Performance Management

TransitStat

Over the past two decades, many organizations have embraced the use of data, statistics, and metrics as their means to exceed customer expectations, as well as achieve operational excellence. Six Sigma (6σ), Total Quality Management (TQM), and the Balanced Scorecard are popular examples of proven management techniques embraced by the private sector. In the government sector, Performance Stat programs have proven to be effective tools.

Performance Stat programs are structured continuous management events, which entail the frequent gathering, reviewing, and analyzing of day-to-day government performance. CompStat and CitiStat are credited as the first government STAT programs. Created by Commissioner William Bratton and Deputy Commissioner Jack Maple, CompStat's goals were to infuse timely information and accountability into the NYPD's management and culture. The program used computer mapping and statistical data to capture crime trends at their highest levels, the number of officers on duty, and where those officers were located when the crimes were occurring. By placing officers at the times and locations of the high crime areas, this technique was credited with affecting the dramatic reduction in New York City's crime levels.

Through the leadership of Mayor Martin O'Malley, the City of Baltimore, Maryland developed CitiStat in 2000. Using the same tenets of CompStat, CitiStat tracked performance in waste collection, road repairs, housing enforcement, etc.. Baltimore holds bi-weekly meetings lead by the mayor's executive team to review performance, understand trends, and make necessary adjustments to ensure that immediate and long-term goals are met. Since then, other cities and states have adopted Performance Stat programs, including Maryland (StateStat), Atlanta (ATL Stat), San Francisco (SF Stat), Washington State (Office of Financial Management – OFM), and Louisville, Kentucky (LouieStat). These governments have reported immediate success with their Stat programs.

In December 2007, GCRTA adapted the Performance Stat model to the transit environment and titled our program TransitStat, characterized with bi-weekly performance monitoring forums. It is a critical link to achieving high-level performance directed towards the Authority's three most critical objectives:

1. **Maintain Financial Health**
2. **Improve Customer Service**
3. **Enhance the Image of RTA**

The original TransitStat leadership team (panel) included:
- Chief Executive Officer (CEO)
- Deputy General Manager (DGM) – Operations
- DGM – Human Resources
- Director of Procurement
- Executive Director – Internal Audit
- Executive Director – Office of Management & Budget (OMB)

In 2009, Administrative TransitStat was incorporated to the already running TransitStat program. Administrative TransitStat focuses on the performance monitoring of all Administrative Departments.

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The Administrative TransitStat leadership team includes:
- TransitStat Panel (above)
- DGM – Finance & Administration
- DGM – Engineering & Project Development
- DGM – Legal Affairs
- Director of Marketing & Communications

The meetings are coordinated and directed by OMB. Other members with information pertaining to the topic of interest are also invited. The forum ensures that the people needed to address issues are at the table, therefore expediting action and eliminating excuses.

Performance Stat programs center on four principles:

1. **Provide timely, accurate, and relevant data.**
   Begin with available data; data that is already being collected for other administrative purposes. What data is needed to determine whether the agency is or is not improving?

2. **Analyze data and develop effective solutions that respond to emerging issues.**
   A performance program requires performance data. Use the data to discuss, examine, and analyze the agency's recent performance.

3. **Deploy resources quickly to address issues.**
   The staff assigned to the Panel can affect change, foster improvement in performance, and make critical decisions.

4. **Relentless follow-up and assessment.**
   Continuous follow-up on assignments and commitments must be done in order to improve agency operations.

In 2008, RTA implemented TransitStat in the Authority's Operations Division and identified four target areas: overtime (non-operator), inventory management, service reliability, and District scorecards. In 2009, Administrative TransitStat was added. Both programs focused on the FAST approach (a strategic development process):

- **F – Focus** - What will the Authority look like in 1-10 years?

- **A – Accelerate** - Identify 2-3 operating initiatives which would accelerate the movement toward the preferred future.

- **S – Strengthen** - What major organizational objectives might prevent the Authority from moving forward to achieve the goals?

- **T – Tie it all together** - Integrate the preceding activities and refine them.

