

# Vital Signs Report

*A Scorecard of Metro's*

*Key Performance Indicators (KPI)*



**Office of Performance**

Chief Performance Officer

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## **Introduction to this report**

The Vital Signs Report presents a monthly analysis of a few key performance indicators (KPI's) that monitor long term progress in the strategic areas of safety, security, service reliability and customer satisfaction. Each month the report is presented to our Board of Directors and posted online so the public can monitor Metro's performance.

As a regional transportation system, Metro's system-wide performance is captured in the Vital Signs Report. The report is not designed to measure the experience of individual customers using Metro's services. Instead, the Vital Signs Report communicates if the Metro system's performance is improving, deteriorating, or remaining steady.

Detailed performance analysis is presented in the Vital Signs Report through answers to two prime questions: Why did performance change? What actions are being taken to improve performance? Metro is focused on these two questions to continually push to improve.

The Vital Signs Report demonstrates Metro's commitment to be transparent and accountable to our Board of Directors, jurisdictional stakeholders and the public. The monthly report documents performance results, and strives to hold WMATA's management accountable for what is working, what is not working and why.

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## Table of Contents

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Introduction to this report .....	3
Executive Summary .....	6
Strategic Framework.....	7
Metro Facts at a Glance.....	8
KPI's that Score How Metro is Performing.....	10
Bus On-Time Performance (May) .....	10
Bus Fleet Reliability (May) .....	11
Rail On-Time Performance (May) .....	12
Rail Fleet Reliability (May) .....	13
MetroAccess On-Time Performance (May).....	14
Escalator System Availability (May) .....	15
Elevator System Availability (May).....	16
Customer Injury Rate (April).....	17
Employee Injury Rate (April).....	18
Crime Rate (April).....	19
Arrests, Citations and Summonses (April) .....	20
Customer Comment Rate (May) .....	21
Definitions .....	22
Performance Data.....	24

**Vital Signs Report – July 2011**  
**Executive Summary**

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For the most recent month of data available performance results are mixed with seven measures improving or being on target, and five worsening when compared to the prior month.

KEY PERFORMANCE INDICATOR:	Performance Is:		
	<i>Improving</i>	<i>On-Target</i>	<i>Worsening</i>
Bus On-time Performance			x
Bus Fleet Reliability	★		
Rail On-time Performance		✓	
Rail Fleet Reliability			x
MetroAccess On-time Performance		✓	
Escalator Availability			x
Elevator Availability	★		
Customer Injury Rate			x
Employee Injury Rate		✓	
Crime Rate		✓	
Arrests, Citations, Summonses		<i>not applicable</i>	
Customer Complaint Rate		✓	
Customer Commendation Rate			x

**The Good** Bus fleet reliability improved slightly this month as maintenance staff began addressing the root cause of engine cooling problems in newer buses. MetroAccess on-time performance continued a multi-month improvement trend through effective management of the service and has now reached its target. Elevator availability improved this month and is only below target by a small fraction of a percent as communication and flooring repairs decreased. The employee injury rate improved as more hours worked did not result in an increase in injuries and this measure has been better than target for three consecutive months. The parking crime rate improved to unprecedented lows due to intensified policing actions. While a slight uptick in crimes on trains was reported, improvement on buses with officers on board resulted in an overall favorable crime result.

**The Bad** Bus on-time performance continued a worsening trend and is the subject of a separate presentation this month. Rail fleet reliability worsened in an erratic pattern of performance as parts availability challenges compounded with railcar door related problems and car subsystem failures. As expected, escalator availability worsened and will likely continue to decline as maintenance staff increase inspections and check the quality of repairs, identifying additional repairs. These near term escalator outages are necessary if long term system improvement is to be achieved. The customer injury rate worsened, but only by a small fraction of a percent and is not a cause for alarm. Customer complaints worsened this month with the largest category being complaints about delayed fare refunds; however this measure is on target. The quantity of customer commendations dropped off this month but should recover as a processing backlog is completed in future months.

## Strategic Framework Overview

There are five strategic goals that provide a framework to quantify and measure how well Metro is performing. Each of the goals have underlying objectives intended to guide all employees in the execution of their duties. Although Metro is working on all goals and objectives only a select number of performance measures are presented in the Vital Signs Report to provide a high-level view of agency progress.

5 Goals

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|-------|--|
| Goals | <ol style="list-style-type: none"> <li>1. <u>Create</u> a Safer Organization</li> <li>2. <u>Deliver</u> Quality Service</li> <li>3. <u>Use</u> Every Resource Wisely</li> <li>4. <u>Retain, Attract</u> and <u>Reward</u> the Best and Brightest</li> <li>5. <u>Maintain</u> and <u>Enhance</u> Metro's Image</li> </ol> |
|-------|--|

12 Objectives

Goal	Objective
1	1.1 <u>Improve</u> customer and employee safety and security ("prevention")*
	1.2 <u>Strengthen</u> Metro's safety and security response ("reaction")
2	2.1 <u>Improve</u> service reliability
	2.2 <u>Increase</u> service and capacity to relieve overcrowding and meet future demand
	2.3 <u>Maximize</u> rider satisfaction through convenient, comfortable services and facilities that are in good condition and easy to navigate
	2.4 <u>Enhance</u> mobility by improving access to and linkages between transportation options
3	3.1 <u>Manage</u> resources efficiently
	3.2 <u>Target</u> investments that reduce cost or increase revenue
4	4.1 <u>Support</u> diverse workforce development through management, training and provision of state of the art facilities, vehicles, systems and equipment
5	5.1 <u>Enhance</u> communication with customers, employees, Union leadership, Board, media and other stakeholders
	5.2 <u>Promote</u> the region's economy and livable communities
	5.3 <u>Use</u> natural resources efficiently and reduce environmental impacts

\*WMATA Board of Directors System Safety Policy states:

1. To avoid loss of life, injury of persons and damage or loss of property;
2. To instill a commitment to safety in all WMATA employees and contractor personnel; and
3. To provide for the identification and control of safety hazards, the study of safety requirements, the design, installation and fabrication of safe equipment, facilities, systems, and vehicles, and a systematic approach to the analysis and surveillance of operational safety for facilities, systems, vehicles and equipment.

## Metro Facts at a Glance

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### Metro Service Area

Size	1,500 sq. miles
Population	3.5 million

### Ridership

Mode	FY 2010	Average Weekday
Bus	124 million	436,496 (May 2011)
Rail	217 million	727,921 (May 2011)
MetroAccess	2.4 million	7,179 (May 2011)
Total	343.4 million	

### Fiscal Year 2011 Budget

Operating	\$1.5 billion
Capital	\$0.7 billion
Total	\$2.2 billion

### Metrobus General Information

Size	11,624 bus stops
Routes*	323
Fiscal Year 2011 Operating Budget	\$538 million
Highest Ridership Route in 2009	30's – Pennsylvania Ave. (16,330 avg. wkdy ridership)
Metrobus Fare	\$1.70 cash, \$1.50 SmarTrip®, Bus-to-bus Transfers Free
Express Bus Fare	\$3.85 cash, \$3.65 SmarTrip®, Airport Fare \$6.00
Bus Fleet*	1,492
Buses in Peak Service	1,244
Bus Fleet by Type*	Compressed Natural Gas (460), Electric Hybrid (401), Clean Diesel (117) and All Other (514)
Average Fleet Age*	7.5 years
Bus Garages	9 – 3 in DC, 3 in MD and 3 in VA

\*As of December 2010.

