenue Hour	\$94.52	\$82.72	\$81.66	\$83.07	\$84.32	\$7.19
Percent Change		7.25%	-1.29%	1.74%	1.50%	9.33%
Motorbus Operating Cost per Revenue Hour	\$106.13	\$115.01	\$113.59	\$115.44	\$118.10	\$11.97
Percent Change		8.37%	-1.24%	1.63%	2.31%	11.28%
Light Rail Operating Cost per Revenue Hour	\$224.85	\$17.45	\$16.45	\$19.42	\$19.17	\$1.24
Percent Change		-2.70%	-5.72%	18.03%	-1.28%	6.89%
Paratransit Operating Cost per Revenue Hour	\$42.70	\$43.90	\$43.51	\$43.89	\$44.37	\$1.67
Percent Change		2.79%	-0.88%	0.87%	1.11%	3.91%
Change in Consumer Price Index		0.24%	1.82%	3.23%	1.36%	6.80%

Source: NTD Reports, Bureau of Labor Statistics. Excludes charter service and METROVan rideshare data.

Operating Cost per Revenue Mile

Performance Indicators	Base Year	Audit Review Period				Total Change
	FY08	FY09	FY10	FY11	FY12	FY08-FY12
Total Operating Cost	\$341,033,743	\$372,525,381	\$372,079,066	\$385,420,081	\$391,981,927	\$50,948,184
Percent Change		9.23%	-0.12%	3.59%	1.70%	14.94%
Motorbus Operating Cost	\$291,326,047	\$321,401,200	\$321,224,948	\$328,885,459	\$334,021,714	\$42,695,667
Percent Change		10.32%	-0.05%	2.38%	1.56%	14.66%
Light Rail Operating Cost	\$15,858,496	\$15,770,959	\$14,817,148	\$17,502,671	\$17,365,999	\$1,507,503
Percent Change		-0.55%	-6.05%	18.12%	-0.78%	9.51%
Paratransit Operating Cost	\$33,849,200	\$35,353,222	\$36,036,970	\$39,031,951	\$40,594,214	\$6,745,014
Percent Change		4.44%	1.93%	8.31%	4.00%	19.93%
Total Transit Revenue Miles	54,246,105	55,659,298	56,514,096	57,903,524	57,828,272	3,582,167
Percent Change		2.61%	1.54%	2.46%	-0.13%	6.60%
Motorbus Revenue Miles	39,620,318	40,799,176	41,202,931	41,403,073	41,073,973	1,453,655
Percent Change		2.98%	0.99%	0.49%	-0.79%	3.67%
Light Rail Revenue Miles	884,171	903,668	900,517	901,218	905,795	21,624
Percent Change		2.21%	-0.35%	0.08%	0.51%	2.45%
Paratransit Revenue Miles	13,741,616	13,956,454	14,410,648	15,599,233	15,848,504	2,106,888
Percent Change		1.56%	3.25%	8.25%	1.60%	15.33%
Total Operating Cost per Revenue Mile	\$6.29	\$6.79	\$6.68	\$6.75	\$6.88	\$0.49
Percent Change		6.45%	-1.66%	1.07%	1.84%	7.75%
Motorbus Operating Cost per Revenue Mile	\$7.35	\$7.88	\$7.80	\$7.94	\$8.13	\$0.78
Percent Change		7.14%	-1.03%	1.89%	2.38%	10.60%
Light Rail Operating Cost per Revenue Mile	\$17.94	\$211.29	\$199.33	\$235.77	\$226.72	\$1.87
Percent Change		-6.03%	-5.66%	18.29%	-3.84%	0.83%
Paratransit Operating Cost per Revenue Mile	\$2.46	\$2.53	\$2.50	\$2.50	\$2.56	\$0.10
Percent Change		2.84%	-1.28%	0.06%	2.37%	3.98%
Change in Consumer Price Index		0.24%	1.82%	3.23%	1.36%	6.80%

Source: NTD Reports, Bureau of Labor Statistics. Excludes charter service and METROVan rideshare data.