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Hot Target Areas for both the Operations and Administrative Stat programs were identified in 2009, 2010, and 2011:

Operations TransitStat	Administrative TransitStat
1. Paratransit Part-Time Operators 2. Inventory EOQ – Top 50 FAD items 3. Utilities/Energy Management & Conservation 4. Brand Management 5. Training Initiatives 6. Shift Changes 7. Vehicle Reliability 8. Fare Evasion 9. District/Department Scorecards 10. On-Time Performance 11. MIDAS Upgrade 12. CITME Upgrade 13. Heavy Rail Vehicle (HRV) Overhaul 14. Light Rail Vehicle (LRV) Doors 15. Vehicle/Facility Cleaning 16. Bus Stop Maintenance 17. Maintenance PMs	1. Capital Plan Execution 2. Stimulus Package Execution 3. Customer Service Performance 4. Revenue/Vaulting Procedures 5. Ridership Reporting 6. Purchasing Card Enhancements 7. Employee Injuries/Return to Work Program 8. Collision Reduction 9. Strategic Healthcare Plan 10. Electricity Audit 11. Healthcare Audit 12. Energy Price Risk Management 13. Sustainability 14. Safety Enhancements

In 2011, fifteen employees went through the Six Sigma (6σ) Green Belt training and graduated in December of the same year. The graduates of this program will lead several of the TransitStat projects and assist other employees in gathering, analyzing, and interpreting data and creating improvement plans based on that data. One employee in the Fleet Management District has her Black Belt.

An RTA Public Transit Management Academy was also created, in coordination with the Cleveland State University (CSU) Department of Management Development in the Levin College of Urban Affairs. The program consists of three cohorts, the first ran from January 2012 through December 2012; the second from May 2012 through June 2013; and the third from June 2012 through July 2013. Each cohort ran approximately 12 months long and reviewed all aspects of management, including labor negotiation, crisis management, and financial management. Within each cohort, the members divided into groups. Each group focused on a problem situation, investigated the problem, performed a root-cause analysis, and identified possible solutions. At the end of the PTMA cohort program, each group presented their problem, analysis, possible solutions, the group's solution, and ending results.

For 2013 and 2014, the focus for the Authority is providing service that is Clean, On-Time, and Safe. The TransitStat meetings are centered on these objectives throughout the year.
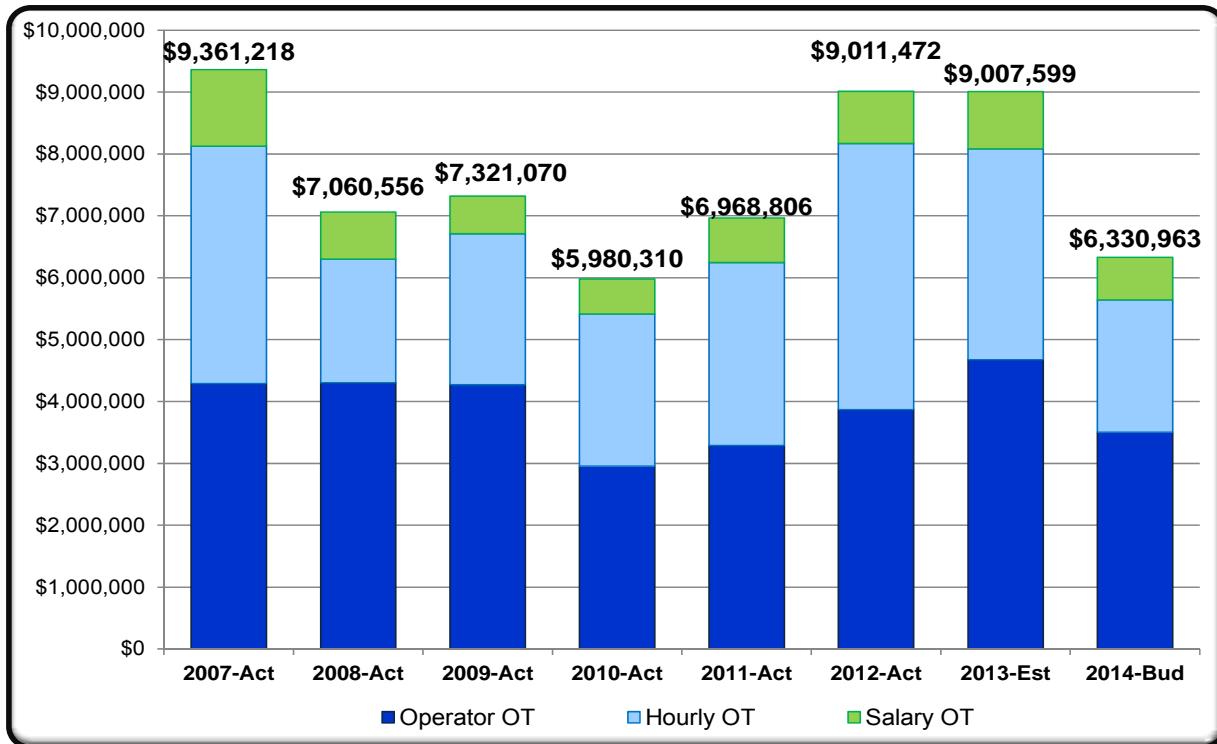
CLEAN	ON-TIME	SAFE
Bus Detailing & Cleaning Products Train Cleaning Improvement Mobile Clean Teams HealthLine Exterior HRV Interior & Exterior	On-Time Performance & Scheduling Enhancements Vehicle Reliability & Mechanic Shift Change Bus Stops UltraMain Revenue Collection Monthly Ridership Reporting	Fare Enforcement Crime & Security Strategies Customer Complaints & Commendations Farebox Defects Rail Safety Asset State of Good Repair

