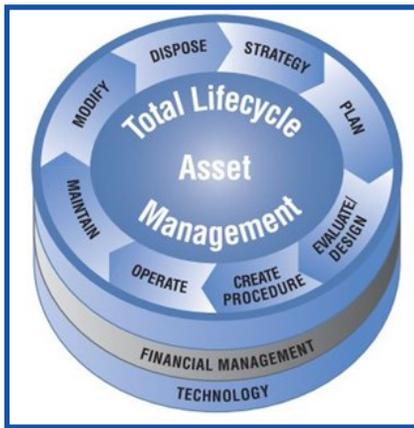


UTILIZING MAXIMO IN THE TRANSPORTATION INDUSTRY FOR MAKING INFORMED ASSET MANAGEMENT BUSINESS DECISIONS

INTRODUCTION

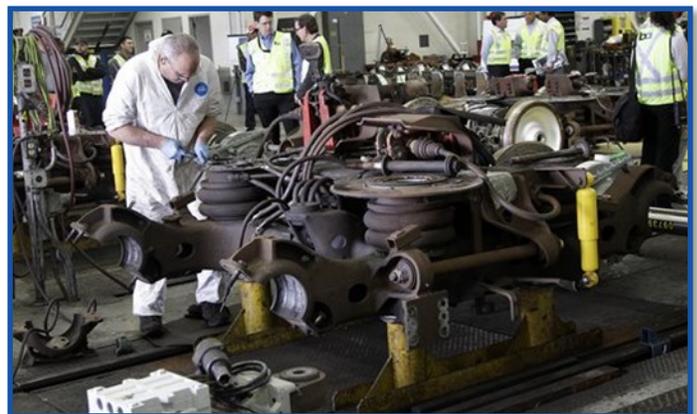
The majority of freight and commuter railroads have struggled for decades in an effort to collect data and maintain rolling stock assets, relying on past practice and workforce recommendations. There was little in terms of reliable information pertaining to how an asset was performing, when it would likely fail and when the optimal time was to perform preventative maintenance.



As agency operating budgets continue to rise due to escalating labor and material costs, it is critical to assess the condition of each asset, the remaining useful life, the risk or consequence for a premature failure and the context in which the asset needs to operate (schedule, service availability and asset utilization). These methodologies, when combined with a strong asset management plan, can provide useful information to determine whether to repair, refurbish or replace via *CARP* (Capital Asset Replacement Program). Informed decisions will ultimately stabilize and reduce overall operating costs to ensure sustained, cost effective delivery of rail services.

The term *Enterprise Asset Management* (EAM) addresses the entire lifecycle management of physical assets in order to maximize return on asset. The premier asset management tool used by utilities, oil & gas, rail & transit, heavy manufacturing, and facilities including hospitals, campuses and hotels is **IBM Maximo**.

JFC & Associates is an IBM Advanced Business Partner, whose focus is providing our clients industry leading Enterprise Asset Management tools to support their mission. With over 100 combined years of EAM experience, the team at **JFC & Associates** has extraordinary knowledge associated with Enterprise Asset Management. In an effort to expand its operations knowledge experience and expertise, **JFC & Associates** recently employed a new team member who has over thirty 30 years' experience in the commuter railroad industry. This new level of expertise combined with an ability to configure Maximo to meet customer needs positions **JFC & Associates** as the preferred consulting firm for any rail industry agency looking to improve their overall operations, address their asset management planning and comply with regulatory requirements.



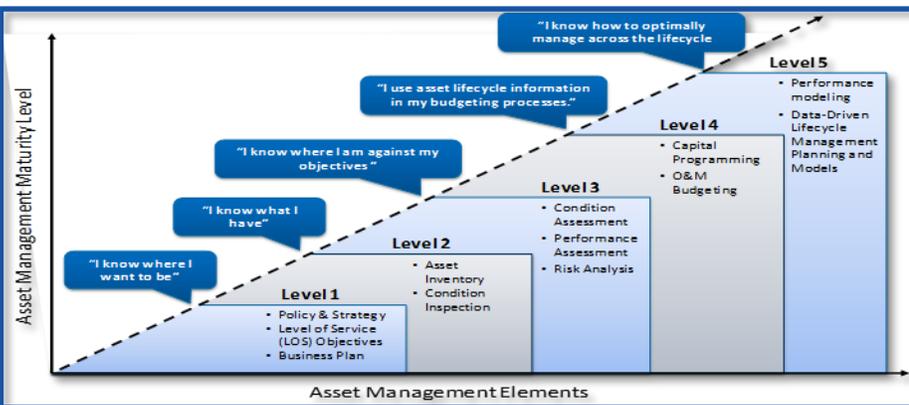
MAXIMO IS A POWERFUL ASSET MANAGEMENT TOOL THAT CAN:



- Improve utilization, reliability and performance.
- Dramatically improve PM/CM ratio metrics.
- Extend an assets' life, subsequently improve ROA (return on assets) and reduce operating costs.
- Reduce labor expenses thru efficiency gains.
- Provide consistent and cost effective predictive maintenance schedules.

INDUSTRY TRENDS AND COST CUTTING AGENDAS

The majority of transportation agencies across the globe are actively pursuing asset management projects. As operating costs escalate, the industry has accepted the criticality of maximizing an asset's useful life while concurrently maintaining high levels of reliability. An important first step for organizations



is to better understand where they are positioned in terms of their organizational maturity as it pertains to asset management.