## Metrorail General Information

Fiscal Year 2011 Operating Budget	\$822 million
Highest Ridership Day	Obama Inauguration on Jan. 20, 2009 (1.1 million)
Busiest Station in 2010	Union Station (34,713 average weekday boardings in April)
Regular Fare (peak)	Minimum - \$2.20 paper fare card, \$1.95 SmarTrip® Maximum - \$5.25 paper fare card, \$5.00 SmarTrip®
Reduced Fare (non-peak)	Minimum - \$1.85 paper fare card, \$1.60 SmarTrip® Maximum - \$3.00 paper fare card, \$2.75 SmarTrip®
Peak-of-the-peak Surcharge	\$.20 - weekdays 7:30 – 9 a.m. and 4:30 – 6 p.m., depending on starting time of trip
1 <sup>st</sup> Segment Opening/Year	Farragut North-Rhode Island Avenue (1976)
Newest Stations/Year	Morgan Boulevard, New York Avenue, and Largo Town Center (2004)
Rail Cars in Revenue Service	1,104
Rail Cars in Peak Service	860
Rail Cars by Series	1000 Series (288), 2000/3000 (362), 4000 (100), 5000 (184) and 6000 (184)
Lines	5 – Blue, Green, Orange, Red and Yellow
Station Escalators	588
Station Elevators	237
Longest Escalator	Wheaton station (230 feet)
Deepest Station	Forest Glen (21 stories / 196 feet)
Rail Yards	9 – 1 in DC, 6 in MD and 2 in VA

## MetroAccess General Information

Fiscal Year 2011 Operating Budget	\$104 million
MetroAccess Fare	Within the ADA service area – twice the equivalent SmarTrip-based fare up to a \$7 maximum
Paratransit Vehicle Fleet**	600
Average Fleet Age**	3.12 years
Paratransit Garages	7 (1 in DC, 4 in MD and 2 in VA)
Contract Provider	MV Transportation

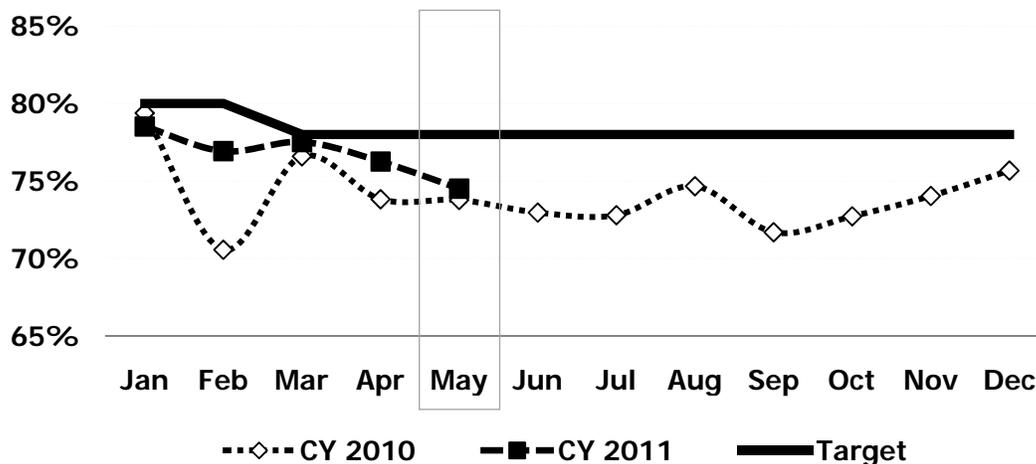
*\*\*As of February 2011.*

**Reason to Track:** This indicator illustrates how closely Metrobus adheres to published route schedules on a system-wide basis. Factors which affect 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.

**Why Did Performance Change?**

- After several months of improvement, bus on-time performance has started to decline. However, this downward trend is virtually the same as last year indicating there is seasonality affecting bus on-time performance and that declining performance in the spring of each year should be anticipated.
- Every spring area road construction programs ramp up creating temporary traffic congestion and detours. During the month of May there were ~ 38 detours.
- A portion of the seasonal pattern of declining performance was also attributed to increased traffic congestion. During this time of the year, additional traffic congestion occurs as of result of high school/college graduations, National Police Week, Memorial Day events and other tourist activity.

**Bus On-Time Performance**



**Actions to Improve Performance**

- Continue to track on-time performance every day by route and by six time periods looking for specific adjustments that can be made to respond to congestion and other delays.
- Use new Bus Run Analyzer technology to redistribute time between select stops within specific routes to reflect real running times. The resulting improved schedules will allow those customers to better plan their trips.
- Collaborate with local jurisdiction to develop initiatives like the Maryland SHA/MCDOT initiative to establish bus bypass lanes that would allow buses to avoid traffic congestion.
- Staff will re-evaluate the Metrobus on-time performance definition against local and national peers to determine if a definition adjustment is warranted.

**Conclusion:** For the year so far, bus on-time performance is better than last year's. However, the random and unpredictable traffic congestion many routes face on a daily basis is further challenged by detours around construction and special events during the spring and summer months. Metro is working hard to build partnerships with local jurisdictions to build infrastructure that supports bus on-time performance.

**KPI: Bus Fleet Reliability (May)  
(Mean Distance Between Failures)**

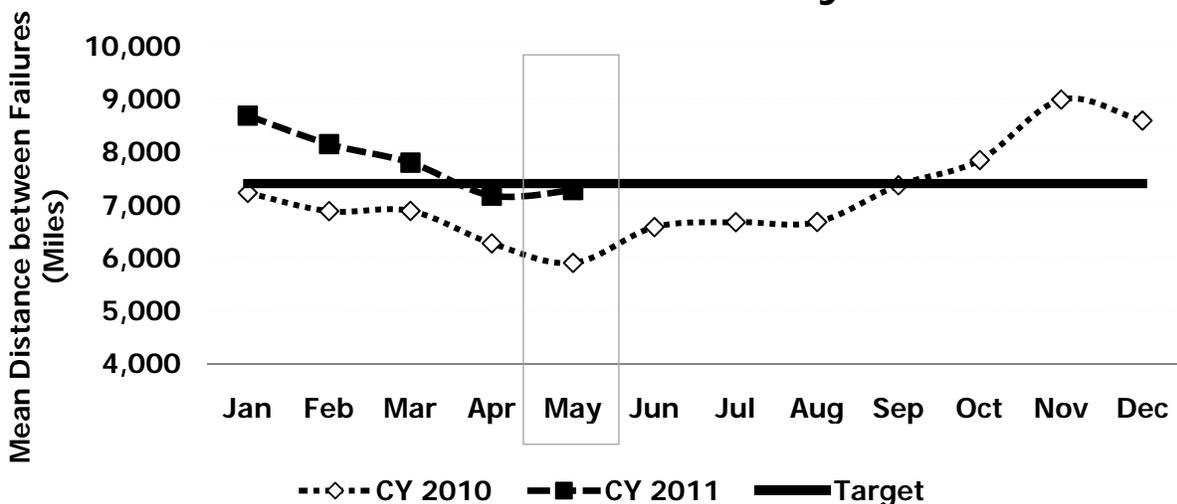
**Objective 2.1 Improve Service Reliability**

**Reason to Track:** This key performance indicator communicates service reliability and 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 are the vehicle age, quality of a maintenance program, original vehicle quality, and road conditions affected by inclement weather and road construction. For this measure higher miles are better, meaning that the vehicle goes farther without mechanical problems.

**Why Did Performance Change?**

- Bus fleet reliability reversed its downward trend and improved slightly during the month of May as Metro addressed engine troubles on newly received hybrid buses. Metro conducted two campaigns to correct cooling and emission control systems. As a result, hybrid buses were 18% more reliable in May.
- CNG fleet reliability improved from 7,790 to 8,657 miles to as a result of replacing older - less reliable - engines with new reliable engines during midlife overhaul.
- Overall fleet reliability was dragged down by clean diesel bus performance. These vehicles run the most miles per bus in the entire fleet and experienced a decline in performance due to engine shut offs..
- Overall, engine failures continue to be the primary driver of service interruptions, representing more than half of the top six service interruptions.

**Bus Fleet Reliability**



**Actions to Improve Performance**

- Analysis of performance by fleet type will generate very specific maintenance actions unique to each type of bus.
- The hybrid manufacturer will continue a campaign to upgrade electrical components used to cool engines and better regulate system voltage.
- Staff has authorized the engine manufacturer to replace all of the engine thermostats with a newly redesigned thermostat that is expected to improve reliability.
- CNG bus engines will be replaced with a more reliable engine during the ongoing midlife overhaul.