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Specific meetings, outside of the TransitStat arena, or through task forces, will monitor the remainder of the presentations from 2013 and before. In May and September, these groups will update the TransitStat Panel on the progress, challenges, and outcomes of the projects.
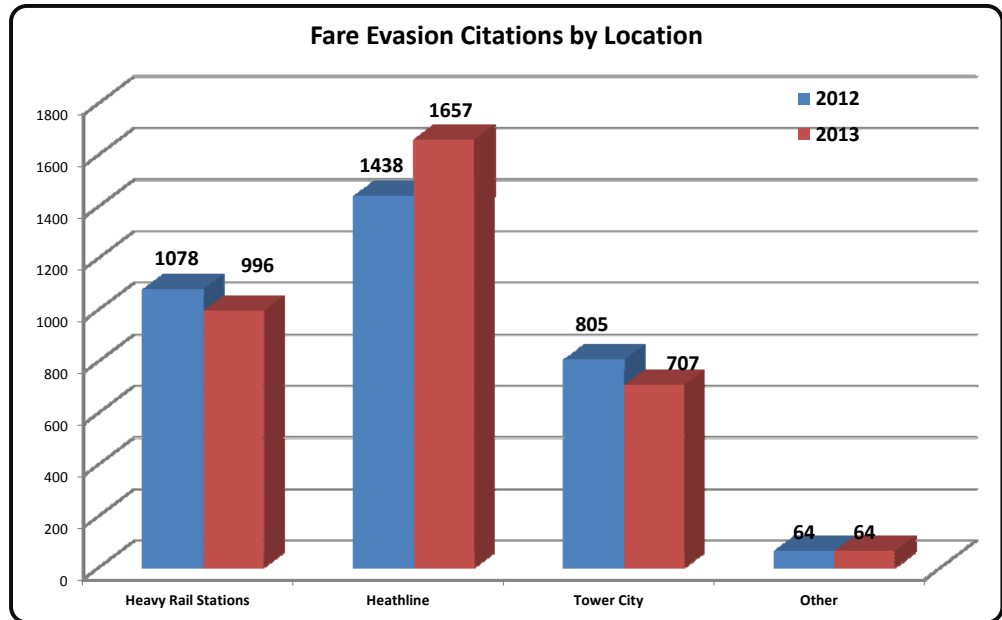
Successes

