



Intelligent Transportation Systems
U.S. Department of Transportation



Integrated Corridor Management (ICM)

**Stockholm ITS World Congress
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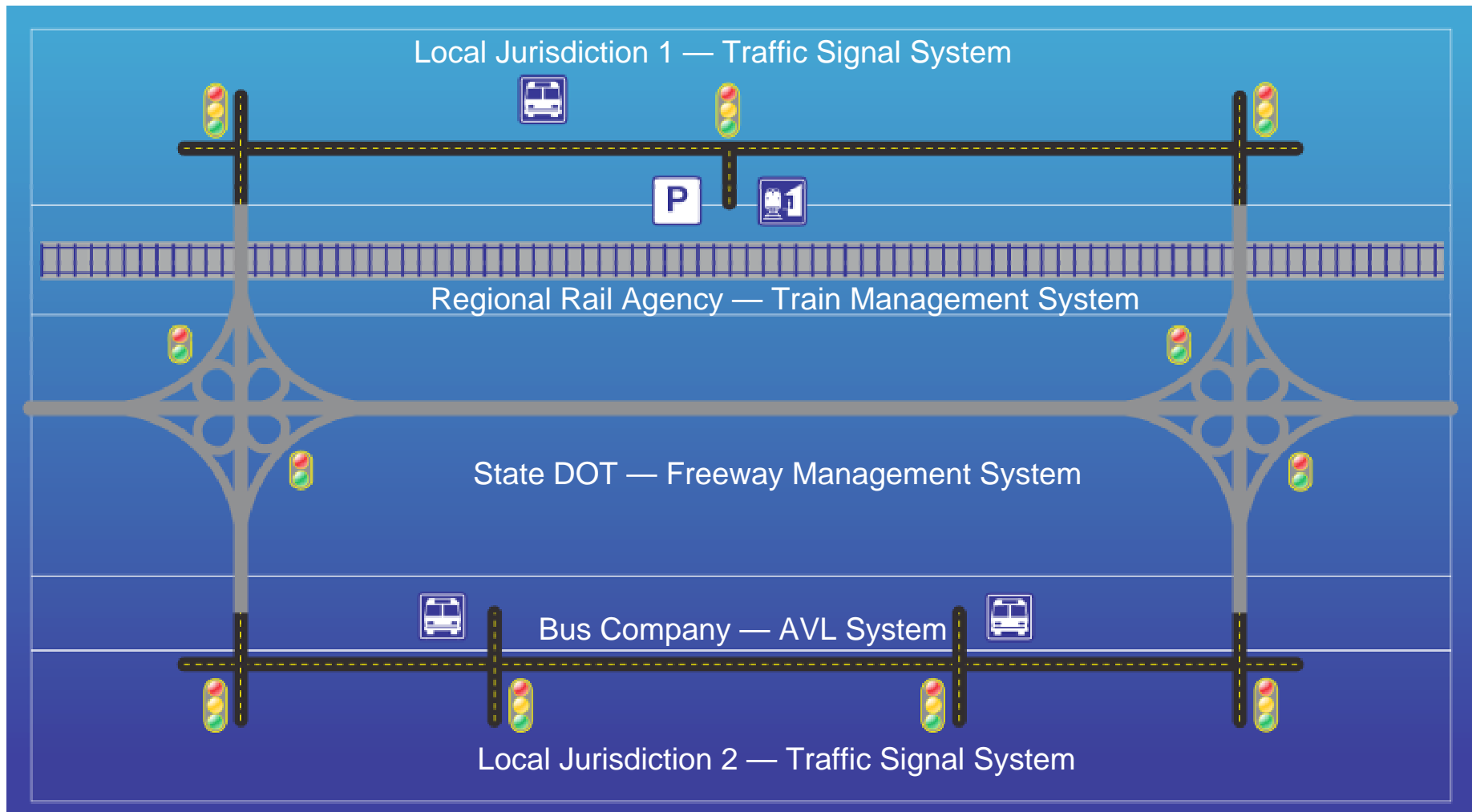
What is ICM?

- ICM is a **promising tool** in the congestion management toolbox that combines advanced technologies and innovative practices.
- ICM is the **proactive, joint, multimodal management of transportation infrastructure** assets along a corridor by transportation system operators and managers.
- ICM seeks to **optimize the use of existing infrastructure assets**, making transportation investments go farther.
- With ICM, **the corridor is managed as a system**—rather than the more traditional approach of managing individual assets.



