

Washington Metropolitan Area Transit Authority

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 July – September 2015
 Quarter 3



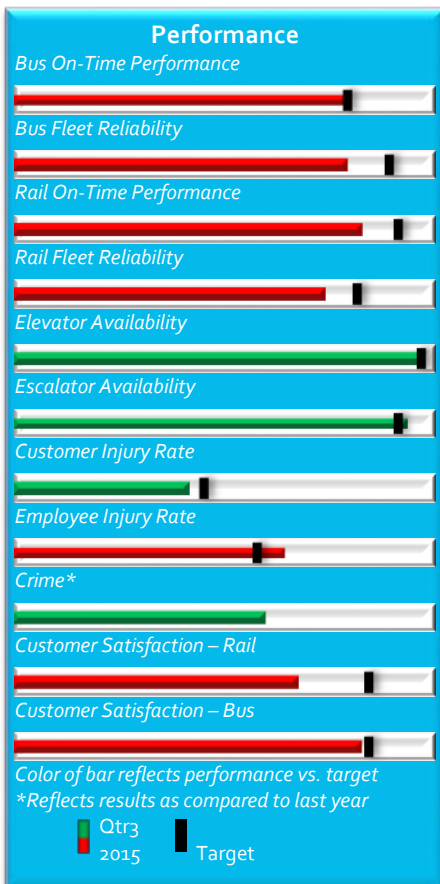
Vital Signs

Table of Contents

Bus	3
Rail	5
Elevator/Escalator	7
Safety	8
Security	10
Business Operations	11
Definitions	16
Performance Data	20

Highlights

- **Bus on-time performance (OTP)** improved with better management of early arrivals, but just missed overall target due to the seasonal dip in September. (pg. 3)
- **Rail OTP** continued to drop, as did customer satisfaction, with railcar shortages, speed restrictions and service reductions following a fire to prevent bunching. (pg. 5)
- **Fleet reliability** was mostly below target as bus manufacturer-related failures continued and fewer railcars were available for service. Fifty-two of 64 new 7000-Series cars were placed into service this quarter. (pgs. 4 and 6)
- **Escalators and elevator availability** exceeded target as a result of fewer breakdowns and less time was spent servicing units. (pg. 7)
- **Customer injuries** improved to be better than target for the first time this calendar year. However, **employee injuries** were worse than target, including a doubling of crime-related injuries to officers compared to Q3/2014. **Crimes** decreased overall compared to last year, mostly due to reduced rail crimes. (pgs. 8-10)



Introduction

Goal: Meet or exceed customer expectations by consistently delivering quality service

Goal: Build and maintain a premier safety culture and system

Goal: Ensure financial stability and invest in our people and assets

Goal: Improve regional mobility and connect communities

VITAL SIGNS communicates the transit system's performance to the Board of Directors on a quarterly and annual basis.

The public and other stakeholders are invited to monitor Metro's performance using a web-based scorecard at wmata.com.

Metro's managers measure what matters and hold themselves accountable to stakeholders via a focused set of Key Performance Indicators (KPIs) reported publicly in Vital Signs.

The report is organized by the Board-adopted strategic goals that align actions to improve performance and deliver results.

Vital Signs is different from most public performance reports in that it provides systematic, data-driven, analysis of KPIs by answering two questions:

Why did performance change?

What actions are being taken to improve it?

The answers reveal the challenges and complexities of our operation.

TARGETS are set for every Vital Signs KPI to identify success. Realistic targets deliver continuous improvement and keep the ball moving forward.

Metro's executive leaders set targets annually and present them to the Board to gauge progress.

Target setting takes into account factors like historical trends, planned activities, resource constraints, and external factors that influence results – e.g., roadway construction projects in bus corridors.

Metro values benchmarking to share best practices in the industry that lead to improved performance.



A BALANCED SCORECARD approach is used in Vital Signs, but the focus is on Metro's core business of quality service delivery.

Mission-critical functions such as safety, security and finance provide in-depth reporting separately to the Board.

KPI: Bus On-Time Performance

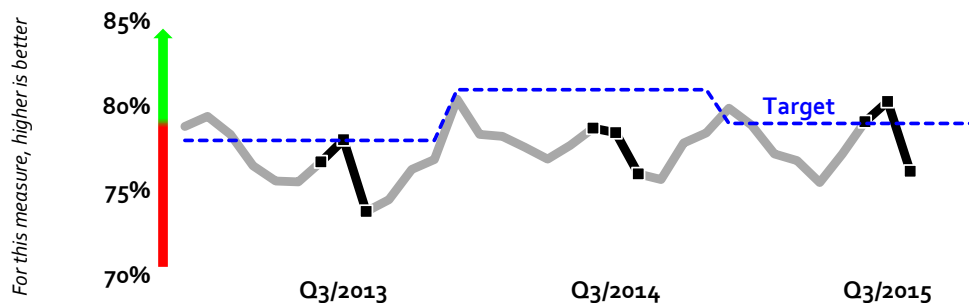
September normally experiences a steep decline in On-Time Performance (OTP) as seasonal road congestion increases. This year the expected OTP decline was one percent better than the same period last year.

Why did performance change?

- Staff evaluated the bus fare evasion initiative and detours. As the **dwelt time** required to better **manage and police fare evasion increased**, OTP decreased. Customers experienced longer travel time as a result.
- The **impact of detours is variable**. For example, even with all the street closures during the Pope's visit, OTP improved because traffic was light.
- Although OTP typically declines during September when school begins, **OTP improved this quarter** because of a 25 percent improvement in managing buses from arriving early.
- The Performance Improvement Team's (PIT) efforts at real time street management helped improve OTP.



Bus customer satisfaction improved to 82 percent, equivalent to Q3/2014, due to improved OTP, fewer safety concerns and less crowded buses.



Key Actions to Improve Performance

Active Street Management

- The PIT will identify poor performing routes each month and work to identify corrective actions to improve OTP, customer service and training.
- Continue to reduce absenteeism and improve workforce challenges.

Better Bus Service Initiative/State of Good Operation

Began: PCN 2008

Status: Ongoing

- Propose cost neutral service realignments to move resources from underutilized to heavily utilized routes.
- Continue to evaluate the relationship between the Bus Fare Evasion initiative and Bus OTP. Q4/2015
- Work to assign more articulated buses to crowded high ridership areas. Q4/2015
- Continue to collaborate with jurisdictions to implement limited stop, express, Bus Rapid Transit and transit priority signals
- Conduct regional public hearings to evaluate multiple bus service proposals like adding additional runtime, expanding bus lines and eliminate redundant service. Q4/2015