In non-operator overtime, the Authority saved $2.3 million in 2008, compared to 2007. This was achieved through detailed analysis of overtime cost drivers, developing more effective ways to dispense overtime, effectively managing and monitoring the times to complete tasks, and maximizing use of the UltraMain maintenance and material system. Overtime for 2009 through 2011 were maintained at the new levels. Hourly overtime increased in 2012 and 2013 due to maintenance work along the rail lines, yet continued to be monitored throughout each of the years. As these projects are completed, overtime for 2014 is expected to return to prior year levels.
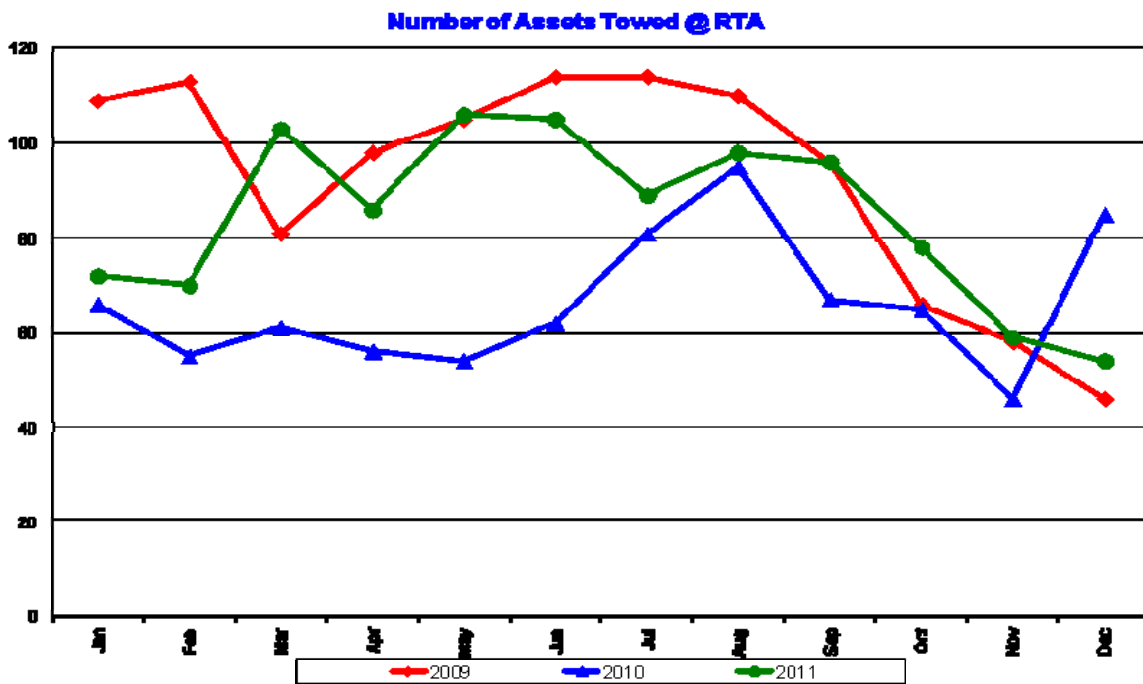
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The Transit Police Department continues to review the fare evasion on the Red Line and the HealthLine based on citations given. The number of citations are presented by month, time of day, and location and compared to the prior year, as seen in the graph below.

In 2013, Transit Police received an increase of theft reports automobiles, smart phones and tablets, and bicycles. Through data-driven analysis, they were able to pinpoint the times of the thefts, catch the crooks, return the property to the owners and decrease the number of these crimes and providing a safer transit system for the customers.

Fare Evasion Citations by Location

Legend: 2012, 2013

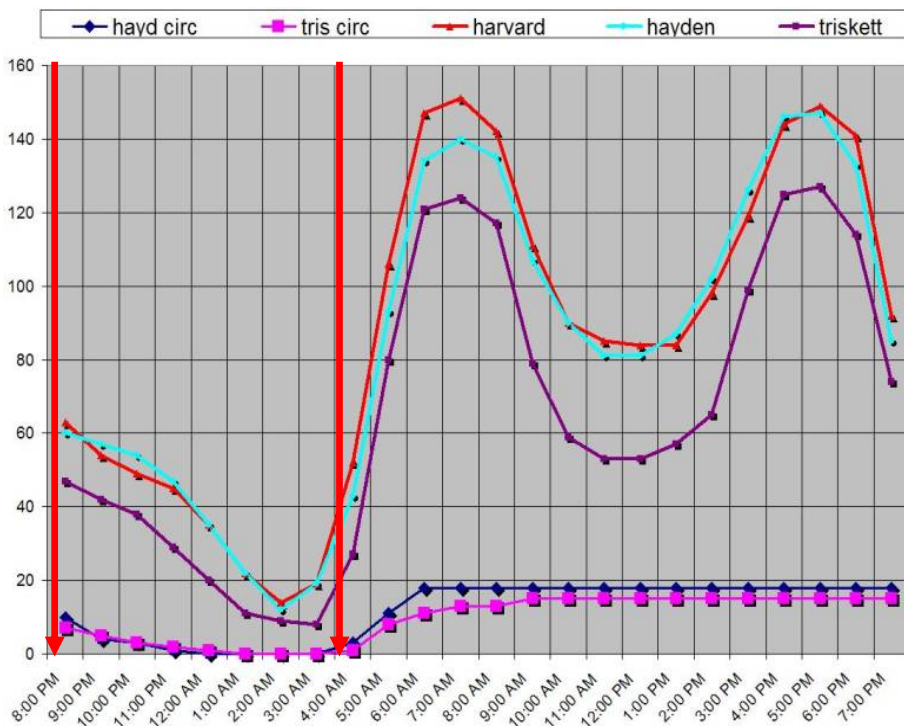| Location	2012	2013
Heavy Rail Stations	1078	996
Heathline	1438	1657
Tower City	805	707
Other	64	64

Vehicle Reliability was added to the TransitStat program in July 2008. The Central Bus Maintenance (CBM) District monitors the number, cost, and reasons for revenue vehicles to be towed. Since the onset of this program, towing charges have reduced over 31% each year. Towing charges for 2010 were reduced nearly 56%, compared to the total charges for 2008. In 2011, towing charges were reduced 11.4%, over $27,700, from 2009 levels and –43.2% from 2008 levels.