Sales and Use Tax Receipts per Passenger Trip

Performance Indicators	Base Year FY08	Audit Review Period				Total Change FY08-FY12
		FY09	FY10	FY11	FY12	
Sales and Use Tax Receipts	\$521,179,361	\$517,972,851	\$489,972,748	\$536,572,595	\$600,047,407	\$78,868,046
Percent Change		-0.62%	-5.41%	9.51%	11.83%	15.13%
Total Transit Passenger Trips	97,814,426	85,891,637	78,728,246	78,673,659	78,412,710	-19,401,716
Percent Change		-12.19%	-8.34%	-0.07%	-0.33%	-19.84%
Sales and Use Tax Receipts per Passenger Trip	\$5.33	\$6.03	\$6.22	\$6.82	\$7.65	\$2.32
Percent Change		13.18%	3.20%	9.59%	12.20%	43.62%
Change in Consumer Price Index		0.24%	1.82%	3.23%	1.36%	6.80%

Source: NTD Reports, Oracle Financials, Bureau of Labor Statistics. Passenger trips exclude charter service and METROVan rideshare data.

Fare Recovery Rate

Performance Indicators	Base Year	Audit Review Period				Total Change
	FY08	FY09	FY10	FY11	FY12	FY08-FY12
Total Operating Cost	\$341,033,743	\$372,525,381	\$372,079,066	\$385,420,081	\$391,981,927	\$50,948,184
Percent Change		9.23%	-0.12%	3.59%	1.70%	14.94%
Motorbus Operating Cost	\$291,326,047	\$321,401,200	\$321,224,948	\$328,885,459	\$334,021,714	\$42,695,667
Percent Change		10.32%	-0.05%	2.38%	1.56%	14.66%
Light Rail Operating Cost	\$15,858,496	\$15,770,959	\$14,817,148	\$17,502,671	\$17,365,999	\$1,507,503
Percent Change		-0.55%	-6.05%	18.12%	-0.78%	9.51%
Paratransit Operating Cost	\$33,849,200	\$35,353,222	\$36,036,970	\$39,031,951	\$40,594,214	\$6,745,014
Percent Change		4.44%	1.93%	8.31%	4.00%	19.93%
Total Transit Fare Revenue	\$53,946,856	\$67,302,653	\$62,796,245	\$68,203,519	\$65,805,814	\$11,858,958
Percent Change		24.76%	-6.70%	8.61%	-3.52%	21.98%
Motorbus Fare Revenue	\$47,355,640	\$58,960,714	\$55,558,241	\$61,106,439	\$60,302,288	\$12,946,648
Percent Change		24.51%	-5.77%	9.99%	-1.32%	27.34%
Light Rail Fare Revenue	\$5,263,413	\$7,006,821	\$5,787,387	\$5,619,890	\$3,978,767	-\$1,284,646
Percent Change		33.12%	-17.40%	-2.89%	-29.20%	-24.41%
Paratransit Fare Revenue	\$1,327,803	\$1,335,118	\$1,450,617	\$1,477,190	\$1,524,759	\$196,956
Percent Change		0.55%	8.65%	1.83%	3.22%	14.83%
Total Fare Recovery Rate	15.82%	18.07%	16.88%	17.70%	16.79%	0.97%
Percent Change		14.21%	-6.58%	4.85%	-5.13%	6.13%
Motorbus Fare Recovery Rate	16.26%	18.34%	17.30%	18.58%	18.05%	1.80%
Percent Change		12.86%	-5.72%	7.42%	-2.83%	11.06%
Light Rail Fare Recovery Rate	33.19%	44.43%	39.06%	32.11%	22.91%	-10.28%
Percent Change		33.86%	-12.09%	-17.79%	-28.64%	-30.97%
Paratransit Fare Recovery Rate	3.92%	3.78%	4.03%	3.78%	3.76%	-0.17%
Percent Change		-3.73%	6.59%	-5.98%	-0.75%	-4.25%

Source: NTD Reports. Excludes charter service and METROVan rideshare data.