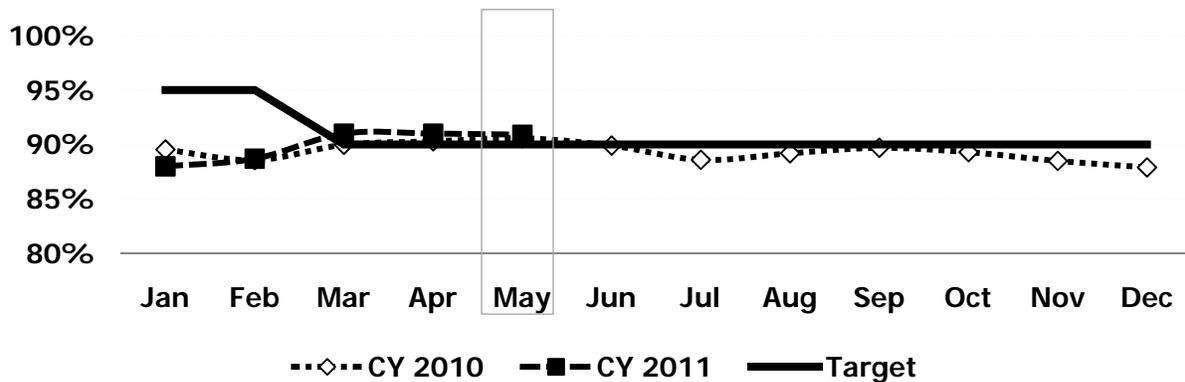
**Conclusion:** Bus fleet reliability improved slightly, but fleets continue to be challenged by service interruptions caused by engine failures. Staff has recently launched several repair campaigns to correct engine system failures. Many of these challenges are the result of a manufacturer design flaw and are under warranty; others are due to wear and tear and will be corrected using more reliable, improved parts.

**Reason to Track:** On-time performance measures the adherence to weekday headways, the time between trains. Factors that can affect on-time performance include track conditions resulting in speed restrictions, the number of passengers accessing the system at once, dwell time at stations, equipment failures and delays caused by sick passengers or offloads. On-time performance is a component of customer satisfaction.

**Why Did Performance Change?**

- Overall Metrorail on-time performance was maintained at 91% in May, steady for the third month in a row and slightly above May last year. The Rail Operations Control Center continued to actively manage train spacing by holding some trains at platforms to make adjustments.
- The Red Line continued to perform above target at 91% on-time for the month, in spite of evening single-track operations in two locations to allow for maintenance work.
- The Orange Line again had the highest on-time performance at 93%. The performance of the Orange Line impacted the performance of the Blue Line, particularly in the afternoon peak period, as the additional Orange Line trains increased the spacing between Blue line trains. The Blue Line performance at 88% was still above the average for the last 12 months.
- Both the Green and Yellow lines performed above target at 92% on-time.

**Rail On-Time Performance**



**Actions to Improve Performance**

- Rail Transportation will examine operations during the afternoon peak period, typically the period of lowest on-time performance, to identify factors influencing headway adherence and develop strategies to address those issues.
- A class of new train operators will complete training in late June and begin operating trains in July. As Metrorail operates in manual mode, this may cause a short-term reduction in on-time performance as it typically takes two to three months for new operators to consistently adhere to schedules.
- Railcar issues make up 50% of the total delay during weekdays. Rail Transportation will continue to work with Car Maintenance to quickly address problems as they occur and avoid delays. This includes increasing the deployment of supervisors and maintenance technicians to make sure that carborne systems are working properly and door problems are solved quickly.
- In June, Metro will resume mid-day track work on the Orange Line in conjunction with the Dulles Corridor extension. Mid-day track work will also occur on the Green Line between Naylor Road and Branch Avenue. The result may be near term declines in on-time performance.

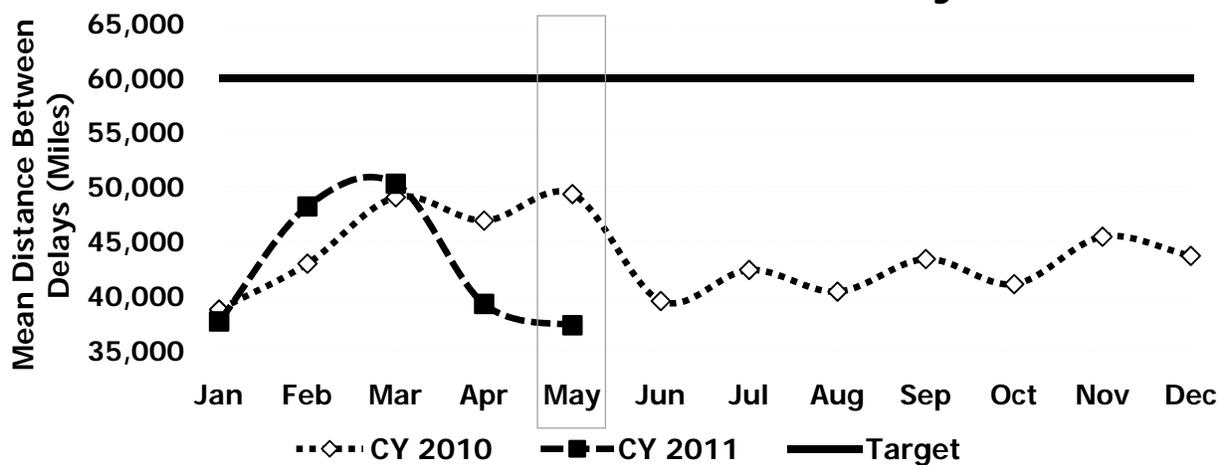
**Conclusion:** May on-time performance remained steady for the third month in a row, slightly above target and above May 2010.

**Reason to Track:** 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. The higher the mileage for the mean distance between delays, the more reliable the railcars.

**Why Did Performance Change?**

- Overall fleet reliability worsened slightly (5%) mainly due to lower performance of the 2000-3000 Series railcars in May. Increase in door-related delays on the 2000-3000 Series (58% of total for this car type), drove down the mean distance between delay for this series by 25% from April.
- The 6000 Series cars improved slightly from April, but remained 26% lower than the average for this series for the last 12 months. The 6000 Series railcars outperformed the rest of the fleet average in miles between delays, but did not make up enough of the total fleet to raise the overall performance significantly.
- Metro's work to replace the problematic electronic control unit resulted in fewer brake related delays of >3 minutes for the 1000 Series cars.
- The 4000 Series railcars experienced only 9 delays > 3 minutes, resulting in a 70% improvement in miles between delay from April, due to only one brake-related delay and one due to doors. One third of the delay-causing failures of the 4000 Series railcars were due to the ATC system. The 4000 Series cars operated the fewest miles of any car type, and have a relatively small impact on the total measure of fleet reliability.

**Rail Fleet Reliability**



**Actions to Improve Performance**

- Railcar Maintenance continues to work on improving its parts ordering process to make sure that component parts are available for repairs. A focused effort between Railcar Maintenance and Procurement is in progress and should improve parts availability in the coming months.
- Car Maintenance and Rail Vehicle Engineering continue to work with IFE (manufacturer of the 2000-3000 and 6000 Series door systems) and Alstom to resolve reliability issues with the doors. Several modifications to improve the reliability and maintainability of the 6,504 passenger doors across this fleet are being reviewed and/or developed.
- Railcar Maintenance and Rail Vehicle Engineering are in the design/test phase for replacement of the Low Voltage Power Supply system, which was identified as a root cause for some of the braking issues on the 1000 Series railcars.
- Car maintenance has increased technician training in areas such as propulsion, braking and door systems to improve diagnostic capabilities.

**Conclusion:** The mean distance between delays declined slightly (5%) in May due to lower performing 2000-3000 Series railcars.