Customer Satisfaction

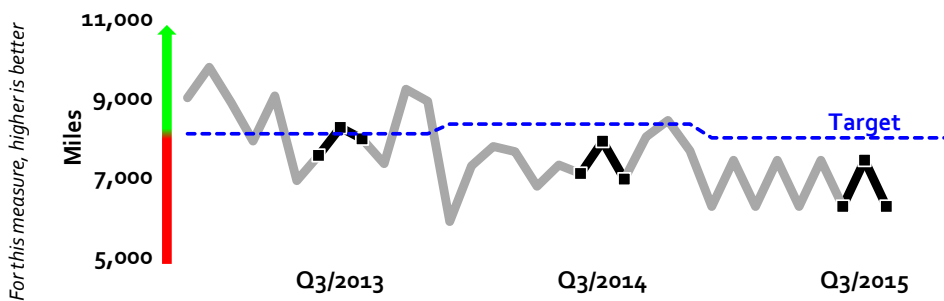
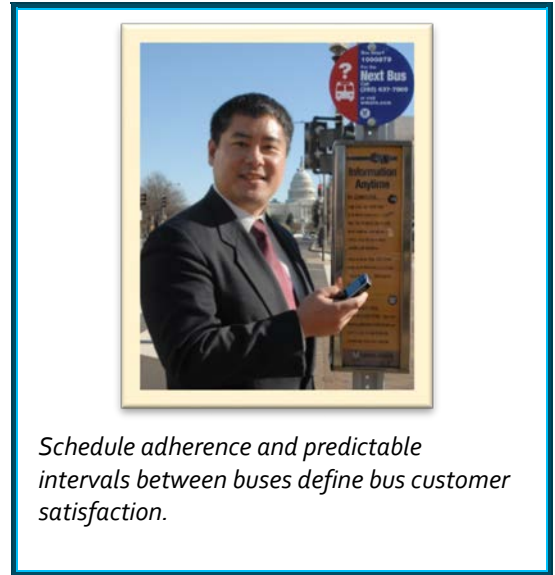
- Continue to introduce new buses
- Strengthen employee accountability through the customer care program
- Institute traffic signal prioritization

KPI: Bus Fleet Reliability

Bus Fleet Reliability was lower than last year but showed steady improvement this quarter and was approaching target.

Why did performance change?

- Bus fleet reliability was three percent lower than Q3/2014 with **62 more** in-service **mechanical failures** in Q3/2015.
- **District of Columbia (D.C.) bus customers** were **most impacted** by “road calls” for repair due to D.C. having the largest proportion of bus service.
- Initiatives to correct manufacturer-related problems on **NABI Hybrid** buses demonstrated notable progress. Reliability of these buses **improved** compared to the prior quarter.
- Reliability of the **Clean Diesel** fleet **declined 17 percent** compared to the prior quarter primarily as a result of recently discovered engine oil cooler defects on 114 buses.
- **CNG fleet** incidents continued to be driven by **engine manufacturer issues** including: EGR cooler, turbo charger and piston failures. Monthly meetings with engine manufacturers continue in an effort to resolve issues.



Key Actions to Improve Performance

Midlife Rehabilitation

- Completed 117 Clean Diesel midlife overhauls

100 Buses Every Year

Manufacturer Initiatives

- Retrofit the CNG articulated coolers, turbo charger and piston failures

Maintenance Activity

Anticipated completion: Ongoing

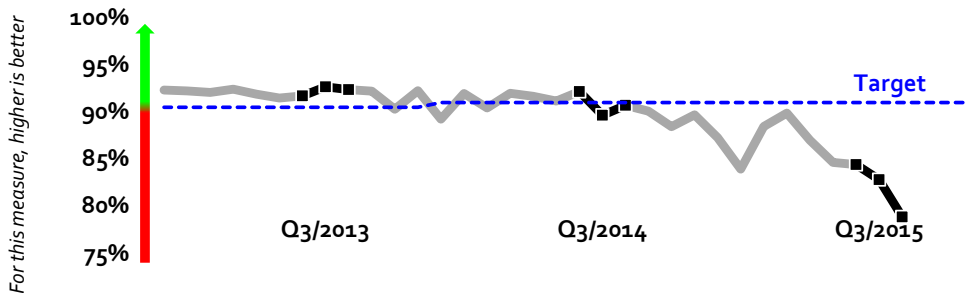
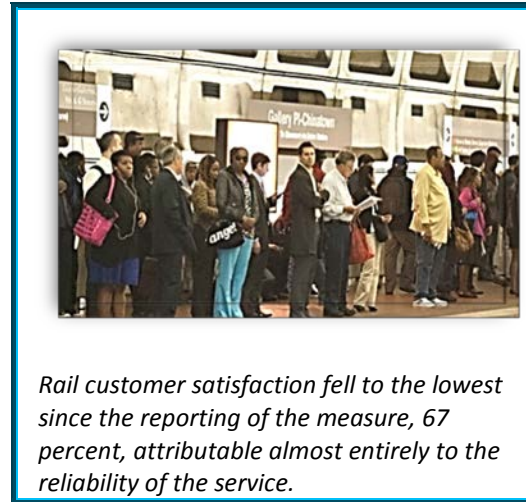
- Replace CNG buses purchased in 2001-2002 with new CNG buses by the summer of 2016
- Host the third bus maintenance Peer Exchange covering industry challenges and best practices
- Retrofit 3 fleets with MGM brake monitoring. This system monitors for dragging or brake over stroke conditions
- Continue with Energy Storage System (ESS) replacement on both buses going into mid-life overhaul and end of life failures
- Continue to review out of service reports, road call data and automatic monitoring reporting
- Continue to work with manufacturers to resolve all identified fleet deficiencies
- Continue measuring the quality assurance audit process and prepared monthly metrics to identify top reliability issues (i.e. # of deficiencies per bus)
- Continue to support engine manufacturers to complete recalls to replace pistons, piston rings and valve stem seals on 114 buses

KPI: Rail On-Time Performance

On-Time Performance continued to decline this quarter due to multiple factors resulting in customers experiencing longer travel time and less reliable service.

Why did performance change?

- On-Time Performance (OTP) fell below 80 percent this quarter, the **lowest rail OTP** published in Vital Signs. Causes included: railcar shortages, speed restrictions and service reductions.
- The **minimum car requirement** was only **met 10 out of 64 weekdays** this quarter. Average weekday service was run with a shortage of about 50 cars. The Pope’s Visit was a notable exception. Over 1,000 cars were temporarily available for service. (pg. 6)
- Speeds were lowered** following the August 6 derailment at Smithsonian station (Blue Line) and again after the September 21 transformer fire at Stadium-Armory station. Service was reduced to prevent “bunching” on Orange, Blue and Silver Lines with train arrivals stretched from six to eight minutes. **Red Line track work** worsened mid-day and PM Rush OTP.



Key Actions to Improve Performance

Manage train spacing

Status: Ongoing

- Implement actions to consistently deliver 954 railcars
- Restore automatic train operations

Maintain and improve reliability of rail infrastructure

Status: Contingent upon funding

- Repair transformers at Stadium Armory substation to restore scheduled train frequency and normal speeds on Orange/Blue/Silver lines (pending testing of equipment)

Customer Satisfaction

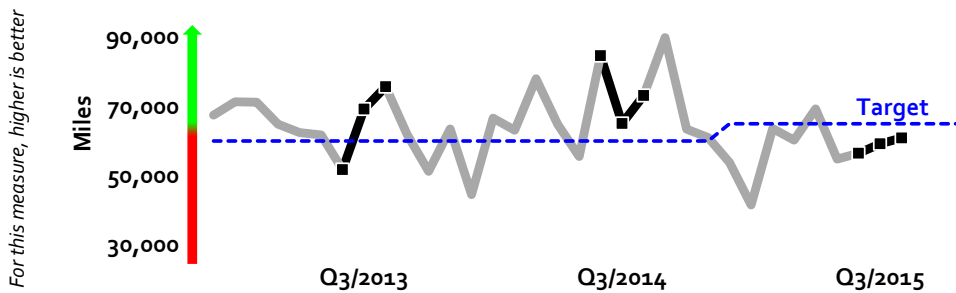
- Continue placing into service new 7000 Series trains
- Repair infrastructure to reduce service disruptions
- Strengthen employee accountability through the customer care program

KPI: Rail Fleet Reliability

Reliability and availability both declined this quarter. Reliability measures the rate at which rail fleet delays occur while trains are in service. Availability measures the rate at which railcars make into service.