The commuter and freight rail industry recognizes the need to gain more insight into what all the data that has been collected truly means (see *MAP-21* below). Without a proper Enterprise Asset Management system in place,

most of the data ends up providing little or no value. The goal is to take the data and turn it into actionable information, enabling the organization to make informed decisions.

MAP-21¹

In 2013, the Federal Transit Administration (FTA) estimated that more than 40 percent of buses and 25 percent of rail transit assets were in marginal or poor condition. Estimates from the [National State of Good Repair Assessment](#) identified an \$86 billion backlog in deferred maintenance and replacement needs, a backlog that continues to grow. Accordingly, the *United States Department of Transportation* established new reporting requirements to promote accountability. Through regulation, FTA established a national transit asset management system. The regulation defines "state of good repair;" sets objective standards for measuring the condition of capital assets (including equipment, rolling stock, infrastructure, and facilities); and establishes performance measures for state of good repair, under which all FTA grantees will be required to set targets. **JFC & Associates** is fully prepared to assist any transportation agency with this endeavor and has provided these services to other organizations with *MAP 21* compliance requirements.



1. http://www.fta.dot.gov/documents/MAP-21_Fact_Sheet_-_Transit_Asset_Management.pdf

RECENT MAXIMO IMPLEMENTATION AND UPGRADE PROJECT AT JFC

JFC & Associates recently performed a Maximo upgrade project for a major commuter railroad. The primary objective was to provide the customer with an ability to capture meaningful data and use it to make informed business decisions consistent with corporate objectives.

JFK's AirTrain was using a legacy version of Maximo and was seeking to migrate to version 7.5, which offered many upgrades to maximize data utilization and improve the user experience.

The project was executed in a phased approach with customer options to include future module installations and functionality enhancements.

Some of the mandated expectations stated in the Scope of Work and successfully delivered included asset identification and Store Room (inventory) enhancements, Key Performance Indicators (KPI's) customization and establishing best business practices in collaboration with the customer to ensure meaningful information is present. Additionally, the Operations Department required extensive customization to run the system, including functionality to capture a twenty-four shift report, train delays, train consist management, safety exceptions, fleet availability and work orders and service request creation.

Extensive pre and post implementation training was provided. Mobile Solutions are planned for a subsequent phase of the project. The industry is quickly migrating to mobile solutions as a means to reduce time required for a technician to spend unproductive time in front of a monitor. Data input validation via "pull down menus" is also a major advantage. **JFC & Associates** utilizes *DataSplice* as the primary mechanism for hand held device technology. In the near future, an add-on module, **MAXVS - Visual Scheduler** be installed and utilized to schedule work associated with the high volume of PM and CM work orders created in a given month (approximately 2,500).

CLOSING

The IBM Maximo Asset Management solution is designed to employ industry best practices and contains powerful tools to meet short and long term needs for any commuter or freight railroad. While "out of the box" functionality is designed to meet most industry basic needs, specific business rules or processes can be accommodated via configuration. Maximo is the best of breed transportation sector standard when it comes to Enterprise Asset Management systems and **JFC & Associates** is ready to meet the needs of any commuter railroad through our team of Maximo developers, functional and process experts. The recent addition of a railroad professional with over thirty 30 years' experience to the team is a major attribute, bringing years of rolling stock maintenance experience. His expertise associated with asset management, preventive and corrective maintenance and Life Cycle Maintenance rounds out the company, bringing it to the forefront of qualified consulting firms qualified to meet commuter and freight railroad needs.



ABOUT JFC & Associates

Headquartered in Boston, Massachusetts, JFC & Associates is an Asset Management Services and Solutions company. JFC has provided Enterprise Asset Management (EAM) services for a variety of clients since 2001 and is an accredited IBM Business Partner and IBM Reseller. Our team of highly skilled professionals provide a variety of MAXIMO related services including business process reviews, application support, system upgrades and implementations.

JFC has the knowledge, experience and expertise for all of your organization's EAM Service and support needs. Below are some of our significant highlights:



- Experience gained through years of industry hands on experience (IT, Aviation, Rail, Transportation, Facilities, Marine)
- Combined 150 years of asset management experience
- Combined 200 years of CMMS / technical experience (database, networking, integrations and system architecture)
- Dedicated team of asset management professionals enabling customers to achieve operational efficiencies through implementation of leading industry practices providing visibility, control and automation of your environment
- Variety of industries supported: Transportation, Education, Rail, Power Utilities, Oil & Gas, Data Centers, Real Estate, Global Shipping, Highways (Roads, Bridges and Tunnels), Manufacturing, Government, Defense, Healthcare, Life Sci-

ence and Entertainment.

Our direct expertise in the transportation sector includes currently supporting MAXIMO on the east coast agencies at two of the largest transportation organizations, The Port Authority of New York and New Jersey (PANYNJ) and the New York City Department of Transportation (NYDOT). JFC also implemented MAXIMO for the Steamship Authority in Woods Hole, MA for their fleet of ferries, support facilities, fleet of buses and terminals. Currently, in the State of California, we are engaged with CALTRAN and the Golden Gate Bridge Transportation & Highway District providing managed services. In Canada, we are engaged with the Halifax Stanfield International Airport providing professional services for the Information Technology department.

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