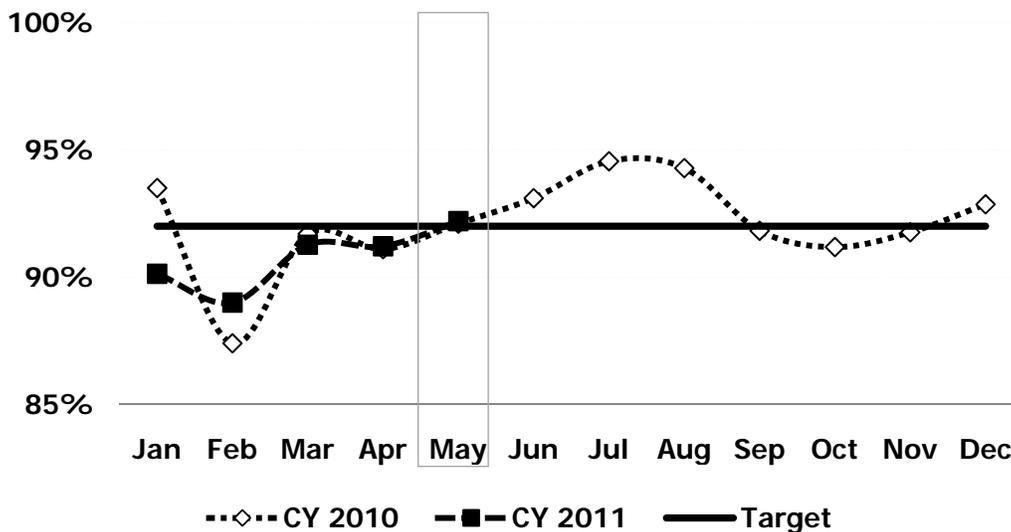
**KPI: MetroAccess On-Time Performance (May) Objective 2.1 Improve Service Reliability**

**Reason to Track:** On-time performance is a measure of MetroAccess service reliability and how well service meets both regulatory and customer expectations. Adhering to the customer's scheduled pick-up window is comparable to Metrobus adhering to scheduled timetables. Factors which affect on-time performance are traffic congestion, inclement weather, scheduling, vehicle reliability and operational behavior. MetroAccess on-time performance is essential to delivering quality service to customers, and meeting service criteria established through Federal Transit Administration regulatory guidance.

**Why Did Performance Change?**

- MetroAccess on-time performance improved in May to above the target of 92% and was equal with last year's performance in May.
- Staff continued initiatives focused on improved schedule efficiency and on-time performance.
- MetroAccess Service Monitors and Road Supervisors continued proactive monitoring of division pull-outs and service delivery to ensure adherence to schedules and increase on-time performance.

**MetroAccess On-Time Performance**



**Actions to Improve Performance**

- MetroAccess on-time performance is doing well through effective management of the service each day.
- Access staff will continue to promote greater use of fixed-route services for customers who are able to use bus and rail.
- The Department of Access Services is working in cooperation with Bus Planning and the jurisdictions to make bus stops and sidewalks more accessible to people with disabilities. Improving the accessible pathways leading to and from bus stops throughout the region will allow customers to travel more freely using fixed-route service and will reduce the dependence on paratransit.
- MetroAccess staff will continue to monitor service provision and improve efficiency by continuing to educate customers about the impact of customer-driven changes to the schedule like cancellations and no-shows.

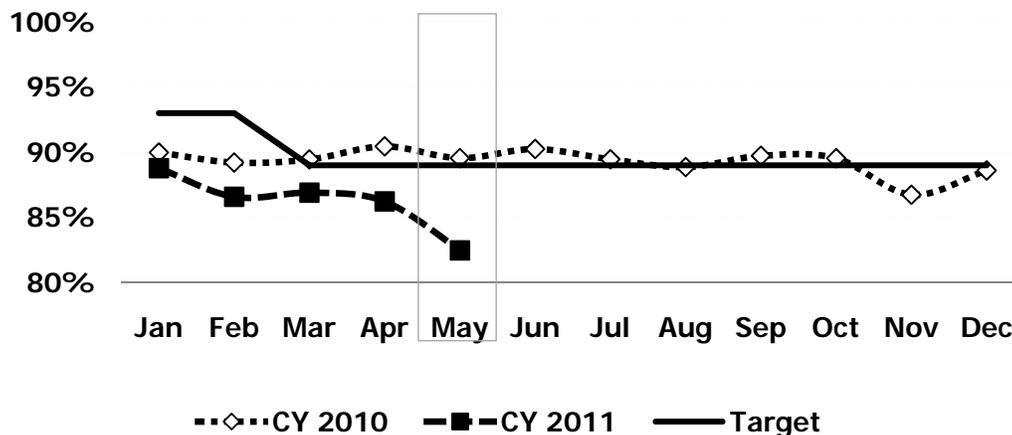
**Conclusion:** MetroAccess on-time performance improved in May. Staff continues to implement measures designed to reduce costs while closely monitoring efficiencies and maintaining reliable service for customers.

**Reason to Track:** Customers access Metrorail stations via escalators to the train platform. An out-of-service escalator requires walking up or down a stopped escalator, which can add to total travel time and may make stations inaccessible to some customers. Escalator availability is a key component of customer satisfaction with Metrorail service. This measure communicates system-wide escalator performance (at all stations over the course of the day) and will vary from an individual customer's experience.

**Why Did Performance Change?**

- 485 out of 588 escalators were operating in May 2011 (based on hours of available service). This represents a significant decrease from April, with 22 less escalators in operation for the month. This is a result of large increase in maintenance for inspection repairs and unscheduled service calls.
- Metro is purposefully intensifying its inspection practices in order to improve the reliability of escalators in the long-term. Hours for inspection repairs increased 30% from April and are 113% over the same month in 2010. The number of inspections increased in May by 8%, creating long lists of repairs for maintenance technicians. At the same time, Metro inspectors are checking the quality of repairs, sometimes requiring that work be re-done and/or identifying additional repairs. These factors result in units being out of service longer.
- Hours for unscheduled service calls increased due to more calls (up 11%) and repairs taking longer to complete (up 35%). This includes units out of service for handrail repairs that were waiting for out-of-state specialists. Staff began training in May to do these repairs in-house, so that these units can go back into service faster.
- Metro is modernizing (aka overhauling) more escalators in 2011 than 2010, reducing escalator availability in the short term. May 2011 escalator out-of-service hours for modernization are 13% higher than the same month in 2010. Modernization work accounted for fifteen percent of all escalator out-of-service hours in May 2011 (including corresponding "walker" units).

### Escalator System Availability



**Actions to Improve Performance**

- To more quickly resolve repairs identified in inspections, Metro is assigning a maintenance team to specifically address those repairs beginning with Metro's busiest stations.
- When an inspection creates a long list of repairs, Metro will identify which repairs must be completed immediately and items that can be rescheduled to a later date. This will return the unit to service more quickly.
- Metro will fill manager and supervisor positions by July in order to improve maintenance planning, quality of work, and identify maintenance employee training needs.

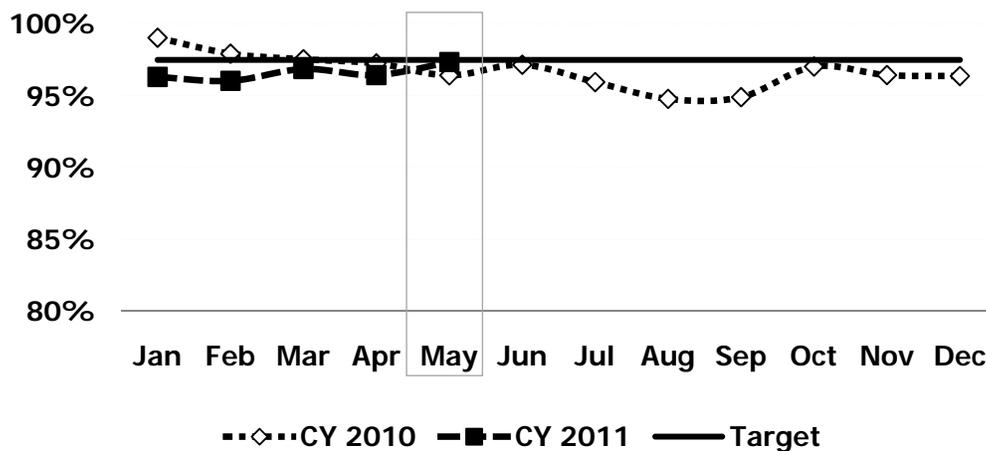
**Conclusion:** As Metro improves the quality of its escalator inspection and maintenance procedures, units are staying out of service longer. Fixing repairs identified in inspections will improve the reliability of escalators in the long-term.