Average Vehicle Occupancy

Performance Indicators	Base Year FY08	Audit Review Period				Total Change FY08-FY12
		FY09	FY10	FY11	FY12	
Total Passenger Miles	569,104,326	518,328,490	484,471,322	469,783,463	465,046,728	-104,057,598
Percent Change		-8.92%	-6.53%	-3.03%	-1.01%	-18.28%
Motorbus Passenger Miles	522,762,119	474,118,999	443,073,742	426,552,709	420,043,132	-102,718,987
Percent Change		-9.31%	-6.55%	-3.73%	-1.53%	-19.65%
Light Rail Passenger Miles	29,795,528	27,501,371	24,167,512	24,703,581	26,154,196	-3,641,332
Percent Change		-7.70%	-12.12%	2.22%	5.87%	-12.22%
Paratransit Passenger Miles	16,546,679	16,708,120	17,230,068	18,527,173	18,849,400	2,302,721
Percent Change		0.98%	3.12%	7.53%	1.74%	13.92%
Total Transit Revenue Miles	54,246,105	55,659,298	56,514,096	57,903,524	57,828,272	3,582,167
Percent Change		2.61%	1.54%	2.46%	-0.13%	6.60%
Motorbus Revenue Miles	39,620,318	40,799,176	41,202,931	41,403,073	41,073,973	1,453,655
Percent Change		2.98%	0.99%	0.49%	-0.79%	3.67%
Light Rail Revenue Miles	884,171	903,668	900,517	901,218	905,795	\$21,624
Percent Change		2.21%	-0.35%	0.08%	0.51%	2.45%
Paratransit Revenue Miles	13,741,616	13,956,454	14,410,648	15,599,233	15,848,504	2,106,888
Percent Change		1.56%	3.25%	8.25%	1.60%	15.33%
Total Average Vehicle Occupancy	10.49	9.45	8.70	8.23	8.16	-2.49
Percent Change		-11.24%	-7.97%	-5.39%	-0.87%	-23.40%
Motorbus Average Vehicle Occupancy	13.19	11.62	10.75	10.30	10.23	-2.97
Percent Change		-11.93%	-7.46%	-4.19%	-0.74%	-22.49%
Light Rail Average Vehicle Occupancy	33.70	368.45	325.11	332.78	341.46	-81.01
Percent Change		-12.78%	-11.76%	2.36%	2.61%	-19.17%
Paratransit Average Vehicle Occupancy	1.20	1.20	1.20	1.19	1.19	-0.01
Percent Change		-0.58%	-0.13%	-0.66%	0.14%	-1.23%

Source: NTD Reports. Excludes charter service and METROVan rideshare data.

On-Time Performance (Directly Operated)

Performance Indicators	Base Year FY08	Audit Review Period				Total Change FY08-FY12
		FY09	FY10	FY11	FY12	
Motorbus On-Time Performance (Directly Operated)	59.0%	68.5%	70.0%	71.6%	73.3%	14.3%
Percent Change		16.10%	2.19%	2.29%	2.37%	24.24%
Light Rail On-Time Performance	96.5%	96.4%	97.4%	97.4%	97.3%	0.8%
Percent Change		-0.10%	1.04%	0.00%	-0.10%	0.83%

Source: Year End Monthly Board Report.