Why did performance change?

- **Reliability** was below target each month in Q3/2015, and 25 percent worse than the same quarter last year due to an increase in propulsion problems on railcars.
- **Availability** was below the minimum **954 car threshold** every weekday in July and August and most of September. Metro purposefully lowered the availability target this summer to 870 cars on Mondays and Fridays (the lightest ridership days of the week), reducing the use of 8-car trains so that more cars were available for maintenance activity over four consecutive days each week.
- **Service increases** implemented without corresponding fleet increases have **reduced the spare railcar reserve**. With 1,130 cars in the fleet, only 176 (15 percent) can be out for maintenance and still meet the 954 car requirement.
- Additionally, by the end of September **over 50 cars were indefinitely “parked” due to a lack of parts**, an issue that continued into Q4/2015.
- The **64 new cars** ordered for the Silver Line have been **delivered** and 52 are conditionally accepted for service. Over the next few years these cars will allow for a return to a higher spare ratio and **eventually increase the overall fleet reliability** measure.



Key Actions to Improve Performance

Maintain and improve reliability of existing rail fleet

- Replenish parts inventories and document procurement processes that addresses FTA requirements
- Use budgeted overtime to repair out-of-service railcars
- Return to pre-Silver Line spare ratio as adequate numbers of new 7000 Series railcars are introduced to the fleet, increasing flexibility to keep cars out of service for repair/inspection
- Identify solutions to reliability problems and conduct repair campaigns

Introduce new 7000 series railcars following testing and certification

Status: Contingent on funding

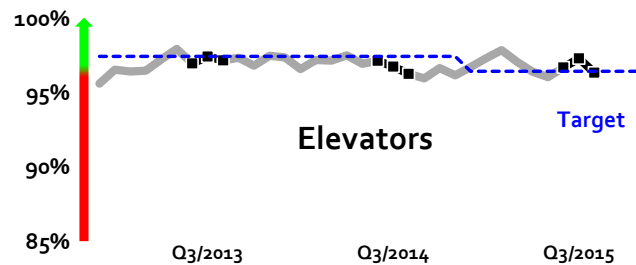
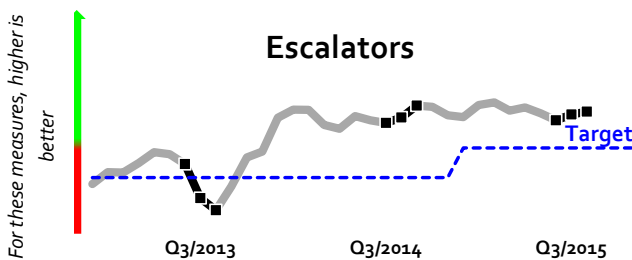
- Manufacturer to implement 7000 Series field modifications in response to issues

KPI: Elevator and Escalator System Availability

Availability of escalators and elevators surpassed targets due to continued efforts to respond quickly to outages and rehabilitate or replace low-performing units.

Why did performance change?

- Escalator availability reached **93.2 percent** this quarter, better than target and Q3/2014. There were about **10 percent fewer unexpected breakdowns**, and significantly less time spent addressing repairs stemming from regular inspections (50 percent decrease).
- Units on average ran for **one day longer** before requiring repair. This improvement reflects efforts to replace some of the most troublesome models, identify root causes of unexpected breakdowns and conduct needed maintenance to ensure that units do not require repeat service.
- Elevator availability was better than target this quarter, at **96.9 percent**. Prior efforts to bring units into a state of good repair are paying off, resulting in about **25 percent fewer hours** spent addressing **unscheduled repairs** this quarter compared to Q3/2014. Meanwhile, the modernization effort continued, accounting for about 50 percent of outages.
- This quarter, Metro staff began maintaining the 57 escalators and 30 elevators located on the Orange line between Rosslyn and Vienna, taking over from contractors.



Key Actions to Improve Performance

Modernize escalator and elevator fleet

Start: Q1/2013 Status: Completion 2020

- Replace 137 of the system's 618 escalators by 2020 and rehabilitate up to an additional 144 escalators and 90 elevators. Modernized units should be more reliable and energy efficient
- The modernization program continued to increase its pace into Q3/2015, with 28 escalators and 8 elevators undergoing rehabilitation or replacement during this time period

Cross train staff

- Cross-train staff on multiple escalator and elevator models within the Metro system, with a focus on improving asset reliability

Implement remote monitoring

- Augment current staff to implement 24/7 remote monitoring of escalator and elevator availability, enabling more accurate availability reporting and reducing outage duration

KPI: Customer Injury Rate

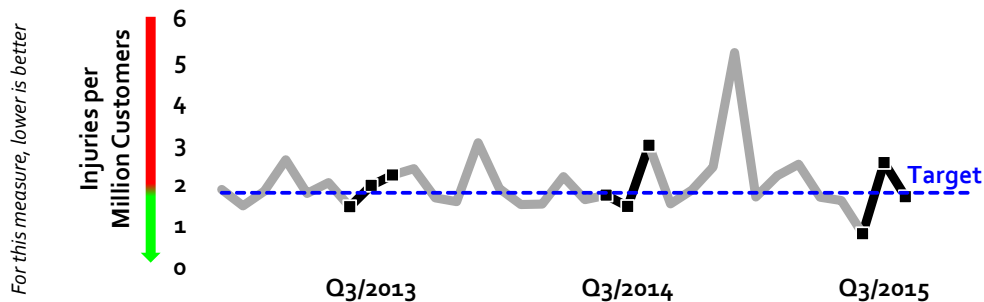
The customer injury rate was better than target and Q3/2014 as injuries decreased across all modes.

Why did performance change?

- For the first time this year, the **customer injury rate was better than target** at 1.7 injuries per million passengers. July 2015 had the lowest number of injuries (25) since Metro began reporting on this measure in 2010.
- More customers were injured on bus compared to rail this quarter, but injuries were down on both modes compared to Q3/2014. **Collisions continued to be the leading cause of bus customer injuries (60 percent)**. While there were a similar number of collisions as in Q3/2014, **fewer were the result of bus operator error**, reflecting stronger oversight by Street Operations Managers and continued coaching based on risky behaviors.
- Rail injuries were down by about 10 percent** compared to Q3/2014 due to fewer slips, trips and falls while riding escalators or walking through stations and parking lots. However, several more customers were injured this quarter while boarding or riding trains.
- Five fewer MetroAccess customers were injured** this quarter compared to Q3/2015, for a total of 11 injuries. All but two customers were injured during a collision.



Street operations managers analyze "hot spots" and coach bus operators to be extra vigilant around high incident areas.



Key Actions to Improve Performance

Conduct customer outreach

During Q4/2015, conduct pilot campaign targeting customers along the four bus routes that have the highest injury rates.