Number of Assets Towed @ RTA

Legend: 2009, 2010, 2011

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Starting in July 2008, the Maintenance Planners conducted a comprehensive analysis on maintenance, productivity, and performance of the bus equipment maintenance sections. They compared the labor scheduled with the availability of the buses. They also analyzed failure modes, labor productivity, shift productivity, maintenance effectiveness, and reevaluated the work processes and shift schedules. What they found was that most of the bus maintainers and supervisors were scheduled during the first shift however, most of the buses were available during the third shift.

The graph below displays the number of buses per District that are on the road at a given time. Between 8:00pm and 4:00am is the time when the least number of buses are in revenue service and the greatest number of buses are in the garages. This time span is when the most mechanics are needed to schedule, repair, and maintain the vehicles.
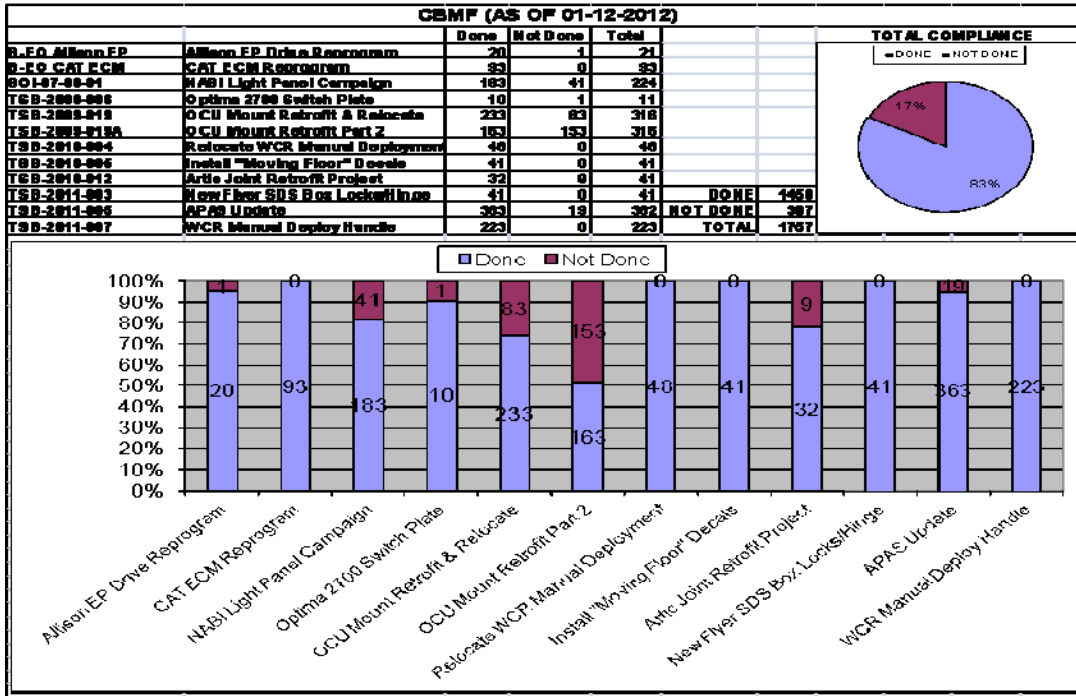

In order to increase wrench time and optimize the performance standards, the shift times need to be changed with most of the bus maintainers and supervisors working the third shift (7:30pm to 4:00am). This ensures that the mechanics and supervisors who maintain the buses are working at the Districts when the buses are available. These new shifts were implemented mid to late 2009 among all the bus districts.

Starting in 2013, these two projects were combined. The three shifts were defined and the vehicle maintenance employees were divided among the three shifts, with the majority of the workers and supervisors on nights and weekends. Measurements and goals for Miles Between Service Interruptions (MBSI), absenteeism, and Preventive Maintenance (PM) compliance were communicated, explained, and being monitored. This combined project will continue through 2014 with emphasis upon solutions and strategies for implementation.

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Safety continues to be emphasized throughout the Authority. CBM (Central Bus Maintenance) has been monitoring the progress of their safety campaigns by District. The chart below displays one of the Safety Campaigns for Hayden District.