Accidents per 100,000 Total Miles (Directly Operated)

Performance Indicators	Base Year	Audit Review Period				Total Change
	FY08	FY09	FY10	FY11	FY12	FY08-FY12
Total Vehicle Miles (Directly Operated)	37,485,223	38,805,278	39,243,499	39,425,101	38,849,933	1,364,710
Percent Change		3.52%	1.13%	0.46%	-1.46%	3.64%
Motorbus Total Vehicle Miles (Directly Operated)	36,579,054	37,889,442	38,330,213	38,515,567	37,937,566	1,358,512
Percent Change		3.58%	1.16%	0.48%	-1.50%	3.71%
Light Rail Total Vehicle Miles	906,169	915,836	913,286	909,534	912,367	6,198
Percent Change		1.07%	-0.28%	-0.41%	0.31%	0.68%
Total Transit Accidents (Directly Operated)	1,723	1,468	1,243	1,312	1,263	-460
Percent Change		-14.80%	-15.33%	5.55%	-3.73%	-26.70%
Motorbus Accidents (Directly Operated)	1,671	1,431	1,199	1,282	1,229	-442
Percent Change		-14.36%	-16.21%	6.92%	-4.13%	-26.45%
Light Rail Accidents	52	37	44	30	34	-18
Percent Change		-28.85%	18.92%	-31.82%	13.33%	-34.62%
Total Accidents per 100,000 Total Miles	4.60	3.78	3.17	3.33	3.25	-1.35
Percent Change		-17.70%	-16.27%	5.06%	-2.31%	-29.27%
Motorbus Accidents per 100,000 Total Miles	4.57	3.78	3.13	3.33	3.24	-1.33
Percent Change		-17.32%	-17.18%	6.41%	-2.67%	-29.08%
Light Rail Accidents per 100,000 Total Miles	5.74	4.04	4.82	3.30	3.73	-2.01
Percent Change		-29.60%	19.25%	-31.54%	12.98%	-35.06%

Source: NTD Reports, Year End Monthly Board Report. Excludes charter service and METROVan rideshare data.

Miles between Mechanical Roadcalls (Directly Operated)

Performance Indicators	Base Year FY08	Audit Review Period				Total Change FY08-FY12
		FY09	FY10	FY11	FY12	
Total Vehicle Miles (Directly Operated)	37,485,223	38,805,278	39,243,499	39,425,101	38,849,933	1,364,710
Percent Change		3.52%	1.13%	0.46%	-1.46%	3.64%
Motorbus Total Vehicle Miles (Directly Operated)	36,579,054	37,889,442	38,330,213	38,515,567	37,937,566	1,358,512
Percent Change		3.58%	1.16%	0.48%	-1.50%	3.71%
Light Rail Total Vehicle Miles	906,169	915,836	913,286	909,534	912,367	6,198
Percent Change		1.07%	-0.28%	-0.41%	0.31%	0.68%
Total Mechanical Roadcalls (Directly Operated)	5,930	5,753	5,346	4,753	4,452	-1,478
Percent Change		-2.98%	-7.07%	-11.09%	-6.33%	-24.92%
Motorbus Mechanical Roadcalls (Directly Operated)	5,797	5,617	5,218	4,622	4,323	-1,474
Percent Change		-3.11%	-7.10%	-11.42%	-6.47%	-25.43%
Light Rail Mechanical Roadcalls	133	136	128	131	129	-4
Percent Change		2.26%	-5.88%	2.34%	-1.53%	-3.01%
Total Miles Between Mechanical Roadcalls	6,321	6,745	7,341	8,295	8,726	2,405
Percent Change		6.71%	8.83%	13.00%	5.20%	38.05%
Motorbus Miles Between Mechanical Roadcalls	6,310	6,745	7,346	8,333	8,776	2,466
Percent Change		6.90%	8.90%	13.44%	5.31%	39.08%
Light Rail Miles Between Mechanical Roadcalls	6,813	6,734	7,135	6,943	7,073	259
Percent Change		-1.16%	5.95%	-2.69%	1.87%	3.81%

Source: NTD Reports, Bus and Rail Maintenance Staff. Motorbus data includes directly operated motorbus services only. Excludes charter service and METROVan rideshare data.

Appendix B: Performance Data by Mode

The performance indicators included in this appendix are reported by mode of each of the three modes that METRO operates (i.e., bus, light rail, paratransit).