Enhance safety features of vehicles

Status: Completion Q4/2015

- Review Metrobus interior design to identify opportunities to improve customer safety
- Work with Virginia Legislature to allow installation of strobe lights on Metrobuses to improve pedestrian safety
- Evaluate the effectiveness of reflective chevrons on decreasing collisions
- Install microphones with noise-cancelling features in train audio systems to make onboard announcements easier to hear

Coach staff

Start: June 2014

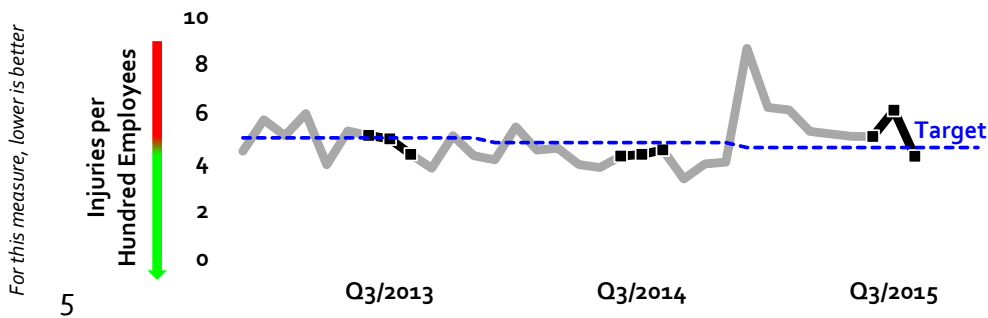
- Reduce the number and severity of collisions by training operators demonstrating risky behaviors on DriveCam
- Schedule safety blitzes at incident hotspots to reinforce safe behavior and address unsafe concerns
- Integration of Asset Management with Safety Management**
- Metro is responding to FTA rulemaking ensuring compliance with all aspects of integrating a Safety Management System with Asset Management

KPI: Employee Injury Rate

Despite a strong September, the Q3/2015 employee injury rate was worse than target and the prior year.

Why did performance change?

- The **employee injury rate beat target in September** for the first time this calendar year. Fewer station managers and train and bus operators sustained injuries. However, at 5.7 injuries per 200,000 hours worked, the **rate remained worse than target for the quarter**. Overall, there were **about 20 percent more injuries** compared to Q3/2014.
- Crime-related injuries have almost doubled compared to Q3/2014. **Twice as many MTPD officers were injured during pursuit and/or arrests** and three times as many bus and rail operators sought help for **stress after witnessing gun violence and/or being verbally threatened** by customers. Compared to the same time last year, one more employee was physically assaulted, resulting in medical treatment and/or time away from work.
- **Slips, trips and falls** were the **leading type of injury** this quarter (20 percent increase over last year), followed by collisions (no change). More staff fell while walking on stairs or over uneven ground compared to the prior year.



Key Actions to Improve Performance

Build safety culture

- Conduct regular executive, departmental, and local safety committee meetings
- Implement rail close call program and expand to bus
- Implement corrective actions resulting from the NTSB investigation and FTA safety audits
- Implement Fatigue Risk Management System

Analyze and address root causes of injuries

- Enhance incident reporting and interview employees to identify key factors underlying injuries and collisions
- Develop dashboard to automate monthly reporting and free staff time to conduct more in-depth analysis
- Recommended actions to management staff based on analysis of injury data, safety observations and training attendance
- Update and implement winter weather campaigns

KPI: Crime

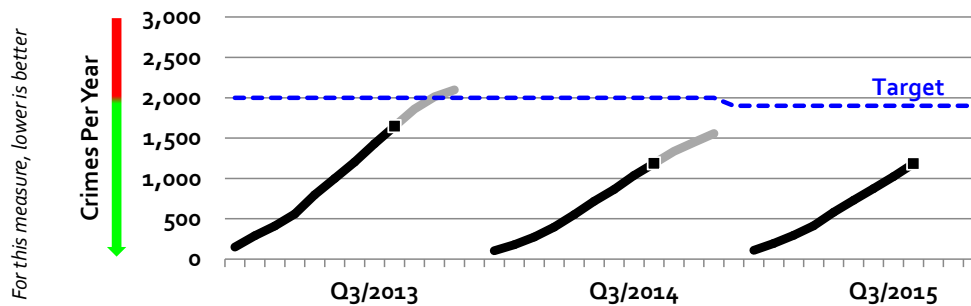
Cumulative Part 1 crimes for the quarter decreased 3 percent compared to Q3/2014. Overall, there were 16 fewer crimes primarily as a result of a reduction in larceny (theft of personal property).

Why did performance change?

- **Crime declined 17 percent on rail** with 65 fewer crimes compared to Q3/2014. Typically these crimes are theft snatches/pickpockets.
- There was a 48 percent **increase in bus/bus stop and parking lot crime**. Robberies accounted for the most increases both on buses and at bus stops. **Assaults on bus operators increased** by 23 percent compared to Q3/2014. Verbal altercations or fare disputes initiated 62 percent of the assaults, resulting in the bus operator being expectorated on in 43 percent of the incidents.
- **Parking lot crimes doubled** this quarter compared to Q3/2014. Thefts from auto, and in particular, thefts of handicap placards in August and September, represented 38 percent of all Part 1 offenses in Metro parking lots.



Metro Transit Police monitor bus routes and buses to assist in deterring crime, increasing customer and employee safety.



Key Actions to Improve Performance

MTPD Tactics

- Continue to develop relationships with local district commanders
- Patrol hot spot areas
- Caution all to be aware of their surroundings
- Use "Be on the Look Out" (BOLO) messaging, which has led to the apprehension of suspects

Fare Enforcement/Bus Operator Assaults

Start: April 2015

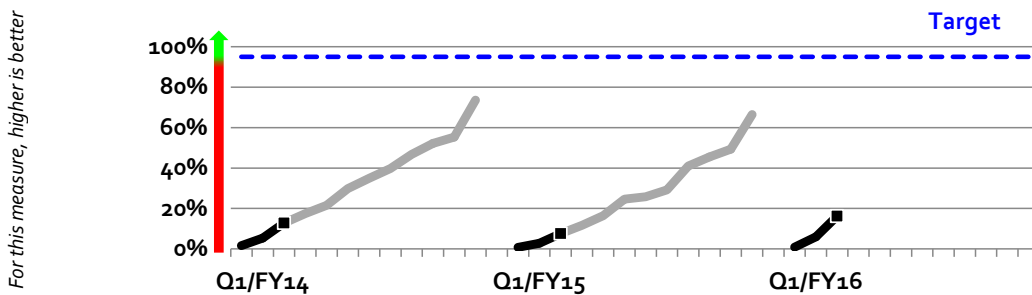
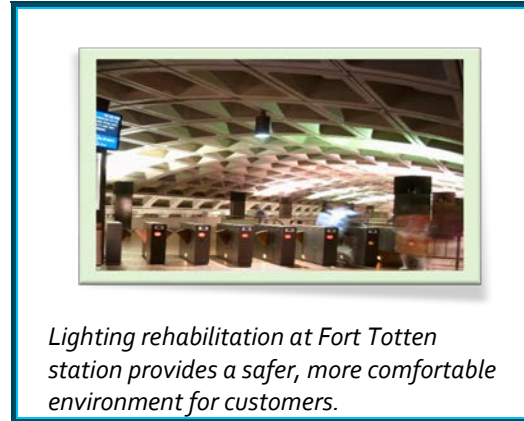
- Deploy a collaborative task force of uniformed police officers on certain bus routes to enforce fare collection. The MTPD increased fare enforcement by about 46 percent in Q3/2015
- Employ additional surveillance technology on specified bus routes. For example, on dedicated articulated buses running the X2 route, CCTV viewing screens are being added to allow customers to view multiple cameras when boarding the bus and in the passenger compartment
- Metro Transit Police is collaborating with Customer Service, Communications and Marketing in advance of the holiday season to craft safety messages through a variety of media outlets to prevent crimes

Business Operations

The unaudited amounts in these charts are accurate as of August 26, 2015.