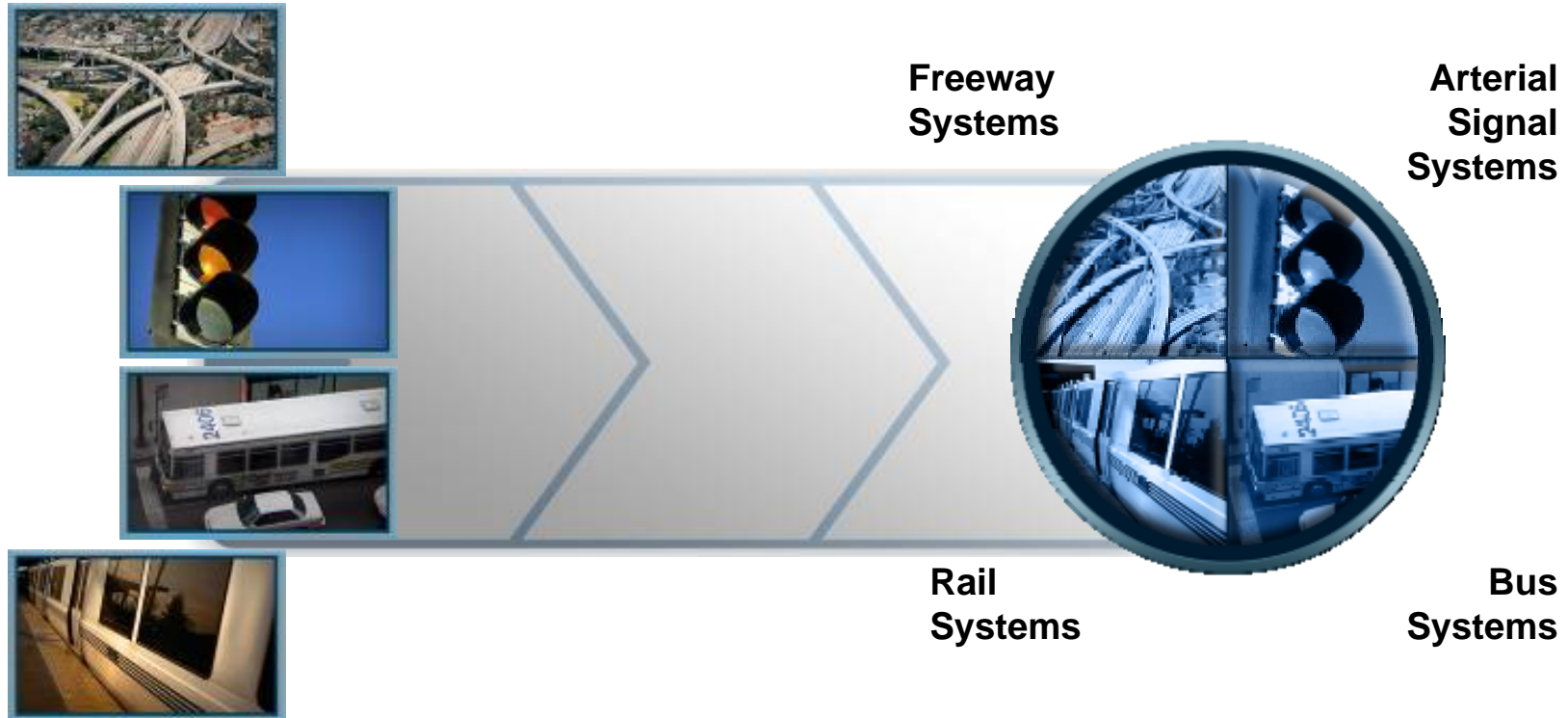


Example ICM Corridor





ICM System



An *ICMS* is the set of procedures, processes, and information systems that support transportation system managers in making coordinated decisions involving the *optimal performance of all transportation networks in a corridor.*



ICMS Context

"ICM is about management of a corridor. Management implies more than monitoring. Management implies planning for, and responding to what is happening."

Operational Objectives – Provide the Tools To:

- Optimize performance at a corridor level
 - Improve utilization of existing infrastructure
 - Reduce travel delays
- Achieve load balancing across the networks
 - Facilitate mode shifts
 - Facilitate route shifts
 - Facilitate departure/arrival shifts
- Respond to events with coordinated multi-agency actions