**Reason to Track:** Metrorail elevators provide an accessible path of travel for persons with disabilities, seniors, customers with strollers, travelers carrying luggage and other riders. When an elevator is out of service, Metro is required to provide alternative services, which may include a shuttle bus service to another station.

**Why Did Performance Change?**

- Elevator system-wide availability improved in May to 97.4%, very close to the target of 97.5%. Availability is above the same month last year, and is the highest it's been since March 2010.
- On average, 231 of 237 elevators were available for the month.
- The number of unscheduled elevator service calls stayed the same in May, and calls for fire alarms went down.
- Elevator maintenance hours for scheduled support from other Metro departments (communication and flooring repairs) was down 64% in May.

### Elevator System Availability



**Actions to Improve Performance**

- Metro is assigning a maintenance team to specifically address inspection repairs, beginning with Metro's busiest stations.
- Metro will fill manager and supervisor positions by July in order to improve maintenance planning, quality of work, and identify maintenance employee training needs.

**Conclusion:** Elevator availability increased in May, reaching the highest level since March 2010.

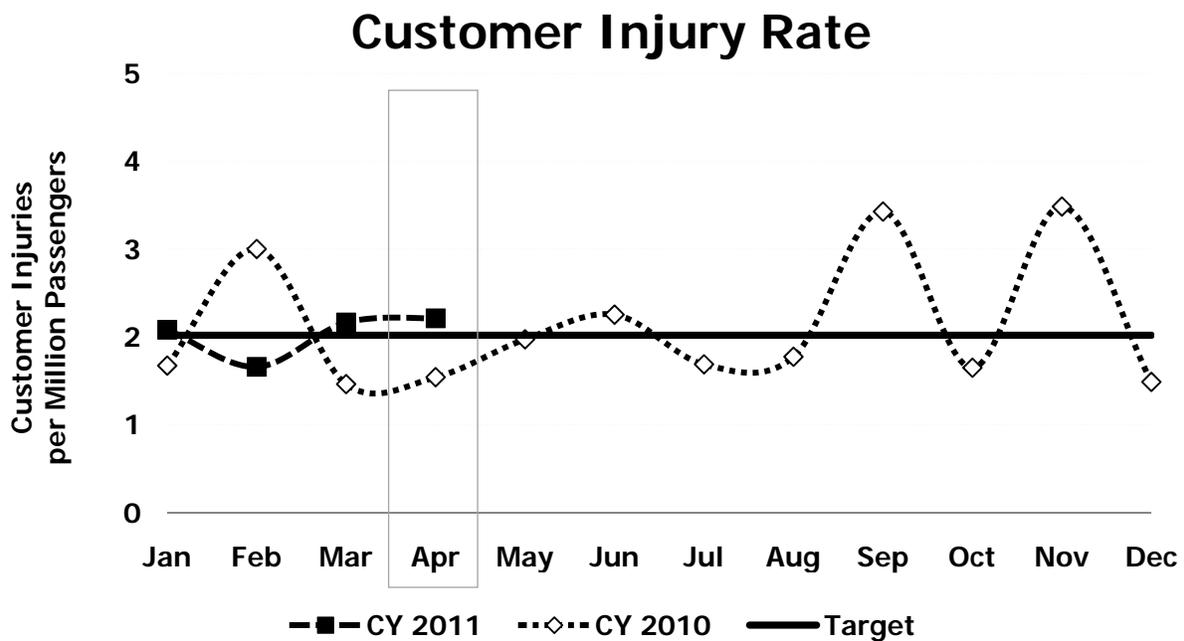
**KPI: Customer Injury Rate (April) Per Million Passengers**

**Objective 1.1 Improve Customer and Employee Safety and Security**

**Reason to Track:** 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.

**Why Did Performance Change?**

- The customer injury rate nearly remained unchanged from the prior month (one additional injury in April versus March). Injuries on MetroAccess and in the rail transit facilities (stations, escalators, and parking) increased in April, but bus customer injuries declined.
- Rail transit facility injuries represented the largest share (46%) of customer injuries with six additional injuries occurring on the escalators due to slips/falls.
- Bus customer injuries were the result of five collisions; bus customer injuries represented 42% of the customer injuries.
- The three additional MetroAccess passenger injuries were the result of five collisions.



**Actions to Improve Performance**

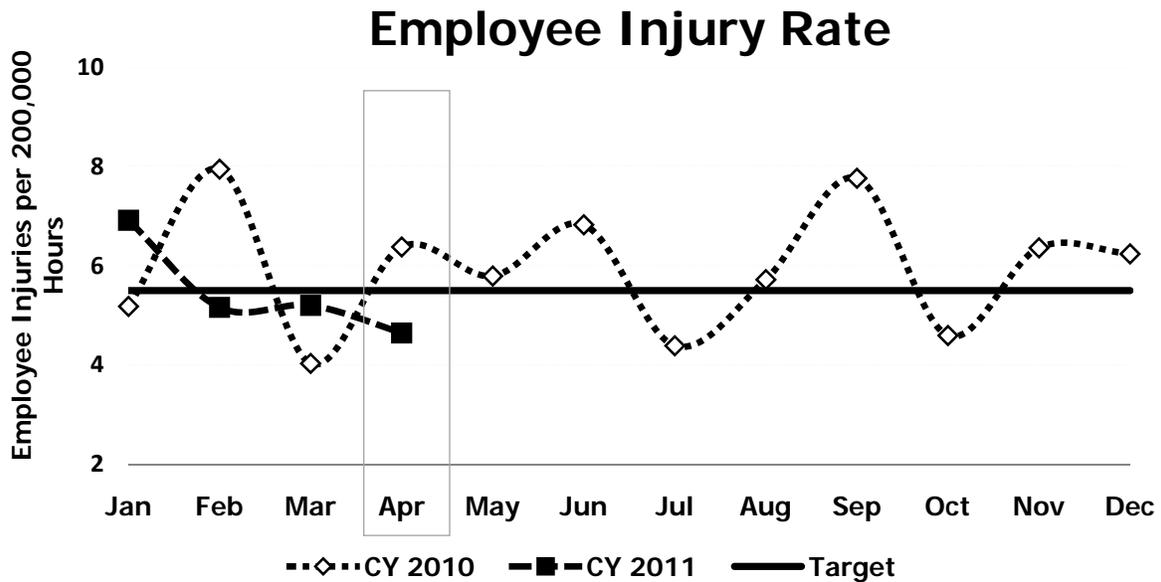
- Bus Services will continue to encourage drivers to drive safely through the “Keep It Green” campaign, which is designed to discourage risky driving behavior.
- Rail will enhance training using computer based training initiatives.
- Metro will continue to focus on keeping the system safe by maintaining state of good repairs. Some of these efforts include: retrofitting track, replacing track circuitry, signs and chain markers.
- Increase safety communication to encourage customers to use handrails on escalators and discourage customers from rushing, wearing flip flops, and from taking strollers onto escalators to reduce risk of injury.

**Conclusion:** The customer injury rate nearly remained unchanged from the prior month. Injuries continue to occur primarily as a result of slips/falls and bus collisions.

**Reason to Track:** Worker's compensation claims are a key indicator of how safe employees are in the workplace.

**Why Did Performance Change?**

- The rate at which employee injuries occurred declined during the month of April. The rate reduction is a result of increased hours worked with no corresponding increase in injuries. The injuries that did occur were primarily related to striking/struck by an object, slip/trip/falls, and straining.
- Typically slip/falls and straining represent the largest occurrence of injuries; however, striking/struck by an object exceeded slip/falls this month. These injuries primarily occurred in Bus and Rail Services and were caused by multiple factors: handling objects, stepping on objects and falling objects.
- The slip/falls primarily occurred on stairs or as a result of liquids. Straining injuries were consistent with last month; these injuries are common to providing bus services and were typically related to constant turning of the body and or head, as well as poor pulling and reaching techniques when operating the steering wheel and other apparatus.