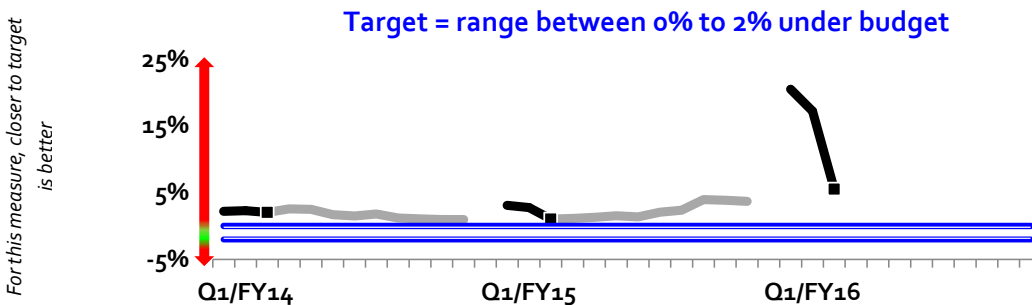
Capital Funds Invested

- Metro is budgeted to receive slightly more than \$1.1 Billion in fiscal 2015 to be invested in infrastructure renewal.
- This measure tracks the rate at which these funds are invested.
- This utilization is slightly behind the rate in fiscal 2014 and 2013.
- The fourth quarter of each fiscal year is typically the time of high funds utilization.



Operating Budget Variance

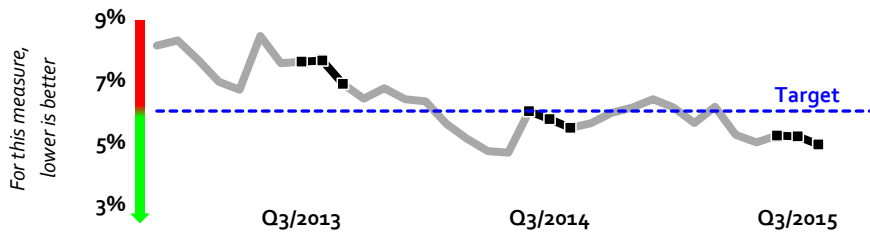
- The measure calculates the percentage variance between actual and budgeted spending each month.
- The target for this measure is a range between 0% and -2% under budget.
- The range can be explained by considering that underspending by more than -2% may indicate some important resource is not being utilized and may have a negative impact on service quality.
- The rate shown below is cumulative year-to-date.



Business Operations

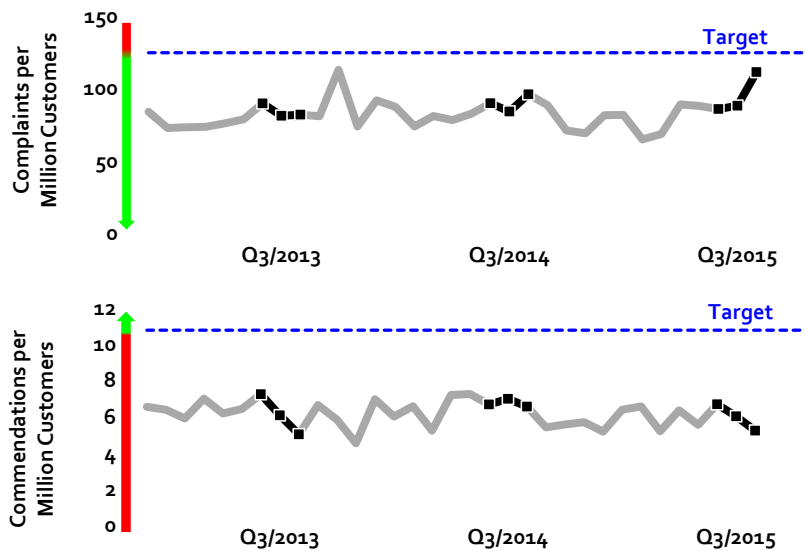
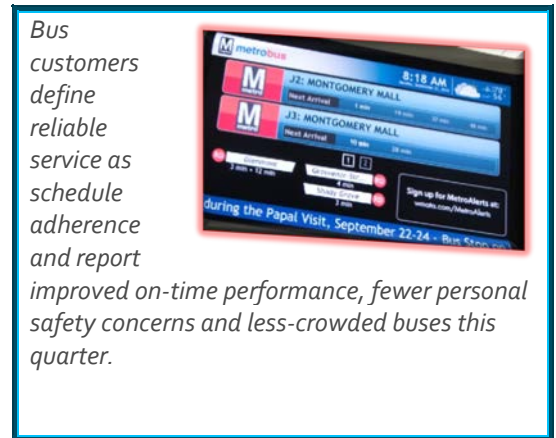
Vacancy Rate

- This period, the **vacancy rate** was 5.1 percent, which is **better than target** and an improvement from Q2/2015. The lowest vacancy in over one year was in September at 4.9 percent.
- Identification of positions included in the “critical hire” category will be available later this year.
- A new recruitment campaign launched this quarter featuring bus operator and transit police positions via radio, external bus and in-station ads, street team flyer distribution, mobile billboards and national print advertisements.



Customer Comments (Complaints/Commendations)

- Customer experience includes several touch points during a trip -- from using an escalator, to on-time bus or train departures, to interacting with Metro employees. Problems at these touch points are measured to determine customer experience.
- The average rail customer has 2.5 problematic experiences per rail trip, which is a 32 percent increase since the end of 2014.
- Rail customer complaints year-to-date increased 52 percent due to reduced rail reliability.
- Bus customers on average experience 1.3 problems per trip. This has remained relatively unchanged since the end of 2014.
- Complaints about bus decreased 19 percent during this same period, primarily due to fewer buses arriving early.



Business Operations

Meeting sustainability targets helps reduce costs and improve service while expanding the environmental benefits Metro already brings to the region.