In addition to the nine State-mandated performance indicators, two additional performance indicators are included that are often reported as a basis for evaluating performance: passengers per revenue hour and passengers per revenue mile.

Performance Indicators – Motorbus (Directly Operated and Purchased Transportation)

Performance Indicators	Base Year	Audit Review Period				% Change
	FY08	FY09	FY10	FY11	FY12	FY08-FY12
Operating Cost	\$291,326,047	\$321,401,200	\$321,224,948	\$328,885,459	\$334,021,714	14.66%
Passenger Fare Revenues	\$47,355,640	\$58,960,714	\$55,558,241	\$61,106,439	\$60,302,288	27.34%
Unlinked Passenger Trips	84,594,867	72,795,199	66,538,892	66,401,692	65,467,310	-22.61%
Revenue Vehicle Hours	2,744,941	2,794,486	2,827,925	2,848,954	2,828,231	3.03%
Revenue Vehicle Miles	39,620,318	40,799,176	41,202,931	41,403,073	41,073,973	3.67%
Total Vehicle Miles	47,392,267	48,675,585	49,163,343	49,335,695	48,971,435	3.33%
Passenger Miles	522,762,119	474,118,999	443,073,742	426,552,709	420,043,132	-19.65%
Accidents (Directly Operated)	1,671	1,431	1,199	1,282	1,229	-26.45%
Mechanical Roadcalls (Directly Operated)	5,797	5,617	5,218	4,622	4,323	-25.43%
Operating Cost Per Passenger	\$3.44	\$4.42	\$4.83	\$4.95	\$5.10	48.15%
Operating Cost Per Revenue Hour	\$106.13	\$115.01	\$113.59	\$115.44	\$118.10	11.28%
Operating Cost Per Revenue Mile	\$7.35	\$7.88	\$7.80	\$7.94	\$8.13	10.60%
Fare Recovery Ratio	16.26%	18.34%	17.30%	18.58%	18.05%	11.06%
Average Vehicle Occupancy	13.19	11.62	10.75	10.30	10.23	-22.49%
On-Time Performance (Directly Operated)	59.0%	68.5%	70.0%	71.6%	73.3%	24.24%
Accidents Per 100,000 Total Miles (Directly Operated)	4.57	3.78	3.13	3.33	3.24	-29.08%
Miles Between Mechanical Roadcalls (Directly Operated)	6,310	6,745	7,346	8,333	8,776	39.08%
Passengers Per Revenue Hour	30.82	26.05	23.53	23.31	23.15	-24.89%
Passengers Per Revenue Mile	2.14	1.78	1.61	1.60	1.59	-25.35%
Consumer Price Index (CPI-U)		0.24%	1.82%	3.23%	1.36%	6.80%

Source: NTD Reports, Year End Monthly Board Report, Bureau of Labor Statistics, Bus Maintenance Staff.

Excludes charter service and METROVan rideshare data.

Performance Indicators – Motorbus (Directly Operated)