**Actions to Improve Performance**

- Bus is making available to bus operators a removable seat belt (shoulder harness) cover. This cover prevents the shoulder harness from cutting into the operator's neck, and its bright orange color will also be visible to DriveCam.
- As a preventive measure, Rail Transportation will install clearer roadway signage to help operators avoid safety violations in rail yards, and increase supervision to monitor and provide feedback to operators. This will help address one area where potential for injury is significant.
- Continue to build on the basic building blocks of: the electronic device policy, seat belt compliance, roadway worker observation, DriveCam observation, radio rule, and general housekeeping.

**Conclusion:** Although the employee injury rate declined in April the total number of injuries remained consistent, as Metro continues to build on the basic foundations of maintaining a safe environment.

**Reason to Track:** This measure provides an indication 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.

**Why Did Performance Change?**

- The Metro parking crime rate was at an unprecedented low in April of 1.24 crimes per million riders. This is a reduction of 30% from March and is down by almost half from April last year. This is driven by significant reductions in thefts from vehicles and thefts of motor vehicle parts/accessories (down 54%). Mobile patrol officers based their vehicle operations from parking facilities to increase visibility, while officers from local jurisdictions lent support by patrolling lots within jurisdictions.
- The Metrobus crime rate reduced 22% in April and is down 40% from April 2010. Of the almost 11 million customers riding Metrobus in April, only eight Part-I bus crimes were committed. April initiatives included officers boarding buses at route locations away from rail stations to check on the welfare of operators and passengers.
- The Metrorail crime rate increased to 4.77 crimes per million riders in April, though on average the rate is 15% below 2010 levels. Robberies went down in April (4%), but this reduction was offset by an increase in aggravated assault and theft of personal property.
- Overall, the total number of Part-I crimes year-to-date is down 17% from 2010.



Target: Less than 2,279 Part I Crimes in CY 2011

**Actions to Improve Performance**

- Bike theft prevention literature will be distributed to customers as part of Bike to Work Day.
- Officers will be assigned to ride trains more frequently to reduce offenses committed on trains.
- MTPD will utilize sky towers to monitor stations with large surface parking lots, especially Greenbelt and Branch Ave.

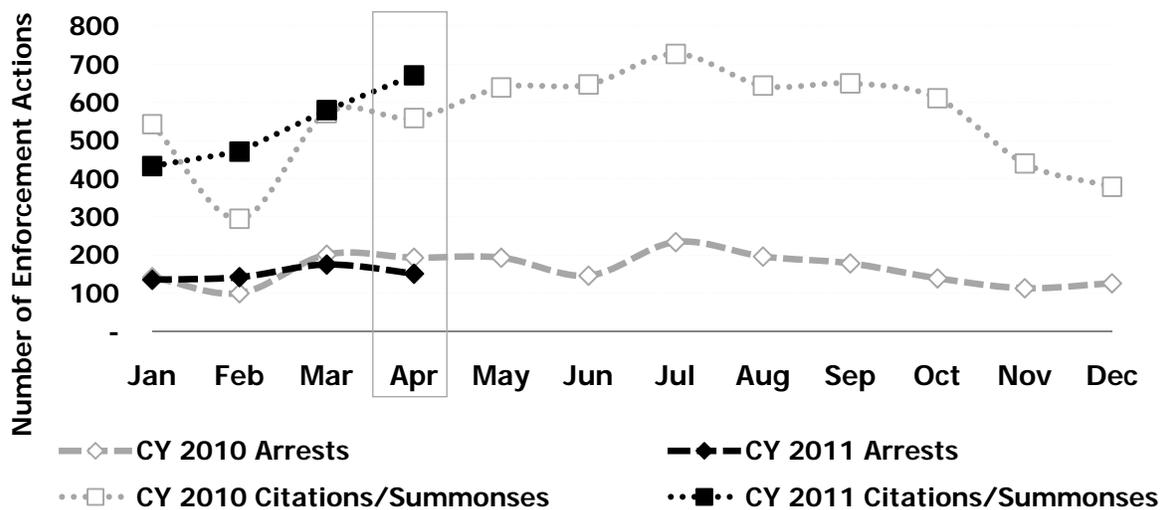
**Conclusion:** MTPD continues to see reductions in crime in the Metro system, particularly in parking lot crime. Overall, the total number of Part I crime year-to-date is 17% lower in 2011 than 2010.

**Reason to Track:** This measure reflects actions by the Metro Transit Police Department to keep the Metro system safe. This includes arrests of individuals breaking the law within the Metro system and citations/summonses issued by transit police officers. Examples of citations/summonses include fare evasion and public conduct violations.

**Why Did Performance Change?**

- MTPD arrested 151 offenders in April 2011, down 24 from March. A key arrest was made in a highly publicized assault case at L’Enfant Plaza in January. MTPD detectives were able to identify the suspect after careful review of evidence and obtained a confession of all charges from the suspect.
- MTPD participated as a member of the Washington, DC based Joint Terrorism Task Force which in April arrested Farooque Ahmed, accused of conspiracy to bomb Metro stations.
- Citations and summonses increased 16% in April as officers worked to reduce disorder in the transit system. Enforcement actions focused on high ridership stations.

### Arrests, Citations and Summonses



**Actions to Improve Performance**

- MTPD will maintain directed patrol at stations with recent upticks in criminal activity, including Georgia Ave-Petworth to Gallery PI-Chinatown on the Green Line.
- After careful review of crime trends, officer beat assignments and available resources, MTPD will realign patrol areas to increase effectiveness.
- As resources are available, MTPD will schedule overlap beat assignments to target high crime areas.

**Conclusion:** With increased attention on high visibility patrols, MTPD is successfully deterring crime in the transit system.

**KPI: Customer Comment Rate (May) Per Million Passengers**

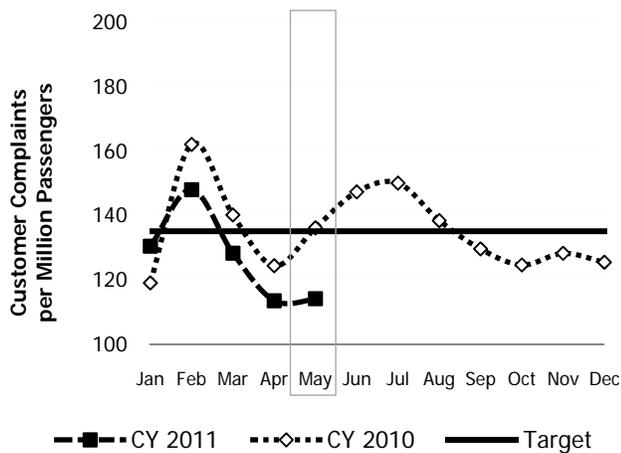
**Objective 2.3 Maximize Rider Satisfaction**

**Reason to Track:** Listening to customer feedback about the quality of service provides a clear roadmap to those areas of the operation where actions to improve the service can best help to maximize rider satisfaction.

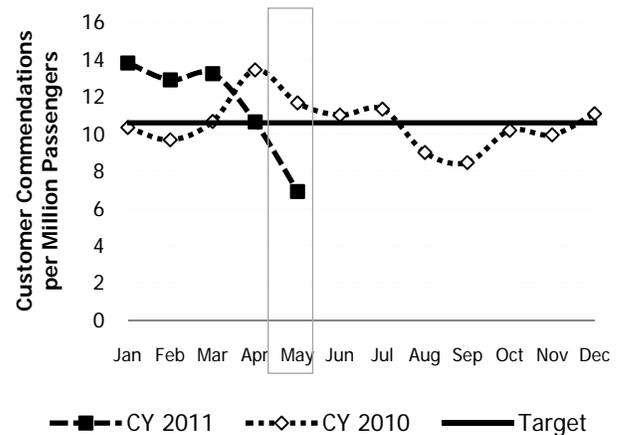
**Why Did Performance Change?**

- The customer complaint rate remained steady for May as complaints for bus and rail increased slightly, offset by a decrease in MetroAccess complaints.
- Metrorail's complaint rate inched up slightly, with 65 more total complaints than in April. Complaints about rail delays, inadequate service and rude behavior were all up slightly from April, but were below last year. There were 35 complaints about fare refunds, down seven from April, but still significant as Metro's Treasury Department continues to work through its backlog in processing refunds.
- Metrobus operators received fewer complaints about behavior, but an increase in Metrobus complaints about service being on-time drove the overall complaints up. Metrobus continues to struggle with on-time performance due to increased traffic and construction throughout the service area.
- MetroAccess complaints continued to drop in May with 280 fewer complaints for the month. Complaints about early and/or late trips dropped by 19% and fare complaints were the lowest since September 2010. The continued reduction in complaints indicates the stability of the MetroAccess service, and reduced ridership because many MetroAccess complaints stem from questions about riders' specific trips.
- The decrease in customer commendation rate is due to Metrorail's Customer Service department decision to prioritize processing of complaints over commendations to make sure that actionable information is passed on to operations staff. The result of prioritizing complaint processing has resulted in a commendation backlog. Interns have been brought on board to work through the commendation backlog.