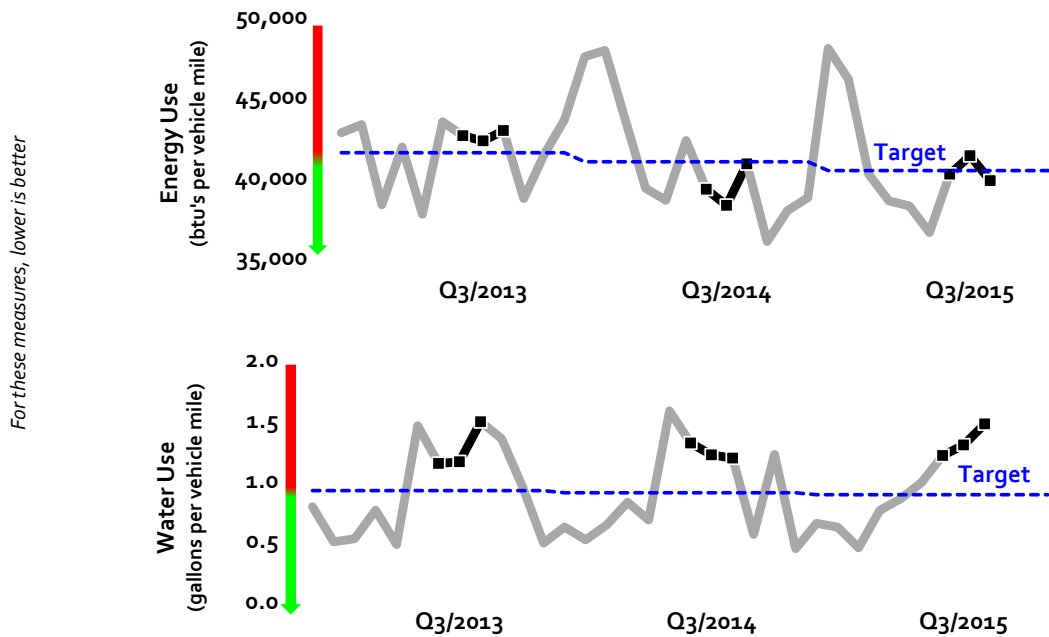
Environmental Sustainability

Energy and Water Usage

- Energy comes in many forms including electricity, natural gas, diesel and gasoline. All can be converted to a common unit called the "BTU" [British thermal unit] and tracked based on the number of bus and train miles operated annually.
- This quarter, energy usage was slightly worse than target and Q3/2014 levels, and is trending in the wrong direction for the year. Challenges with railcar availability and reliability meant fewer train miles (down 13 percent compared to Q3/2014) traveled and less traction power (down 8 percent) consumed.
- Metro consumes large quantities of water for its operation. Rail stations are cooled using water chiller plants and all buses and trains are washed on a regular basis. Like energy, water usage is also tracked on a per mile basis.
- Water usage was also worse than target and Q3/2014, and is also trending in the wrong direction for the year. While a similar number of gallons were used as Q3/2014, the 13 percent decrease in train miles resulted in an increase in the overall rate.
- Both of these measures have targets established to reduce consumption. By 2025 energy use is targeted to decrease 20 percent and water use is targeted to decrease 15 percent.



Metro issued a Request for Proposals to provide clean, renewable solar power at nine Metro locations.



Business Operations

When crowding consistently becomes a problem, the community is negatively affected by not having access to service.

Passengers Per Car

- Crowding levels on railcars is monitored in accordance with Board standards.
- Trained Metro observers are strategically placed around the system during its busiest times to monitor and report on crowding.
- Most recently, crowding on the Blue line in both the AM and PM peak periods has climbed to challenging levels.
- This measurement helps prioritize and guide where to deploy additional service in the form of more or longer trains.



During emergencies and special events, customers are encouraged to follow the guidance of Metro employees.

Optimal PPC of 100, with minimum of 80 and maximum of 120 PPC

AM Rush Max Load Points		Jun-14	Jul-14	Jun-15	Jul-15
Gallery Place	Red	90	90	89	96
Dupont Circle		92	83	101	91
Pentagon	Blue	X	X	113	95
Rosslyn		88	98	103	98
L'Enfant Plaza		66	81	72	61
Court House	Orange	104	96	106	103
L'Enfant Plaza		89	80	83	73
Pentagon	Yellow	85	69	80	83
Waterfront	Green	68	72	95	97
Shaw-Howard		85	76	100	72
Rosslyn	Silver	X	X	94	102
L'Enfant Plaza		X	X	69	71
PM Rush Max Load Points					
Metro Center	Red	89	80	98	107
Farragut North		91	82	76	96
Rosslyn	Blue	X	X	123	130
Foggy Bottom-GWU		100	98	120	99
Smithsonian		68	79	62	68
Foggy Bottom-GWU	Orange	95	91	101	92
Smithsonian		71	76	80	67
L'Enfant Plaza	Yellow	82	79	79	79
L'Enfant Plaza	Green	69	86	93	95
Mt. Vernon Sq.		84	68	76	71
Foggy Bottom-GWU	Silver	X	X	85	91
Smithsonian		X	X	63	60

Business Operations

Some performance measures best demonstrate results when reviewed annually.

Annually Reported Board Measures

Three measures already communicated to the Board of Directors will be included in the Annual Vital Signs Report after the end of 2015.

- **Bus Stop Accessibility**
Bus stops made accessible. CY 2015 target – 100; 255 completed year-to-date.
- **Metro 2025 Funds Secured**
With the agreement to purchase more railcars, the Board has committed to review the Momentum strategic plan, capital rebuilding progress to date and future requirements. This will inform next steps for Momentum funding and a new Capital Funding Agreement.
- **Households Near Transit**
Transit oriented development is one of the region’s best options for taking advantage of the investment already made in the existing Metro system. CY 2015 target – 55%



Accessible bus stops afford customers with disabilities a more-independent travel option.

Key Performance Indicators

KPI	How is it measured?	What does this mean and why is it key to our strategy?
Quality Service		
Bus Fleet Reliability	<p>Mean Distance Between Failures (MDBF)</p> <p>Total bus miles / Number of failures</p>	<p>The number of total miles traveled before a mechanical breakdown requiring the bus to be removed from service or deviate from the schedule.</p> <p>Mean Distance Between Failures is used to monitor trends in vehicle breakdowns that cause buses to go out of service and to plan corrective actions. Factors that influence bus fleet reliability include vehicle age, quality of maintenance program, original vehicle quality, and road conditions affected by inclement weather and road construction.</p>
Bus On-Time Performance	<p>Adherence to Schedule</p> <p>Scheduled time – Actual time arriving at a time point based on a window of no more than 2 minutes early or 7 minutes late</p> <p>Number of time points that arrived on time by route based on a window of 2 minutes early and 7 minutes late / Total number of time points scheduled (by route)</p>	<p>This indicator illustrates how closely Metrobus adheres to published route schedules on a system-wide basis. Factors that effect on-time performance are traffic congestion, inclement weather, scheduling, vehicle reliability, and operational behavior. Bus on-time performance is essential to delivering quality service to the customer.</p>
Elevator and Escalator Availability	<p>In-service Percentage</p> <p>Hours in service / Operating hours</p> <p>Hours in service = Operating hours – Hours out of service</p> <p>Operating hours = Operating hours per unit * number of units</p>	<p>Escalator/elevator availability is a key component of customer satisfaction with Metrorail service. This measure communicates system-wide escalator and elevator performance (at all stations over the course of the day) and will vary from an individual customer’s experience.</p> <p>Availability is the percentage of time that Metrorail escalators or elevators in stations and parking garages are in service during operating hours.</p> <p>Customers access Metrorail stations via escalators to the train platform, while elevators provide an accessible path of travel for persons with disabilities, seniors, customers with strollers, and travelers carrying luggage. An out-of-service escalator requires walking up or down a stopped escalator, which can add to travel time and may make stations inaccessible to some customers. When an elevator is out of service, Metro is required to provide alternative services which may include shuttle bus service to another station.</p>

Railcar Availability	Cars released for service at 7 a.m. / Total active railcars	Railcar availability is a key driver of on-time performance (OTP) and supports the ability to meet the Board standard for crowding. When the availability target is met, scheduled departures of all 8- and 6-car trains from end of line stations is possible. When not enough railcars are available, train lengths are first shortened to six cars, which can contribute to crowding. When railcar availability dips further and there are not enough trains to depart from end-of-line stations, headways (time between trains) increase, lowering OTP for customers.
Rail Fleet Reliability	Mean Distance Between Delays (MDBD) Total railcar revenue miles / Number of failures resulting in delays greater than three minutes	The number of revenue miles traveled before a railcar failure results in a delay of service of more than three minutes. Some car failures result in inconvenience or discomfort, but do not always result in a delay of service (such as hot cars). Mean Distance Between Delays communicates the effectiveness of Metro’s railcar maintenance program. This measure reports the number of miles between railcar failures resulting in delays of service greater than three minutes. Factors that influence railcar reliability are the age of the railcars, the amount the railcars are used and the interaction between railcars and the track.
Rail On-Time Performance	Adherence to scheduled weekday headways Number of station stops delivered within the scheduled headway during rush (AM/PM) service plus 2 minutes / Total station stops delivered Number of station stops delivered up to 150% of the scheduled headway during non-rush (midday and evening) / Total station stops delivered	On-time performance measures the adherence to weekday headways, the time between trains. Factors that can effect on-time performance include: infrastructure conditions, speed restrictions, single-tracking around scheduled track work, railcar delays (e.g., doors), or delays caused by sick passengers. Station stops are tracked system-wide, with the exception of terminal and turn-back stations.

