IBM Transportation Management Center

Integrated, proactive transportation network management

Highlights

- Maximize transportation network capacity and efficiency
- Minimize the impact of roadway incidents
- Protect existing and future infrastructure investments

Transportation networks around the world are under pressure with more traffic, aging infrastructure and increased user expectations. In fact, by 2050 the number of passenger vehicles will increase by 250 percent, and freight volumes will explode by a factor of four.[1] When coupled with an estimated infrastructure investment need of USD11 billion by 2030,[2] the challenges facing transportation professionals can seem insurmountable.

Despite these challenges, citizens continue to require reliability, convenience and quality from the transportation network. Fortunately, Intelligent Transportation Systems (ITS) provide transportation professionals with tools to help overcome these challenges and meet citizen expectations. The IBM® Transportation Management Center integrates cutting-edge ITS technologies into a ready-to-deploy solution, helping you to maximize network capacity and efficiency, minimize incident impacts to the network, and protect your existing and future transportation investments.

"The European Commission (EC) estimates that road traffic congestion affects 10 percent of the road network, and costs the EU about 1 percent of its GDP annually."

—Computing, "Europe split over best way forward for traffic systems," June 18, 2009

Maximize transportation network capacity and efficiency

As a transportation professional, your ability to expand the network's physical capacity is limited. Continually increasing demand can outstrip available funding, restricting your ability to add new physical infrastructure. And in urbanized areas, there is a point at which adding physical capacity can detrimentally impact existing infrastructure as well as the area's economic activity.

This creates a challenge. How can you squeeze in additional system capacity without increasing the network's physical and financial footprint? The Transportation Management

Center solution helps you maximize the capacity of your transportation network's existing physical infrastructure. To achieve this, the Transportation Management Center solution:

- Displays a dashboard view of the entire network that allows you to drill down to specific roadway segments and intersections.
- Delivers a coordinated device control framework to enable system-wide active traffic management.
- Provides transit system oversight, including fleet-level metrics along with schedule and stop-specific details.
- Analyzes and predicts traffic flow based on existing transportation data.

Reduce
costs and operational inefficiencies

Up to 10%

☑

Improve
commuter safety and travel experiences

Up to 15%

☑

Accelerate
incident response times

Up to 25%

☑

Provide
more-accurate and timely citizen advisories

Up to 60 minutes earlier

☑

Increase
traffic flow, transit ridership, occupancy and revenue

Up to 25%

☑

Decrease
or defer infrastructure investments

Up to 20%

☑

Figure 1. New traffic management technology offers benefits[3]

Minimize the impact of roadway incidents

When your transportation network is operating at or near capacity, any minor disruption to the traffic flow can have far-reaching impacts. Something as minor as a disabled vehicle can bring peak-hour flows to a screeching halt on the affected route while degrading performance throughout the surrounding network. Preventing and quickly mitigating incidents counters this degradation, keeping traffic moving as smoothly as possible and maximizing network capacity.

The Transportation Management Center solution provides the tools to help you prevent, manage and mitigate these events. By establishing system-wide, real-time monitoring, and supplementing with a proactive management approach, the Transportation Management Center solution helps minimize incident impacts by:

- Automating incident detection and response plan implementation.
- Predicting the outcomes of incident mitigation scenarios using advanced analytics coupled with a traffic control plan optimization engine.
- Disseminating accurate and timely traveler information.

"Having the ability to create actionable insight from the traffic monitoring data gives us an ability to better manage congestion as well as provide citizens with more precise traffic information."

—Thomas Weil, Head of Traffic Management Center, Cologne

Protect existing and future infrastructure investments

As a transportation professional, your current network is the result of substantial infrastructure and organizational investments over many years. So while you must implement ongoing improvements to optimally maintain and improve system operations, effectively utilizing these existing investments is essential.

Just as importantly, responsible stewardship of public resources demands your future investments are protected as well. That requires that future system improvements integrate with current infrastructure—and do so in a vendor-neutral manner. By assuring open integration, your agency can seek the optimal field solution for each particular challenge while retaining operational integrity and flexibility throughout the overall system.

The Transportation Management Center solution provides the ability to leverage existing investments while protecting your agency's future options. It accomplishes this by:

- Creating an open, vendor-neutral transportation management system.
- Serving as the communication hub between data systems and field devices.
- Establishing a single view of truth to allow cross-agency collaboration.

Deployment-ready transportation network management

Traditional ITS capabilities focused on knowing and reacting to the state of the transportation network. New ITS capabilities from IBM focus on anticipating what is likely to happen so you can better predict future network status, optimize operations to maximize system capacity and prevent incidents that can detrimentally impact network flow.

The open architecture of the IBM Transportation Management Center solution provides the foundation for transforming silo-based problem solving into a collaborative, process-driven environment—enabling cross-domain synergies with other modes and agencies. And the "wizard" type interface included within the deployment-ready package speeds customization, education and standard procedures development. The result is a deployment-ready transportation management system that is designed to help maximize the value of your existing infrastructure investments and minimize system disruption and TCO.

Why IBM?

Cities everywhere are reinventing themselves to better integrate across functions and collaborate with new partners to create and nurture the strong, differentiating identities that attract new citizens and businesses. Successful reinvention requires improved transportation management and increased network capacity to enable continued growth.

For more than 100 years, IBM has been designing and integrating systems that solve business problems. This has resulted in one of the world's most powerful analytics portfolios with a range of deployment options including cloud SaaS, on premises as well as shared. When combined with the deep expertise derived from helping thousands of cities deliver real outcomes, it comes as no surprise that Navigant Research ranks IBM as the number-one smarter city supplier.[4]

For more information

To learn more about the IBM Transportation Management Center solution, please contact your IBM representative or IBM Business Partner, or visit: **ibm.com**/smartercities

Additionally, IBM Global Financing can help you acquire the IT solutions that your business needs in the most cost-effective and strategic way possible. We'll partner with credit-qualified clients to customize an IT financing solution to suit your business goals, enable effective cash management, and improve your total cost of ownership. IBM Global Financing is your smartest choice to fund critical IT investments and propel your business forward. For more information, visit: **ibm.com**/financing

[1] OECD. 2012. "Transport Outlook 2012: Seamless Transport for Greener Growth." Organization for Economic Co-operation and Development

[2] OECD. 2011. "Strategic Transport Infrastructure Needs to 2030." Organization for Economic Co-operation and Development.

[3] According to internal IBM review.

[4] Woods, Eric and Gartner, John. 3Q 2013. "Navigant Research Leaderboard Report: Smart City Suppliers." Navigant Research.

Please Recycle

LBS03035-USEN-00