Performance Indicators	Base Year	Audit Review Period				% Change
	FY08	FY09	FY10	FY11	FY12	FY08-FY12
Operating Cost	\$241,342,036	\$271,282,177	\$271,744,832	\$280,166,005	\$282,765,008	17.16%
Passenger Fare Revenues	\$39,065,814	\$52,533,347	\$44,790,842	\$50,349,026	\$48,451,081	24.02%
Unlinked Passenger Trips	67,722,803	58,947,679	54,320,929	53,406,213	52,627,855	-22.29%
Revenue Vehicle Hours	2,175,893	2,221,944	2,248,759	2,268,395	2,235,425	2.74%
Revenue Vehicle Miles	30,894,875	32,047,732	32,402,674	32,625,875	32,112,429	3.94%
Total Vehicle Miles	36,579,054	37,889,442	38,330,213	38,515,567	37,937,566	3.71%
Passenger Miles	418,371,982	377,494,332	358,730,909	340,841,595	332,801,674	-20.45%
Accidents	1,671	1,431	1,199	1,282	1,229	-26.45%
Mechanical Roadcalls	5,797	5,617	5,218	4,622	4,323	-25.43%
Operating Cost Per Passenger	\$3.56	\$4.60	\$5.00	\$5.25	\$5.37	50.77%
Operating Cost Per Revenue Hour	\$110.92	\$122.09	\$120.84	\$123.51	\$126.49	14.04%
Operating Cost Per Revenue Mile	\$7.81	\$8.46	\$8.39	\$8.59	\$8.81	12.72%
Fare Recovery Ratio	16.19%	19.36%	16.48%	17.97%	17.13%	5.86%
Average Vehicle Occupancy	13.54	11.78	11.07	10.45	10.36	-23.47%
On-Time Performance	59.0%	68.5%	70.0%	71.6%	73.3%	24.24%
Accidents Per 100,000 Total Miles	4.57	3.78	3.13	3.33	3.24	-29.08%
Miles Between Mechanical Roadcalls	6,310	6,745	7,346	8,333	8,776	39.08%
Passengers Per Revenue Hour	31.12	26.53	24.16	23.54	23.54	-24.36%
Passengers Per Revenue Mile	2.19	1.84	1.68	1.64	1.64	-25.24%
Consumer Price Index (CPI-U)		0.24%	1.82%	3.23%	1.36%	6.80%

Source: NTD Reports, Year End Monthly Board Report, Bureau of Labor Statistics, Bus Maintenance Staff.

Excludes charter service and METROVan rideshare data.

Performance Indicators – Motorbus (Purchased Transportation)

Performance Indicators	Base Year	Audit Review Period				% Change
	FY08	FY09	FY10	FY11	FY12	FY08-FY12
Operating Cost	\$49,984,011	\$50,119,023	\$49,480,116	\$48,719,454	\$51,256,706	2.55%
Passenger Fare Revenues	\$8,289,826	\$6,427,367	\$10,767,399	\$10,757,413	\$11,851,207	42.96%
Unlinked Passenger Trips	16,872,064	13,847,520	12,217,963	12,995,479	12,839,455	-23.90%
Revenue Vehicle Hours	569,048	572,542	579,166	580,559	592,806	4.18%
Revenue Vehicle Miles	8,725,443	8,751,444	8,800,257	8,777,198	8,961,544	2.71%
Total Vehicle Miles	10,813,213	10,786,143	10,833,130	10,820,128	11,033,869	2.04%
Passenger Miles	104,390,137	96,624,667	84,342,833	85,711,114	87,241,458	-16.43%
Operating Cost Per Passenger	\$2.96	\$3.62	\$4.05	\$3.75	\$3.99	34.75%
Operating Cost Per Revenue Hour	\$87.84	\$87.54	\$85.43	\$83.92	\$86.46	-1.56%
Operating Cost Per Revenue Mile	\$5.73	\$5.73	\$5.62	\$5.55	\$5.72	-0.16%
Fare Recovery Ratio	16.58%	12.82%	21.76%	22.08%	23.12%	39.41%
Average Vehicle Occupancy	11.96	11.04	9.58	9.77	9.74	-18.63%
Passengers Per Revenue Hour	29.65	24.19	21.10	22.38	21.66	-26.95%
Passengers Per Revenue Mile	1.93	1.58	1.39	1.48	1.43	-25.91%
Consumer Price Index (CPI-U)		0.24%	1.82%	3.23%	1.36%	6.80%

Source: NTD Reports, Year End Monthly Board Report, Bureau of Labor Statistics. Excludes charter service and METROVan rideshare data.