Safety & Security

Crime	Reported Part I crimes	Part I crimes reported to Metro Transit Police Department for Metrobus (on buses), Metrorail (on trains and in rail stations), or at Metro-owned parking lots in relation to Metro’s monthly passenger trips. Reported by Metrobus, Metrorail, and Metro parking lots. This measure provides an indicator of the perception of safety and security customers experience when traveling the Metro system. Increases or decreases in crime statistics can have a direct effect on whether customers feel safe in the system.
Customer Injury Rate	Customer injury Number of injuries / (Number of passengers / 1,000,000).	Injury to any customer caused by some aspect of Metro’s operation that requires immediate medical attention away from the scene of the injury.

Employee Injury Rate

Employee Injuries
Number of injuries / (Total work hours / 200,000)

Customer safety is the highest priority for Metro and a key measure of quality service. Customers expect a safe and reliable ride each day. The customer injury rate is an indicator of how well the service is meeting this safety objective.

An employee injury is recorded when the injury is (a) work related; and, (b) one or more of the following happens to the employee: 1) receives medical treatment above first aid, 2) loses consciousness, 3) takes off days away from work, 4) is restricted in their ability to do their job, 5) is transferred to another job, 6) death.

OSHA recordable injuries are a key indicator of how safe employees are in the workplace.

People and Assets

Customer Comment

Customer complaints or commendations
Number of complaints or commendations / (Number of passengers / 1,000,000)

A *complaint* is defined as any phone call, e-mail or letter resulting in investigation and response to a customer. This measure includes the subject of fare policy but excludes specific SmarTrip® matters handled through the regional customer service center. A *commendation* is any form of complimentary information received regarding the delivery of Metro service.

Tracking customer comments provides the opportunity to more quickly identify areas for improvement for the customers' experience.

Customer Satisfaction

Survey respondent rating
Number of survey respondents with high satisfaction / Total number of survey respondents

Customer satisfaction is defined as the percent of survey respondents who rated their last trip on Metrobus or Metrorail as "very satisfactory" or "satisfactory." The survey is conducted via phone with approximately 400 bus and 400 rail customers who have ridden metro in the past 30 days. Results are summarized by quarter (e.g., January – March).

Surveying customers about the quality of Metro's service delivery provides a mechanism to continually identify those areas of the operation where actions to improve the service can maximize rider satisfaction.

Communities

Rail Passengers Per Car

Number of rail passengers

Total passengers observed on-board trains passing through a station during a rush hour / Actual number of cars passing through the same station during the rush hour

Counts are taken at select stations where passenger loads are the highest and in the predominant flow direction of travel on one to two dates each month (from 6 AM to 10 AM and from 3 PM to 7 PM). In order to represent an average day, counts are normalized with rush ridership.

The Board of Directors has established Board standards of rail passengers per car to measure railcar crowding. Car crowding informs decision making regarding asset investments and scheduling.

Additional Board standards have been set for:

- Hours of service – the Metrorail system is open to service customers
- Headway – Scheduled time interval between trains during normal weekday service

Glossary of Terms

Action – Specific and discrete steps taken that move the organization toward achieving the Strategic Goals.

Key Performance Indicator (KPI) – A quantifiable measure externally reported that tracks progress toward achieving the Board adopted Strategic Goals.

Mission – Overarching purpose of the organization.

Performance Management Framework – An organizational process and culture that values measurement as a tool to deliver results.

Performance Measure – A quantifiable measure generally tracked internally as a management tool to gauge progress being made.

Strategic Goal – Adopted by the Board to provide direction that aligns the organization to attain the mission.

Target – End point or direction for performance measures and KPI's. Targets define success.

Vision – Desired outcome for the organization.

KPI: Bus On-Time Performance [Target 79%]

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
CY 2013	78.8%	79.4%	78.4%	76.5%	75.6%	75.5%	n/a	n/a	n/a	n/a	n/a	n/a	77.4%
CY 2014	80.4%	78.4%	78.2%	77.6%	76.9%	77.7%	78.7%	78.5%	76.0%	75.7%	77.9%	78.4%	78.0%
CY 2015	79.9%	78.9%	77.2%	76.8%	75.5%	77.2%	79.1%	80.3%	76.2%				77.9%

KPI: Bus Fleet Reliability (Bus Mean Distance Between Failures) [Target 8,000 Miles]

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
CY 2013	9,008	9,783	8,883	7,918	9,060	6,917	7,553	8,260	7,972	7,342	9,226	8,923	8,285
CY 2014	5,879	7,291	7,778	7,648	6,773	7,313	7,095	7,911	6,954	8,027	8,440	7,670	7,127
CY 2015	6,259	7,434	6,109	7,016	6,405	7,328	6,499	7,327	7,542				6,852

* Per page 16, bus fleet reliability is calculated by dividing total bus miles by number of failures. Miles for June 2015 are slightly overstated because they include bus mileage that had not been accurately reflected in prior months due to mechanical issues with hubdometers, the system used to collect mileage data. These issues were resolved during June 2015.

Bus Fleet Reliability (Bus Mean Distance Between Failure by Fleet Type)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
CNG	5,240	7,262	5,804	7,064	5,480	6,825	5,925	6,780	6,559				6,269
Hybrid	7,045	7,663	6,539	7,823	7,911	8,142	8,002	9,261	9,286				7,893
Clean Diesel	8,557	9,450	6,666	9,082	6,849	7,472	5,919	6,616	6,734				7,279
All Other	3,816	4,456	3,815	2,595	2,650	4,392	2,914	2,679	3,887				3,345

KPI: Rail On-Time Performance [Target 91%]

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
CY 2013	92.3%	92.2%	92.1%	92.4%	91.9%	91.5%	91.7%	92.7%	92.4%	92.2%	90.3%	92.3%	92.1%
CY 2014	89.2%	92.0%	90.4%	92.0%	91.7%	91.2%	92.2%	89.7%	90.7%	90.1%	88.4%	89.7%	91.0%
CY 2015	87.3%	83.9%	88.5%	89.9%	87.0%	84.6%	84.4%	82.8%	78.9%				86.1%