**Customer Complaint Rate**



**Customer Commendation Rate**



**Actions to Improve Performance**

- Continue to focus Metrorail's Customer Service staff and interns on reducing customer comment backlog.
- Metro's Treasury Department is working to increase the processing speed of rail fare adjustments by hiring summer interns to assist.
- Metrobus will use new technology, the Bus Run Analyzer, to develop an improved schedule will allow customers to better plan their trip.
- MetroAccess will continue to work directly with customers to educate them about all of the services available, and to help each customer to successfully travel the Metro region.
- Metro is launching its new "Metro Forward" website to communicate about Metro's 6-year improvement plan at [www.metroforward.com](http://www.metroforward.com). Metro Forward will use [Twitter](#) and [Facebook](#) to keep customers informed.

**Conclusion:** Customer complaints remained steady in May and commendations decreased due to a processing backlog.

## Vital Signs Report

### Definitions for Key Performance Indicators

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**Bus On-Time Performance** – Metrobus adherence to scheduled service.

**Calculation:** For delivered trips, difference between scheduled time and actual time arriving at a time point based on a window of no more than 2 minutes early or 7 minutes late. Sample size of observed time points varies by route.

**Bus Fleet Reliability (Bus Mean Distance between Failures)** – The number of revenue miles traveled before a mechanical breakdown. A failure is an event that requires the bus to be removed from service or deviate from the schedule.

**Calculation:** Number of failures / miles

**Rail On-Time Performance by Line** – Rail on-time performance is measured by line during weekday peak and off-peak periods. During peak service (AM/PM), station stops made within the scheduled headway plus two minutes are considered on-time. During non-peak (mid-day and late night), station stops made within the scheduled headway plus no more than 50% of the scheduled headway are considered on-time.

**Calculation:** Number of Metrorail station stops made up to the scheduled headway plus 2 minutes / total Metrorail station stops for peak service. Number of Metrorail station stops made up to 150% of the scheduled headway / total Metrorail station stops for off-peak service.

**Rail Fleet Reliability (Railcar Mean Distance between Delays)** – 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).

**Calculation:** Number of failures resulting in delays greater than three minutes / total railcar miles

**MetroAccess On-Time Performance** – The number of trips provided within the on-time pick-up window as a percent of the total trips that were actually dispatched into service (delivered). This includes trips where the vehicle arrived, but the customer was not available to be picked up. Vehicles arriving at the pick-up location after the end of the 30-minute on-time window are considered late. Vehicles arriving more than 30 minutes after the end of the on-time window are regarded as very late.

**Calculation:** The number of vehicle arrivals at the pick-up location within the 30-minute on-time window / the total number of trips delivered

**Elevator and Escalator System Availability** – Percentage of time that Metrorail escalators or elevators in stations and parking garages are in service during operating hours.

**Calculation:** Hours in service / operating hours. Hours in service = operating hours – hours out of service. Operating hours = operating hours per unit \* number of units.

**Customer Injury Rate (per million passengers<sup>1</sup>)** – Injury to any customer caused by some aspect of Metro's operation that requires immediate medical attention away from the scene of the injury.

**Calculation:** Number of injuries ÷ (number of passengers ÷ 1,000,000)

**Employee Injury Rate (per 200,000 hours)** – 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.

**Calculation:** Number of injuries ÷ (total work hours ÷ 200,000)

**Crime Rate (per million passengers)** – Crimes reported to Metro Transit Police Department on bus, rail, or at parking lots, Metro facilities, bus stops and other locations in relation to Metro's monthly passenger trips. Reported by Metrobus, Metrorail, and Metro parking lots.

**Calculation:** Number of crimes / (number of passengers / 1,000,000)

**Arrests, Citations and Summonses** – The number of arrests and citations/summonses issued by the Metro Transit Police Department. Examples of citations/summonses include minor misdemeanors, fare evasion and public conduct violations.

**Customer Comment Rate (per million passengers)** – 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 Smarttrip matters handled through the regional customer service center. A commendation is any form of complimentary information received regarding the delivery of Metro service.

**Calculation:** Number of complaints or commendations / (number of passengers / 1,000,000)

<sup>1</sup> Passengers are defined as follows:

- Metrobus reports unlinked passenger trips. An unlinked trip is counted every time a customer boards a Metrobus. In an example where a customer transfers between two Metrobuses to complete their travel two trips are counted.
- Metrorail reports linked passenger trips. A linked trip is counted every time a customer enters through a faregate. In an example where a customer transfers between two trains to complete their travel one trip is counted.
- MetroAccess reports completed passenger trips. A fare paying passenger traveling from an origin to a destination is counted as one passenger trip.

Vital Signs Report  
Performance Data

July 2011

KPI: Bus On-Time Performance / Target = 78%

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Thru May
CY 2010	79.4%	70.6%	76.6%	73.8%	73.8%	73.0%	72.8%	74.7%	71.7%	72.7%	74.0%	75.7%	74.8%
CY 2011	78.5%	76.9%	77.5%	76.3%	74.5%								76.7%

KPI: Bus Fleet Reliability (Bus Mean Distance Between Failures) / Target = 7,400 Miles

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Thru May
CY 2010	7,223	6,878	6,882	6,270	5,902	6,578	6,670	6,673	7,366	7,842	8,982	8,587	6,631
CY 2011	8,681	8,144	7,794	7,171	7,277								7,813

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

Type (~ % of Fleet)	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Avg.
CNG (30%)	9,059	9,093	6,680	9,165	9,939	10,410	9,520	10,242	8,480	9,802	7,790	8,657	9,070
Hybrid (27%)	9,944	10,161	11,378	11,361	13,526	14,198	12,474	11,853	11,158	10,433	9,536	11,235	11,438
Clean Diesel (8%)	7,933	10,547	7,931	10,300	12,118	12,290	12,958	11,473	8,042	7,637	9,442	7,081	9,813
All Other (35%)	4,517	4,332	4,921	4,798	4,698	5,718	5,699	5,751	6,191	5,340	5,012	4,839	5,151

KPI: Rail On-Time Performance by Line / Target = 90%

	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Avg.
Red Line	90.1%	88.5%	88.3%	88.0%	88.3%	87.5%	87.9%	85.1%	87.2%	90.7%	90.7%	90.6%	88.6%
Blue Line	87.5%	86.0%	86.1%	88.3%	87.3%	87.9%	86.3%	88.0%	86.4%	88.9%	88.8%	87.7%	87.4%
Orange Line	90.4%	88.8%	90.5%	92.1%	91.6%	91.0%	90.0%	91.7%	91.4%	93.0%	93.3%	92.5%	91.4%
Green Line	90.8%	90.3%	91.9%	91.9%	91.0%	88.3%	86.5%	90.2%	90.1%	91.3%	91.2%	92.4%	90.5%
Yellow Line	89.8%	89.0%	91.4%	92.0%	90.7%	91.2%	91.0%	91.5%	92.4%	92.3%	92.6%	92.4%	91.4%
Average (All Lines)	89.9%	88.6%	89.2%	89.7%	89.3%	88.5%	87.9%	88.0%	88.7%	91.0%	91.0%	90.9%	89.4%

KPI: Rail Fleet Reliability (Rail Mean Distance Between Delays by Railcar Series) / Target = 60,000 miles

	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Avg.
1000 series railcars	32,241	32,258	46,370	43,908	40,517	45,595	45,557	54,137	46,302	43,866	29,118	28,997	40,739
2000/3000 series railcars	49,175	65,428	39,911	49,582	31,572	35,820	42,065	28,076	40,431	45,169	41,760	31,047	41,670
4000 series railcars	18,166	21,553	17,893	18,645	36,587	25,073	25,195	31,393	31,646	58,442	31,054	52,372	30,668
5000 series railcars	29,265	28,290	29,410	34,094	44,462	54,016	47,509	30,078	47,868	41,251	46,561	45,038	39,820
6000 series railcars	93,631	57,029	107,198	77,921	88,918	119,427	56,172	74,865	110,928	94,443	57,550	61,979	83,338
Fleet average	39,573	42,424	40,435	43,420	41,121	45,471	43,712	37,703	48,241	50,328	39,302	37,355	42,424

Vital Signs Report  
Performance Data (cont.)

