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How the Metro Transit system of St. Louis leveraged AssetWorks FleetFocus and became the Federal Transit Administration's model for best practices in the U.S. transit industry

St. Louis, Missouri is the famed "gateway to the west" – a name that has stuck since the pioneer days when folks moved west through St. Louis via the Missouri River on the first leg of the Oregon Trail. A pioneering spirit still lingers in this region, but now the trails are blazed in medicine, biotech, and other sciences. The area is also an innovative leader when it comes to public transportation.

The Metro Transit system of St. Louis City, St. Louis County and St. Clair County owns and operates the St. Louis metropolitan region's public transportation system including MetroLink (the area's light rail system), MetroBus (bus fixed route), and Metro Call-A-Ride (paratransit vans). Metro also owns and operates the Gateway Arch Transportation System, Ticketing and Reservation Center, the Arch Parking Garage, the Gateway Arch Riverboats and St. Louis Downtown Airport in Cahokia, Illinois. Washington University students, Cardinal baseball fans, commuters, casual riders, special needs customers and tourists all use Metro's system at an ever-increasing rate. Metro manages to serve these riders faster – and to more distant locations every year – while preserving historical routes within the core of its system.

How Metro Became a Leader

There was time when Metro faced many maintenance and reliability challenges that effected service. In addition to too many breakdowns, Metro also faced severe reliability problems with its bus engines. That was the turning point when Metro decided to change the purchase of its bus engines. The most critical maintenance elements affected by this change were the efforts required to maintain fleet engines and transmission reliability.

In 2003, Metro adopted AssetWorks FleetFocus to integrate all of the preventative maintenance scheduling, predictive maintenance forecasting, parts data, and other maintenance metrics that the property needed to measure. The FleetFocus user interface is browser-based, providing a system that is easy-to-use, easy-to-deploy and as the most functional fleet application on the market, making it more consistent with Metro's improved maintenance standards. The AssetWorks software provides an intuitive, familiar web-based user interface that Metro's users were very comfortable with right off the bat. "We learned first hand that if the end user is familiar with a browser then the transition to AssetWorks FleetFocus will be easy," confirmed Jill Coffin, VMS Systems Operations Manager of Metro.

The software enabled a major operational change to take place at Metro: A planned maintenance schedule for the bus and van fleet from acquisition to retirement, which hadn't been in place before. This was designed to ensure that the highest level of maintenance dollars were spent at mid-life, which results in the greatest return on maintenance dollars invested. Metro also made another critical change at this time; to schedule parts replacement before a part failure actually occurred. This strict predictive maintenance program and the planned preventive maintenance program were both enabled by the new software. Combined with the use of quality components and parts, the results have delivered very high performance reliability for engines, transmissions and the fleet in general.

At a technical level, the detailed predictive maintenance data made possible by AssetWorks FleetFocus is the key to running a cost-effective maintenance operation. In Metro's case, the older fleet had an engine average life just over 100,000 miles. At its peak, the

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Engine Department rebuilt 120 engines annually to keep the fleet on the street. Significant manpower and parts resources went into that effort. Today, the engine life has grown from 100,000 miles to a combined average of just over 450,000 miles With AssetWorks FleetFocus, the maintenance team is confident that they will in the future retire busses with its original engine based on improved reporting, tracking and alerts. Today, maintenance management budgets only nine engine rebuilds annually for extraordinary circumstances.

The improved fleet condition, original equipment maintenance recommendations, and years of seamless operational effectiveness have enabled Metro to implement predictable component replacement instead of "time of failure" replacement. This enabled Metro to combine some positions and eliminate others in the maintenance department. Better data, analysis and control allowed Metro to change inspection schedules to be more cost effective and efficient. This is why Metro continues to be one of the biggest supporters of AssetWorks FleetFocus.

"Uptime increased by 300%, and our maintenance costs have remained flat since then," said Carl Thiessen, Chief Maintenance Officer at Metro. "Mechanic productivity has also increased because the majority of our work is now planned."

FleetFocus was easy to administer because it is a browser-based application and did not require additional software on specific workstations for shop personnel utilizing the application. The modern component based architecture supported a real-time interface and the sharing of data with other applications interactively. Metro was also implementing an Oracle ERP system, so it was important that the two applications communicated efficiently.

Metro also required that its fleet management system offer the ability to attach files, images and links to a work order, unit record, parts records, etc. Using FleetFocus in this way has been beneficial as computer diagnostic results and other data can be attached specifically to the job line item on a work order. All of Metro's inspections consist of electronic documents that are attached to standard jobs that a mechanic fills out electronically. The mechanic then attaches the inspection form file to the work order; thus eliminating all paper files. Additionally, Metro attaches all title information, licensing information, sale/disposal information, recalls and any other pertinent information to units within the FleetFocus application. This software feature is time saving, secure, and has increased accuracy in management of the fleet.

Delivering Real Results

To date, Metro has used AssetWorks FleetFocus with amazing success. Metro's predictive maintenance system has allowed the transit authority to extend the life of its fleet and predict costs over the life of the vehicle, which translates into lower total cost of ownership, improved reliability, increased utilization and better visibility for budgeting manpower, parts and capital replacement expenditures. Metro performs a minimal amount of breakdown maintenance, which has improved vehicle reliability and maintenance productivity while reducing overall costs. Metro's maintenance team significantly reduced total department costs by approximately four million dollars last year, due to predictive maintenance and the ability to monitor and report data from the FleetFocus system. "Without the tools offered through FleetFocus we would not have successfully accomplished this goal," stated Coffin.

Many buy or rebuild decisions have been made using key FleetFocus data, saving Metro unnecessary costs. The ability to have multiple agencies using one enterprise asset management system has enabled Metro to successfully bring its light rail trains and building facilities all into FleetFocus. Metro's vehicle maintenance group continues to set high standards for equipment reliability and reducing vehicle failures between miles, strongly contributing to their dependable reputation both locally and within the transit industry.

Metro has also implemented the AssetWorks Fuel Management System (FMS), FuelFocus™ at all of its facilities. FuelFocus™ has enabled Metro to monitor, track and control commodity usage by individual, location and specific vehicle, all in real-time. This streamlines information access which is critical to assure adequate commodities are on hand and provide automated report generation to meet Federal Environmental Protection Agency and Missouri Department of Natural Resource requirements.

With AssetWorks FuelFocus™, Metro has been able to use radio frequency input for all revenue vehicle fuel and add oil operations. A solid state transmitting device, connected to the vehicles speed sensor, has eliminated manual keying of information, improved accuracy and eliminated four to six hours per day expended by maintenance to monitor and correct meter readings. Within its first year of use, Metro realized a cost savings of $600,000 due to the AssetWorks FuelFocus™ and the ability to redesign fueling procedures and develop a cost effective fuel and fluids plan.

Metro performs second to none in the nation, and the Federal Transit Administration has requested to use Metro's maintenance plan as best practices for the U.S. transit industry. "What Metro has accomplished is staggering, inspiring, innovative and industry leading," stated James Schnepp, Vice President, AssetWorks. "The way they run their transit system operations is the ultimate in responsible fleet management and it's an honor knowing that FleetFocus is a critical part of that."

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