ABSTRACT(S) IN THIS SESSION

Roles That GIS Plays in Transit State of Good Repair – GIS Integrations with Enterprise Asset Management System
Minhua Wang, GIS Enterprise Architect, WMATA, Washington DC

ABSTRACT TEXT: Transit State of Good Repair is FTA’s initiative for maintaining the conditions of nation’s transit infrastructure through the development of transit asset management system. GIS has been playing important roles in transit asset management by providing unified, standardized asset location information for the transit asset management system. This presentation will share our experience at WMATA with the audiences to demonstrate GIS as an integral component for the enterprise asset management system to support transit asset management activities.

The presentation will focus on three major areas:
1. Development of asset location reference model with multiple location reference methods, including hierarchy-based location referencing method, linear referencing method, network-based referencing method, address-based referencing method, and coordinate based referencing method. This location referencing model provides both front-end and back-end interface methods to integrate with the enterprise asset management systems, such as Maximo and Windchill.
2. Development of back-end interface to provide standard location key and asset location services to be integrated in enterprise asset management system.
3. Development of GIS front-end interface with multiple location search methods such as hierarchy location search, linear referencing search, location name search, address search, etc. and integration with asset management system to display asset information.

Together these three components enable GIS to visualize and integrate data from the enterprise asset management systems, thereby making GIS an essential component of the enterprise transit asset management system.

Delaware Department of Transportation (DelDOT) Railroad Program Management System (RPM)
Jason Wheatley, GIS, Geospatial Technologies Manager, Century Engineering, Inc., Hunt Valley, MD

ABSTRACT TEXT: The Delaware Department of Transportation (DelDOT) Railroad Section is responsible for managing over 500 railroad crossings throughout the State. In order to better plan and maintain these railroad crossing assets, construction projects, and handling reported incidents, the DelDOT has invested in geospatial technology solutions targeted at enhancing these processes and improving the services they provide Delaware citizens. Century Engineering Inc. (Century) has worked closely with DelDOT to develop a web-based geospatial solution that integrates several operational workflows to help them better manage crossing assets, plan for maintenance and redesign/reconstruction, and support reporting requirements and overall transparency.

The Railroad Program Management System (RPM) is a suite of applications offering enterprise-level field data collection, that provide improved data visibility, faster decision-making, and more control over key aspects of their operations. RPM is designed primarily to be accessible on any device, through the web, without requiring complex GIS software or expertise. Its database core is built on Fulcrum, a mobile data collection platform providing an open API for solutions integration. The solution provides seamless office to field communication through real-time synchronization and office-initiated dispatching capabilities.

RPM supports DelDOT with everything from asset inventories and inspections, to construction planning tools, to the daily monitoring of active construction projects. Century built the DelDOT RPM product to be a simple, yet powerful solution that is easy to use, and scalable in order to handle future client needs.
ProTrack Plus An Enterprise Project Management Solution
Jose Colon, PMP, CPM, Chief Information Officer, District Department of Transportation, Washington, DC

ABSTRACT TEXT: Relevant, easily accessible data facilitates making substantive decisions for any project. Historically, the District of Columbia Department of Transportation (DDOT) project managers relied on segmented data in many different forms. Data was located on different electronic applications, in various digital file folders, and on handwritten documents. Any collaboration or data entry efforts were time consuming, inefficient, and inconsistent; creating risks to successful, timely project completion. Simply identifying the roles and responsibilities of a project various stakeholders was difficult.

Addressing these inefficiencies, DDOT created a unified solution for stakeholder collaboration on projects, and eliminated redundant data entry, reduced communication gaps by providing a visual GIS based application for project locations: ProTrack+.
ProTrack+ provides project managers with the ability to reduce bottlenecks and stove piping, while promoting transparency and increasing productivity. This comprehensive project management tool centralizes project-related data transactions, (project conception and scope, funding obligation, legal, safety, civil rights, contract award, payment trails, and project close out) as each project moves through each project phase. ProTrack+ is the central point for project-related records management, process authorization, and decision making workflows. The application establishes a unique parent record for every agency project, creating a modern global perspective of project and program management. This one-to-many and many-to-many relationship extends throughout each project lifecycle.

GIS-centric ProTrack+ captures the geographic extent of all DDOT projects (construction, streetscape, maintenance, and operations.) It displays the relationships between every project location and any related conflicts and/or collaboration opportunities. ProTrack+ stores and associates information about a project location (e.g. phase status, associated financial and procurement data, work type, and anticipated project time frame).

This service oriented architecture (SOA) leverages DDOT street level imagery, LiDAR, current ortho photos, and CCTV feeds. ProTrack+ consumes and exchanges information from other DDOT applications (e.g. Transportation Online Permitting System (TOPS) and Cityworks - DDOT work order management system) utilizing DDOT Transportation Integrated Enterprise Solution (TIES) data/feature services (ETL.) Using the geographic location as the common denominator associated with unique parent record.

ProTrack+ is streamlining the agency project delivery model by breaking down disparate silos of project-related information. Project managers can decrease project duration, increase cost sharing by reducing conflicts and adding waiting projects within a project radius, highlight finance and procurement issues, encourage proactive efforts, increase accountability, while reducing bottlenecks, improving project productivity and fostering team synergy. ProTrack+ is DDOT enterprise project management solution.

Multiagency Collaboration Success Stories
Nikola Ivanov, PMP, Deputy Director, CATT Lab, College Park, MD

ABSTRACT TEXT: This session will cover a multi-agency collaborative decision making tool that allows up to 300 people to work together, online, from a mobile device or laptop, to coordinate their response to significant events in real-time, plan for upcoming events, or conduct after-action reviews. The tool, funded by the department of homeland security, does not require any special software or plugins. It is being used actively by many agencies in the I-95 Corridor Coalition to plan for winter weather events, coordinate evacuations, and plan work zone schedules. The system has helped to reduce frustration, confusion, and errors that can affect agency response. It is being used actively by the Federal Office of Personnel Management to determine when to close or evacuate the federal government during major events.

This session will explain how the tool is being used by these agencies, how it can be leveraged by others to improve operations and safety, cover lessons learned, and discuss next steps for future development.