Performance Indicators – Light Rail

Performance Indicators	Base Year	Audit Review Period				% Change
	FY08	FY09	FY10	FY11	FY12	FY08-FY12
Operating Cost	\$15,858,496	\$15,770,959	\$14,817,148	\$17,502,671	\$17,365,999	9.51%
Passenger Fare Revenues	\$5,263,413	\$7,006,821	\$5,787,387	\$5,619,890	\$3,978,767	-24.41%
Unlinked Passenger Trips	11,800,912	11,613,720	10,616,292	10,618,061	11,276,769	-4.44%
Revenue Vehicle Hours	70,528	74,640	74,336	74,235	76,596	8.60%
Revenue Vehicle Miles	884,171	903,668	900,517	901,218	905,795	2.45%
Total Vehicle Miles	906,169	915,836	913,286	909,534	912,367	0.68%
Passenger Miles	29,795,528	27,501,371	24,167,512	24,703,581	26,154,196	-12.22%
Accidents	52	37	44	30	34	-34.62%
Mechanical Roadcalls	133	136	128	131	129	-3.01%
Operating Cost Per Passenger	\$1.34	\$1.36	\$1.40	\$1.65	\$1.54	14.60%
Operating Cost Per Revenue Hour	\$224.85	\$211.29	\$199.33	\$235.77	\$226.72	0.83%
Operating Cost Per Revenue Mile	\$17.94	\$17.45	\$16.45	\$19.42	\$19.17	6.89%
Fare Recovery Ratio	33.19%	44.43%	39.06%	32.11%	22.91%	-30.97%
Average Vehicle Occupancy	422.46	368.45	325.11	332.78	341.46	-19.17%
On-Time Performance	96.5%	96.4%	97.4%	97.4%	97.3%	0.83%
Accidents Per 100,000 Total Miles	5.74	4.04	4.82	3.30	3.73	-35.06%
Miles Between Mechanical Roadcalls	6,813	6,734	7,135	6,943	7,073	3.81%
Passengers Per Revenue Hour	167.32	155.60	142.81	143.03	147.22	-12.01%
Passengers Per Revenue Mile	13.35	12.85	11.79	11.78	12.45	-6.72%
Consumer Price Index (CPI-U)		0.24%	1.82%	3.23%	1.36%	6.80%

Source: NTD Reports, Year End Monthly Board Report, Bureau of Labor Statistics, Rail Maintenance Staff.

Performance Indicators – Paratransit (Demand Response and Taxi)

Base Data and Performance Indicators	Base Year	Audit Review Period				% Change
	FY08	FY09	FY10	FY11	FY12	FY08-FY12
Operating Cost	\$33,849,200	\$35,353,222	\$36,036,970	\$39,031,951	\$40,594,214	19.93%
Passenger Fare Revenues	\$1,327,803	\$1,335,118	\$1,450,617	\$1,477,190	\$1,524,759	14.83%
Unlinked Passenger Trips	1,418,647	1,482,718	1,573,062	1,653,906	1,668,631	17.62%
Revenue Vehicle Hours	792,644	805,354	828,250	889,375	914,807	15.41%
Revenue Vehicle Miles	13,741,616	13,956,454	14,410,648	15,599,233	15,848,504	15.33%
Passenger Miles	16,546,679	16,708,120	17,230,068	18,527,173	18,849,400	13.92%
Operating Cost Per Passenger	\$23.86	\$23.84	\$22.91	\$23.60	\$24.33	1.96%
Operating Cost Per Revenue Hour	\$42.70	\$43.90	\$43.51	\$43.89	\$44.37	3.91%
Operating Cost Per Revenue Mile	\$2.46	\$2.53	\$2.50	\$2.50	\$2.56	3.98%
Fare Recovery Ratio	3.92%	3.78%	4.03%	3.78%	3.76%	-4.25%
Average Vehicle Occupancy	1.20	1.20	1.20	1.19	1.19	-1.23%
Passengers Per Revenue Hour	1.79	1.84	1.90	1.86	1.82	1.91%
Passengers Per Revenue Mile	0.10	0.11	0.11	0.11	0.11	1.98%
Consumer Price Index (CPI-U)		0.24%	1.82%	3.23%	1.36%	6.80%

Source: NTD Reports, Bureau of Labor Statistics.