CBMF (AS OF 01-12-2012)

		Done	Not Done	Total			
R-EG Allison EP	Allison EP Drive Reprogram	20	1	21			
D-EG CAT ECM	CAT ECM Reprogram	93	0	93			
901-07-98-01	NABI Light Panel Campaign	183	41	224			
TSB-2008-006	Optima 2700 Switch Plate	10	1	11			
TSB-2008-019	OCU Mount Retrofit & Relocate	233	83	316			
TSB-2008-019A	OCU Mount Retrofit Part 2	153	153	315			
TSB-2010-004	Relocate WCR Manual Deployment	40	0	40			
TSB-2010-006	Install "Moving Floor" Decals	41	0	41			
TSB-2010-012	Artic Joint Retrofit Project	32	9	41			
TSB-2011-003	New Flyer SDS Box Locks/Hinge	41	0	41	DONE	1450	
TSB-2011-005	APAS Update	363	19	382	NOT DONE	307	
TSB-2011-007	WCR Manual Deploy Handle	223	0	223	TOTAL	1757	

The Safety Department has developed a Stat-format in their Executive Safety Committee (ESC) meetings. They updated TransitStat on one of their safety campaigns, Left Hand Turn Safety. The Safety Department analyzed the number of left-hand turn accidents, the procedures for making a left-hand turn, and Operator's knowledge of these procedures.

They concluded that 98% of Operators scanned the road curb to curb before making a left-hand turn; 99% of operators correctly identified the number of customers on the right-hand corner; 85% of Operators correctly identified the number of customers on the left-hand corner; and 94% of Operators waited 2 seconds before making the left-hand turn.

The Safety Department and Training & Employee Development Department, with assistance from other Operations Departments, created a training program for left-hand turns. CBM installed safety alerts (aka 'talking buses') on all the buses, warning the public that a bus is turning.

Search and Count Pedestrians... the Street Corner and in the Crosswalk

Approaching the Crosswalk When Making a Left Hand Turn

Scan Early and Scan Often While Turning
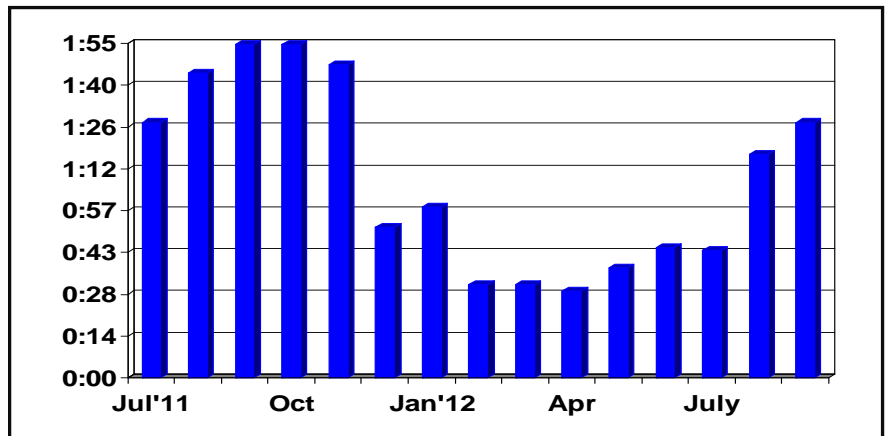
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Other Safety Initiatives that were implemented in 2011 include a non-punitive hazard reporting policy. This policy states that every employee is responsible for reporting any information that may affect the integrity of the Authority. The Authority, in turn, will not take any disciplinary action against any employee who discloses a hazard, incident, or occurrence involving safety. Since the implementation of the Non-Punitive Job Hazard Policy, several safety issues have been reported and resolved quickly.

In December 2011, the Safety and Training and Employee Development Departments developed two Root Cause Analysis Trainings. The first was a two-day overview and the second involved more in-depth analysis, which lasted five days. These trainings were open to all employees and focused on data gathering, job hazard analysis, and accident and injury investigations and analysis. In January 2012, two additional training courses will be conducted, the first on Safety Leadership and the second on Supervisory and Management Safety Accountability.

Safety continues to be addressed at TransitStat in 2014 as two new projects are added to the SAFE curriculum: Rail Safety and Asset Management/State of Good Repair.