Rail On-Time Performance by Line

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
Red Line	89.8%	85.3%	92.1%	90.3%	88.6%	85.8%	87.2%	81.7%	81.8%				89.3%
Blue Line	86.8%	81.8%	85.2%	89.4%	84.1%	84.6%	83.8%	81.8%	73.3%				84.7%
Orange Line	84.6%	82.0%	85.4%	88.6%	83.6%	79.1%	75.7%	77.1%	68.2%				84.1%
Green Line	85.0%	82.8%	86.2%	88.5%	86.9%	83.2%	86.0%	86.4%	85.7%				84.8%
Yellow Line	92.7%	89.4%	92.7%	94.4%	94.6%	93.9%	93.6%	93.7%	91.4%				91.7%
Silver Line	84.1%	82.1%	86.0%	88.8%	84.3%	82.8%	80.8%	80.2%	71.8%				84.2%

KPI: Rail Fleet Reliability (Rail Mean Distance Between Delays by Railcar Series) [Target 65,000 miles]													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
CY 2013	67,500	71,323	71,225	64,890	62,418	61,745	51,757	69,230	75,697	61,959	51,248	63,468	65,417
CY 2014	44,530	66,600	63,127	77,957	64,848	55,522	84,627	65,042	73,150	89,891	63,436	61,000	64,700
CY 2015	53,784	41,558	63,588	60,242	69,260	54,779	56,446	59,196	60,872				56,945

KPI: Rail Fleet Reliability (Rail Mean Distance Between Delays by Railcar Series)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
1000 series	59,925	34,472	69,876	57,157	47,409	46,458	51,763	57,580	56,702				52,008
2000/3000 series	71,595	56,046	83,615	106,406	157,484	70,185	92,959	72,319	83,487				82,127
4000 series	22,973	18,894	26,103	20,208	29,239	11,800	22,910	39,273	21,209				22,978
5000 series	36,136	36,844	70,401	45,923	49,013	50,925	34,685	38,798	45,332				43,801
6000 series	95,297	64,816	61,007	84,083	124,325	89,370	106,428	98,851	164,737				90,710
7000 series						14,902	18,439	30,874	70,202				34,982

Rail Fleet Availability (Target: 85%)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
CY 2013	88%	86%	86%	86%	85%	84%	84%	86%	85%	85%	83%	87%	85%
CY 2014	84%	85%	84%	85%	84%	85%	86%	87%	88%	88%	87%	87%	85%
CY 2015	87%	84%	86%	87%	84%	79%	80%	80%	82%				83%

KPI: MetroAccess On-time Performance [Target 92%]													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
CY 2013	93.3%	92.3%	92.6%	91.6%	91.9%	89.9%	91.3%	92.9%	90.6%	91.2%	91.1%	92.5%	91.9%
CY 2014	93.3%	90.2%	92.5%	91.1%	92.3%	92.4%	92.6%	92.8%	91.8%	91.9%	91.5%	92.2%	92.0%
CY 2015	93.0%	89.1%	89.4%	92.0%	92.9%	93.5%	94.8%	94.7%	93.9%				92.6%

KPI: Escalator System Availability [Target 91%]													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
CY 2013	88.6%	89.4%	89.3%	90.0%	90.7%	90.6%	89.9%	87.6%	86.8%	88.4%	90.4%	90.8%	90.7%
CY 2014	93.0%	93.6%	93.6%	92.6%	92.3%	93.1%	92.9%	92.7%	93.0%	93.8%	93.8%	93.2%	93.0%
CY 2015	93.1%	93.9%	94.1%	93.5%	93.7%	93.3%	92.9%	93.3%	93.4%				93.5%

KPI: Elevator System Availability [Target 96.5%]													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
CY 2013	95.7%	96.6%	96.5%	96.5%	97.3%	98.0%	97.0%	97.5%	97.2%	97.4%	96.9%	97.5%	96.8%
CY 2014	97.4%	96.6%	97.3%	97.2%	97.6%	97.0%	97.2%	96.8%	96.3%	96.0%	96.7%	96.2%	97.0%
CY 2015	96.8%	97.4%	97.9%	97.1%	96.5%	96.1%	96.7%	97.4%	96.4%				96.9%

KPI: Customer Injury Rate (per million passengers) [Target 1.8]

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
CY 2013	1.88	1.49	1.84	2.60	1.78	2.05	1.46	1.98	2.23	2.39	1.68	1.59	1.89
CY 2014	3.01	1.90	1.51	1.53	2.19	1.63	1.74	1.47	2.95	1.53	1.86	2.42	1.86
CY 2015	5.19	1.70	2.22	2.49	1.70	1.61	0.81	2.53	1.70				2.23

*Includes Metrobus, Metrorail, rail transit facilities (stations, escalators and parking facilities) and MetroAccess customer injuries

KPI: Employee Injury Rate (per 200,000 hours) -- Target = < 4.6 injuries per 200,000 hours

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
CY 2013	4.45	5.74	5.09	6.00	3.89	5.28	5.09	4.95	4.31	3.74	5.09	4.26	4.96
CY 2014	4.09	5.45	4.49	4.57	3.89	3.77	4.24	4.31	4.50	3.29	3.92	3.99	4.36
CY 2015	8.69	6.24	6.15	5.26	5.16	5.05	5.05	6.13	4.23				5.76

KPI: Crimes [Target 1,900] *Crimes are reported as a cumulative number; therefore monthly data is reflective of the year-to-date total.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
CY 2013	149.0	290.0	410.0	560.0	795.0	998.0	1202.0	1430.0	1647.0	1859.0	2011.0	2098.0	
CY 2014	104.0	179.0	274.0	395.0	552.0	717.0	864.0	1035.0	1186.0	1334.0	1446.0	1557.0	
CY 2015	109.0	193.0	296.0	413.0	580.0	730.0	873.0	1022.0	1183.0				

Crimes by Type

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
Robbery	32	19	20	36	37	27	30	24	30				255
Larceny (Snatch/Pickpocket)	31	34	31	23	34	41	36	20	29				279
Larceny (Other)	32	22	37	38	75	73	64	88	84				513
Motor Vehicle Theft	2	0	0	7	5	5	4	5	5				33
Attempted Motor Vehicle Theft	1	2	3	2	4	1	3	4	1				21
Aggravated Assault	11	6	12	11	12	3	6	8	12				81
Rape	0	0	0	0	0	0	0	0	0				0
Burglary	0	0	0	0	0	0	0	0	0				0
Homicide	0	0	0	0	0	0	0	0	0				0
Arson	0	1	0	0	0	0	0	0	0				1
2015 Part1 Crimes	109	84	103	117	167	150	143	149	161				1,183

Customer Satisfaction Rating													
	Q1/2013	Q2/2013	Q3/2013	Q4/2013	Q1/2014	Q2/2014	Q3/2014	Q4/2014	Q1/2015	Q2/2015	Q3/2015	Q4/2015	
Metrobus	82%	82%	81%	76%	78%	79%	81%	78%	78%	75%	82%		
Metrorail	84%	86%	84%	76%	80%	80%	77%	82%	74%	73%	67%		
KPI: Customer Commendation Rate (per million passengers)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
CY 2013	6.6	6.4	5.9	7.0	6.2	6.4	7.3	6.1	5.0	6.7	5.9	4.6	6.3
CY 2014	7.0	6.0	6.6	5.2	7.2	7.3	6.7	7.0	6.6	5.4	5.6	5.7	6.6
CY 2015	5.2	6.4	6.6	5.2	6.4	5.6	6.7	6.0	5.3				5.9
KPI: Customer Complaint Rate (per million passengers)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
CY 2013	84	73	74	74	76	79	90	81	82	81	113	74	79
CY 2014	92	88	74	81	79	83	90	84	96	89	71	69	85
CY 2015	82	82	65	69	89	88	86	88	112				85