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Smarter Transportation: An Enterprise Approach to Unclog Congested Urban Transportation Networks

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Smarter Transportation

An Enterprise Approach to Unclog Congested Urban
Transportation Networks



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A transformation is occurring: a smarter planet is leading to new savings and efficiency, and new opportunities for progress.

A smarter planet is interconnected, instrumented and intelligent.



INSTRUMENTED

We now have the ability to measure, sense and see the exact condition of everything.



INTERCONNECTED

People, systems and objects can communicate and interact with each other in entirely new ways.



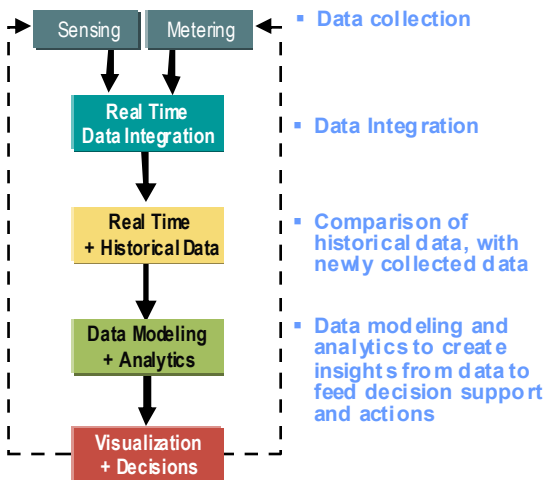
INTELLIGENT

We can respond to changes quickly, accurately and securely, and get better results by predicting and optimizing for future events.



“Smarter” in the 21st century is more than technology for the sake of technology!

Measuring, Monitoring, Modeling and Managing



Smarter Transportation



Smarter Transportation is the lynchpin for economic viability and competitiveness in today's hypercompetitive global economy

Cities can infuse intelligence into their entire transportation system, improving drivers' commutes, giving better information to city planners, increasing public transportation use and business productivity, and raising citizens' quality of life.



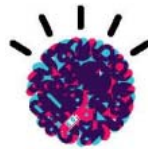
INSTRUMENTED

Smarter transportation ecosystems are able to track traffic from source to destination, monitor conditions in real time and instantly identify faults and inefficiencies across assets and infrastructure.



INTERCONNECTED

Smarter connections provide customers access to continuously updated information as well as travel choices, with instant notification of any irregularities in the transport system.



INTELLIGENT

Advanced analytics on realtime and predictive data enables decisions to be made in optimizing the operations of a transportation system.

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The smarter transportation system is a complex ecosystem—integrated around information, processes and technology from various sources.

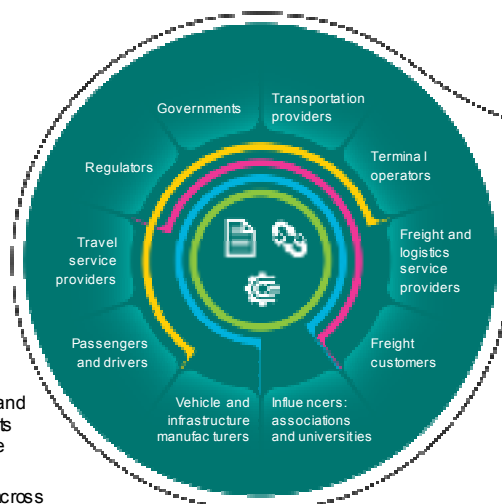
- Information
- Processes
- Technology

■ Passenger and journey information

■ Freight shipment information

■ Location, status and condition of assets and infrastructure

■ Usage patterns across all modes of transportation



Participants aggregate, analyze and act upon data to:

- Predict demand and optimize transportation capacity, assets and infrastructure
- Dramatically improve the end-to-end traveler or customer experience
- Improve operational efficiency while reducing environmental impact
- Help assure safety and security

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The transport ecosystem is confronting four critical global issues, which are creating a specific set of challenges for transport agencies.

| Drivers of change | Industry challenges | Imperatives |
|-----------------------|---|--|
| Population explosion | Capacity and congestion How to meet the growing, changing demand efficiently, consistently and profitably? | Predict demand and optimize transportation assets and infrastructure |
| Urbanization | Empowered customers How to deliver the greatest choice, convenience and value to consumers? | Dramatically improve the end-to-end traveler experience |
| System inefficiencies | Efficient operations How to improve efficiency and reduce costs, and improve service and reduce environmental impact? | Improve operational efficiency while reducing environmental impact |
| Technology | Safety and security How to unobtrusively reduce exposure to security risks and increase the safety of operations? | Ensure safety and security |

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Innovators who execute successfully “Think and Act like an Enterprise”

- Smarter Operations:
 - Extract maximum performance from existing assets before investing in new assets
 - Asset Management Tools, Predictive Maintenance, Optimization tools to help balance Costs and Revenue
- Smarter Public Transportation Agency
 - Performance oriented culture results in metrics-based management
 - Performance Dashboards, Scorecards, Measurement and Reporting of Business and Operational Metrics
- Enhance the Public Transit User Experience
 - Focus on delighting the customer
 - Seamless Mobility through integrated fare management systems
 - “Sticky” Services that encourage modal choice
 - Analytics, Information Dissemination, Communications



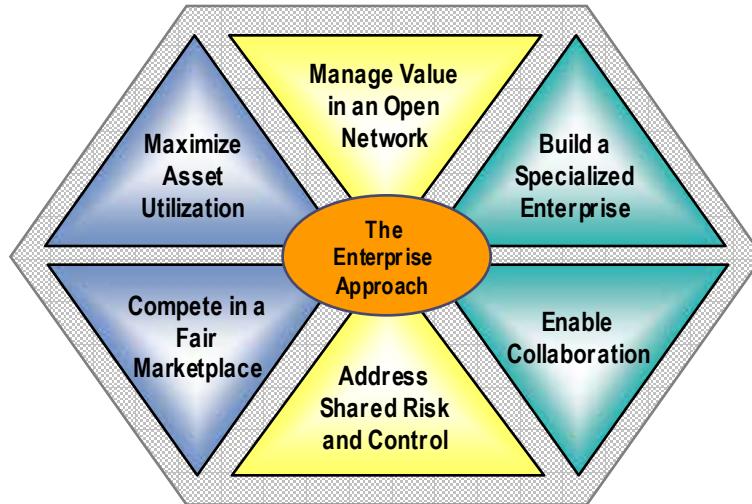
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Six Essential Enterprise Competencies



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Urban Transportation: Leading socio-economic transformation in the 21st century



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