The Telephone Information Center (TIC) is a section within the Marketing and Communications Department. Since 2008, the Telephone Information Center has been monitoring their performance. They have significantly decreased their Average Speed of Answer from a high of 5 minutes in 2008 to 1:30 minutes average in 2011, with three months, March, April, and December, which came in under one minute. Their goal was to answer every call within 1:30 minutes and they have

Average Speed of Answer

consistently met their goal. As the Average Speed of Answer continues to stay within goal, the number of lost calls continues to decline, therefore, increasing the number of customers helped. This project has "graduated" from the TransitStat forum but is continually being monitored by the Department.
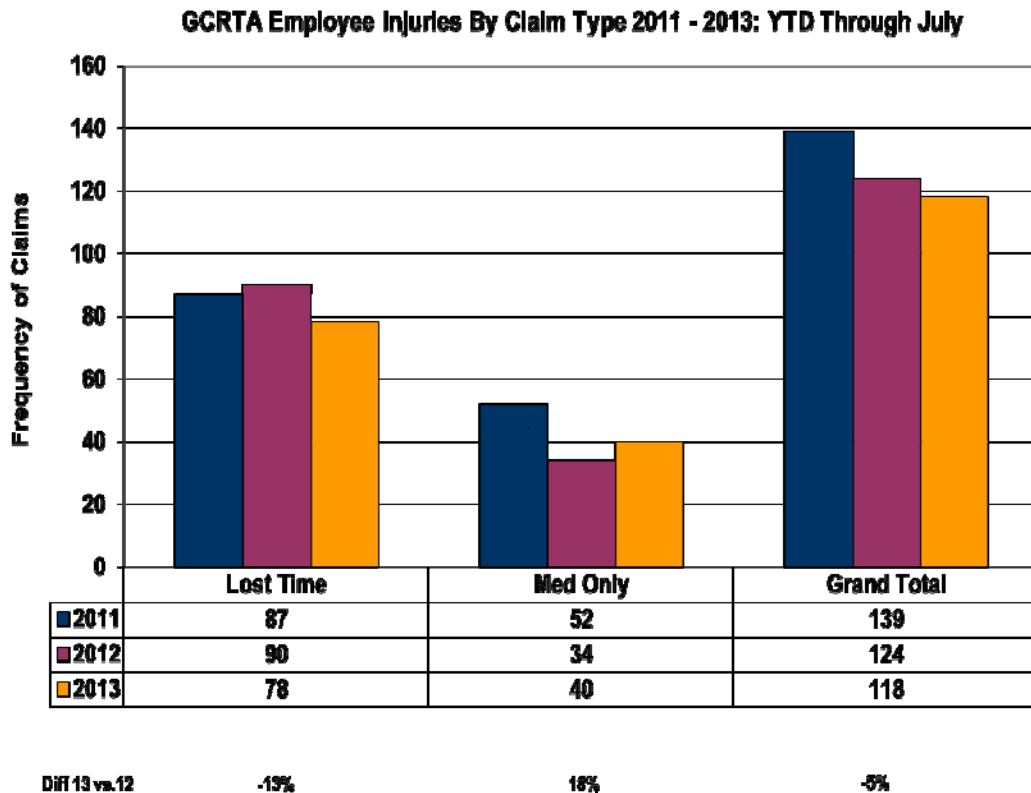
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Risk Management has been monitoring the number of On-the-Job Injury (OJI) claims submitted each month, by the reason and type of claims. GCRTA encourages a stay-at-work culture, which has helped to decrease the lost time and medical only claims. Risk Management created a Transitional Work Program that helps employees to return to work sooner by providing opportunities for work outside of the employee's normal work capacity and decreasing lost work time.

GCRTA Employee Injuries By Claim Type 2011 - 2013: YTD Through July

	Lost Time	Med Only	Grand Total
2011	87	52	139
2012	90	34	124
2013	78	40	118
Diff 13 vs.12	-13%	18%	-5%

In 2013, two projects in the CLEAN area were Mobile Clean Teams (MCT) and Bus Detailing Products. These two projects worked hand-in-hand throughout the year. Customers were complaining about riding on filthy buses, both inside and outside. To help with the fight against filthy buses, Mobile Clean Teams were established to work at the busiest bus stations and Park-N-Ride locations and clean the inside of the buses. A chart of this work is shown on page 10.

The Bus Detailing project researched the different types of cleaning products, solvents, and machines available. This team worked with the Hostlers to compare the usefulness of these products and which types worked best with the least amount of time and energy needed. An expert in the field was contracted to help with creating standard operating procedures for all of the Districts. These products, solvents, and machines were then distributed to the Mobile Clean Teams and the District Hostlers to ensure consistency throughout the Authority.