July 2011

**KPI: MetroAccess On-Time Performance / Target = 92%**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Thru May
CY 2010	93.5%	87.4%	91.7%	91.1%	92.1%	93.1%	94.6%	94.3%	91.8%	91.2%	91.8%	92.9%	91.2%
CY 2011	90.1%	89.0%	91.3%	91.2%	92.2%								90.8%

**KPI: Escalator System Availability / Target = 89%**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Thru May
CY 2010	90.0%	89.2%	89.5%	90.5%	89.6%	90.3%	89.5%	88.9%	89.7%	89.5%	86.7%	88.6%	89.7%
CY 2011	88.8%	86.6%	86.9%	86.2%	82.5%								86.2%

\* April escalator availability was reported correctly, though the equivalent number of units should have been 507 units in service.

**KPI: Elevator System Availability / Target = 97.5%**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Thru May
CY 2010	99.0%	97.9%	97.5%	97.3%	96.4%	97.2%	96.0%	94.8%	94.9%	97.0%	96.4%	96.4%	97.6%
CY 2011	96.3%	96.0%	96.9%	96.4%	97.4%								96.6%

**KPI: Customer Injury Rate (per million passengers) \* / Target = ≤ 2.02 injuries per million passengers**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Thru Apr.
CY 2010	1.67	3.00	1.46	1.54	1.97	2.25	1.69	1.78	3.43	1.65	3.49	1.49	1.92
CY 2011	2.08	1.66	2.16	2.21									2.03

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

**Bus Customer Injury Rate (per million passengers)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Thru Apr.
CY 2010	2.08	3.66	1.73	1.77	1.84	3.33	2.40	1.61	6.92	1.98	5.91	1.78	2.31
CY 2011	1.72	0.93	3.38	2.59									2.15

**Rail Customer Injury Rate (per million passengers)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Thru Apr.
CY 2010	0.06	0.15	0.10	0.19	0.22	0.20	0.10	0.11	0.17	0.11	0.18	0.00	0.13
CY 2011	0.13	0.19	0.15	0.10									0.14

Vital Signs Report  
Performance Data (cont.)

July 2011

Rail Transit Facilities Occupant Injury Rate (per million passengers)\*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Thru Apr.
CY 2010	1.09	2.31	0.99	0.91	1.31	1.03	0.89	1.35	0.95	1.22	1.56	1.09	1.33
CY 2011	2.00	1.81	1.17	1.61									1.65

\*Includes station, escalator and parking facility customer injuries.

KPI: MetroAccess Customer Injury Rate (per million passengers)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Thru Apr.
CY 2010	26.18	22.06	21.57	31.55	48.11	46.48	34.47	38.84	24.61	14.45	25.50	20.53	25.34
CY 2011	16.45	10.55	14.63	32.12									18.44

KPI: Employee Injury Rate (per 200,000 hours) / Target = ≤ 5.05 injuries per 200,000 hours

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Thru Apr.
CY 2010	5.18	7.94	4.03	6.38	5.79	6.82	4.39	5.72	7.76	4.59	6.36	6.24	5.88
CY 2011	6.92	5.16	5.20	4.64									5.48

KPI: Crime Rate (per million passengers) / Target = ≤ 2,279 Part I Crimes in Calendar Year 2011

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Thru Apr.
CY 2010 Metrobus	0.52	0.23	0.74	1.23	1.46	0.96	0.86	0.66	1.50	1.51	0.90	0.89	0.68
CY 2011 Metrobus	0.86	0.31	0.95	0.74									0.72
CY 2010 Metrorail	7.59	6.11	4.68	5.06	6.11	5.26	6.19	4.91	6.95	4.97	6.38	6.71	5.86
CY 2011 Metrorail	6.63	4.68	3.96	4.77									5.01
CY 2010 Parking	2.79	2.53	3.05	2.39	4.53	3.94	4.06	5.40	2.75	2.17	2.89	4.54	2.69
CY 2011 Parking	3.06	2.50	1.78	1.24									2.14

**Vital Signs Report  
Performance Data (cont.)**

**July 2011**

**Crimes by Type\*\***

	May-10	June-10	July-10	Aug-10	Sept-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	Avg.
Robbery	89	71	66	58	83	76	91	97	92	60	77	74	78
Larceny	97	111	131	111	91	50	58	67	44	40	41	47	74
Motor Vehicle Theft	13	13	10	18	9	17	13	10	15	5	6	4	11
Attempted Motor Vehicle Theft	9	5	10	6	9	3	3	3	6	5	1	2	5
Aggravated Assault	15	7	14	15	14	14	11	12	9	11	5	10	11
Rape	0	0	1	0	0	0	1	0	0	0	0	1	0
Burglary	1	0	0	0	1	1	1	0	0	0	0	0	0
Homicide	0	0	0	0	0	0	0	0	0	0	0	0	-
Arson	0	0	0	0	0	0	0	0	0	0	0	0	-
<b>Total</b>	<b>224</b>	<b>207</b>	<b>232</b>	<b>208</b>	<b>207</b>	<b>161</b>	<b>178</b>	<b>189</b>	<b>166</b>	<b>121</b>	<b>130</b>	<b>138</b>	<b>180</b>

\*\*Monthly crime statistics can change as a result of reclassification following formal police investigation.

**KPI: Metro Transit Police Arrests, Citations and Summonses**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Thru Apr.
CY 2010 Arrests	142	100	201	193	193	146	234	196	178	139	113	126	159
CY 2011 Arrests	135	142	175	151									151
CY 2010 Citations/Summonses	543	295	572	559	639	647	727	644	650	611	440	379	492
CY 2011 Citations/Summonses	433	471	580	671									539

**KPI: Customer Commendation Rate (per million passengers) / Target =  $\geq 10.6$  per million passengers**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Avg. Thru May
CY 2010	10.3	9.7	10.7	13.4	11.7	11.0	11.3	9.0	8.5	10.2	10.0	11.1	11.2
CY 2011	13.8	12.9	13.2	10.6									12.7

**KPI: Customer Complaint Rate (per million passengers) / Target =  $\leq 135$  complaints per million passengers**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Avg. Thru May
CY 2010	119	162	140	124	136	147	150	138	129	125	128	125	136
CY 2011	130	148	128	113	114								127

**Vital Signs Report**  
**Performance Data (cont.)**

**July 2011**

**Metrobus Ridership (millions of unlinked trips)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Thru May
<b>CY 2010</b>	9.6	7.1	11.0	10.8	10.3	10.5	10.4	10.6	10.5	10.6	10.1	9.0	9.8
<b>CY 2011</b>	9.3	9.7	11.5	10.8	10.9								10.4

**Metrorail Ridership (millions of linked trips)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Thru May
<b>CY 2010</b>	16.5	13.4	20.3	20.8	18.3	20.3	20.2	18.5	17.8	18.9	16.6	15.7	17.9
<b>CY 2011</b>	16.0	16.0	19.7	19.3	18.4								17.9

**MetroAccess Ridership (100,000s of completed trips)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Thru May
<b>CY 2010</b>	1.91	1.36	2.32	2.22	2.08	2.15	2.03	2.06	2.03	2.08	1.96	1.95	1.98
<b>CY 2011</b>	1.82	1.90	2.05	1.87	1.82								1.89

Note: Targets are re-evaluated annually and based on changing operating conditions and performance.