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Mobile Clean Teams

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FT												
Total Buses Cleaned				330	694	703	876	967	620	691		
AM/PM Clean %				30/70	29/71	26/74	27/73	28/72	27/73	20/80		
Est. Clean Time (Pos)				<7 mins	<8 mins	<8 mins	8 mins	7 mins	15 mins	12 mins		
Avg. Cleans/Day				33	41	44	44	44	36	30		
Avg. Cleans/Wk				132	151	220	231	220	194	150		
AM PT												
Total Buses Cleaned				323	537	495	574	627	499	455		
AM/PM Clean %				25/75	35/65	36/64	36/64	38/62	38/62	51/49		
Est. Clean Time (Pos)				<9 mins	<9 mins	9 mins	10 mins	10 mins	8 mins	8 mins		
Avg. Cleans/Day				25	24	25	27	30	25	20		
Avg. Cleans/Wk				129	122	124	137	149	124	99		
PM PT												
Total Buses Cleaned									110	469		
AM/PM Clean %									0/100	0/100		
Est. Clean Time (Pos)									8 mins	7 mins		
Avg. Cleans/Day									18	20		
Avg. Cleans/Wk									92	102		

Due to high costs of diesel fuel in 2008, GCRTA positioned itself to mitigate the risk of the volatility through an Energy Price Risk Management Program. This program enabled GCRTA to reduce its diesel fuel costs from $17.4M, in 2009, to $10.4M, in 2011. Additional information about this program is on page 11.

TransitStat Moving Forward

In 2014, TransitStat will continue performance monitoring of the Administrative and Operations divisions. The CEO will continue the three 2013 HOT topics for the new year: Clean, On-Time, and Safe.

The employees who graduated the Green-Belt Six Sigma class will be leading the projects and helping others analyze data and problems. Through an initiative from the State of Ohio, CSU will be hosting several government efficiency programs which teach some of the Lean Six Sigma process-improvement tools and strategies. GCRTA will send several employees to these trainings in 2014. These employees, then, will assist with TransitStat projects and other projects throughout the Authority.

The Stat programs will be used to focus on critical initiatives that can better position GCRTA to address impending economic threats. TransitStat is the scorecard that GCRTA will continue to use to achieve breakthrough performance.

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Energy Price Risk Management

In 2008, RTA experienced record highs in fuel cost as well as extreme volatility. The cost per gallon for diesel fuel ranged from $2.54 to $4.18. As a result of the high costs, our total diesel fuel expense increased by nearly $7.4 million, compared to 2007. This amount was $3.6 million above RTA's 2008 budget. With this as the new reality for fuel, the Authority sought to use tools to ensure better performance in the management of it's fuel costs, which resulted in the creation of an energy price risk management program (Fuel Hedging program).

The Fuel Hedging program's strategy uses a process that:

1. Addresses market opportunities and market risk.
2. Holds the risk of exceeding budget at or below an acceptable level.
3. Uses historical pricing ranges as pricing parameters.
4. Is continuous.
5. Uses a dollar cost averaging tool.
6. Mitigates transaction-timing risk by making numerous smaller volume transactions (i.e. 42,000 gallons per transaction).

The strategy was accomplished with an Advisor, who is responsible for daily execution of the program, including the execution of transactions, generating reports on the program's status and results, and monitoring the program and energy markets. The hedging instruments include purchases of home heating oil futures (the diesel fuel correlate) traded on the Exchange, as well as, purchases of derivatives with financial institutions that are certified by the International Swaps and Derivative's Association (ISDA). RTA's policy dictates that the maximum hedge ration will not be more than 90 percent of the forecasted consumption and that hedges can only extend 36 months in advance.

The Authority began positioning itself in the first quarter of 2009. By April, the Authority had nearly 3.9 million gallons of the 5 million gallon usage, purchased for 2010. The performance objective was to establish a 2010 fuel cost at or below $2.20 per gallon. Regular reports and tracking are included in the 2009 through 2011 budget execution. The overall objective of the program is to decrease energy volatility, increase the certainty of future fuel costs, stabilize and control the budget and finally to lower overall long-term energy costs.

In 2008, fuel costs were $19.4 million. Using a firm fixed price contract for 2009, those costs were reduced to $17.4 million. For 2010, the budgeted cost for fuel was $9.39 million. Factoring in the shares of home heating oil that was sold, net cost of diesel fuel was $8.0 million.

Total diesel fuel costs in 2011 were budgeted at $11.0 million and ended the year at $9.9 million. This meets our objective of stabilizing budgeted costs and then goes on to significantly reduce overall costs. The fuel costs for 2012 were budgeted at $12.8 million and ended the year at $12.6 million. For 2013, the budget was $13.8 million and the net costs were $14.0 million. All fuel requirements for 2014 and 2015 have been hedged.

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