Eight USDOT ICM Pioneer Sites

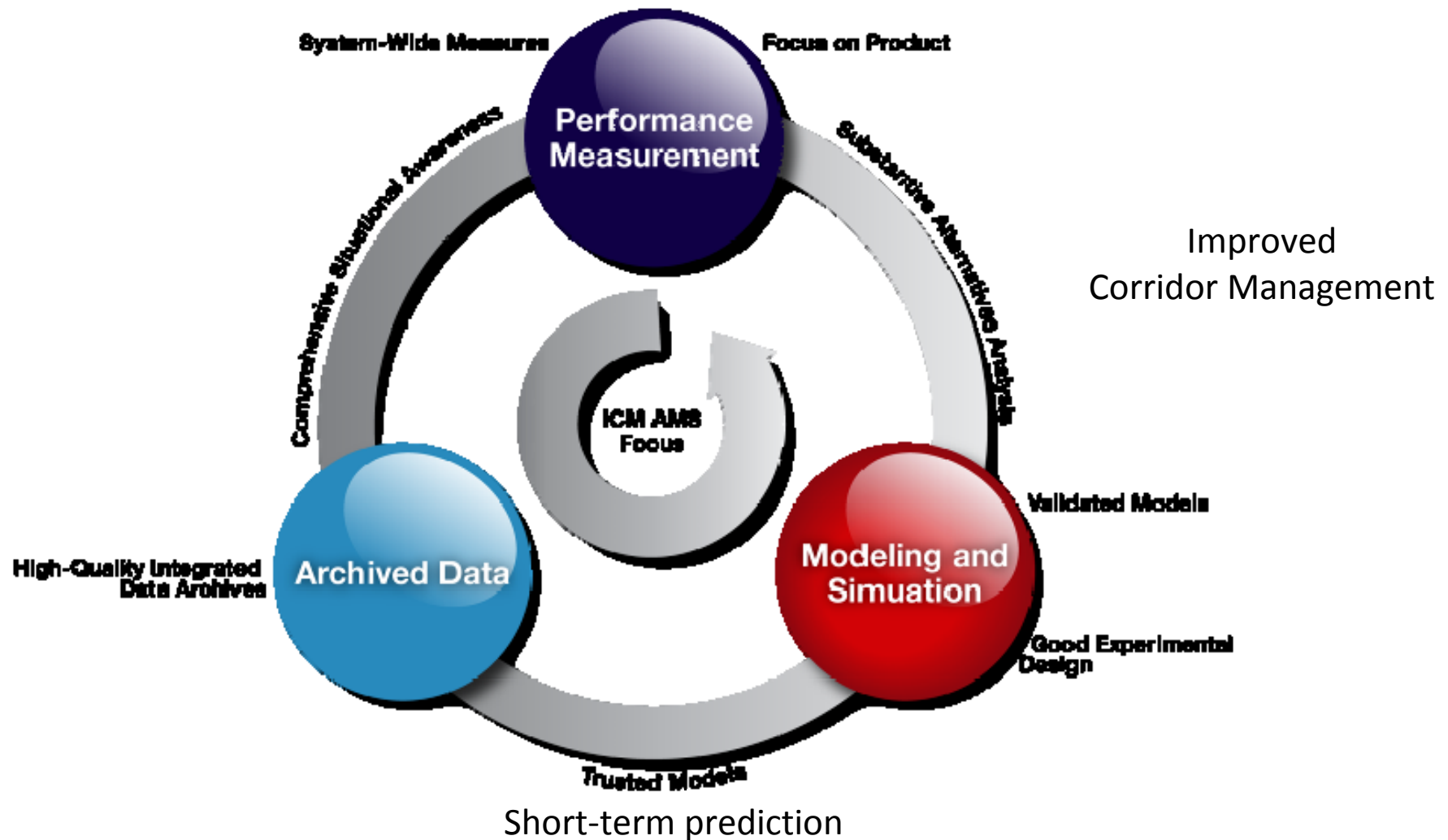
3 Stages for the Pioneer Sites:

- Stage 1 – Concept of Operations, Sample Data, and Requirements
- Stage 2 – Analysis, Modeling, and Simulation
- Stage 3 – Demonstration and Evaluation





ICM AMS Focus: Integrated Performance Measures





Evaluation Objectives

- Measure the impact of ICMS on:
 - Person miles traveled, with the goal of shifting travelers from single occupancy vehicles to shared vehicles and transit
 - Travel time reliability, with the goal of improving the predictability of travel times, especially during peak hours
 - Network impact, with the goal of redistributing traveler demand from peak hours and highways
 - Incident management, with the goal of redirecting demand to accommodate decreased capacity
 - Traveler behavior, with the goal of understanding and measuring specific trip choices
 - Cost/Benefit analysis, with the goal of measuring the ratio of input to outputs
- Assess the quality of decision-support systems
- Assess the role of institutional and management practices



Evaluation Approach and Issues

- Approach: Before and after
 - Objective network and facility performance measures
 - Traveler surveys
 - Network models
- Issues
 - Externalities: employment, gas prices, weather
 - Comparability of data across sites



ICM Knowledge and Technology Transfer Mission

Equip corridor managers and operators across the country to implement and use ICM.



Searchable/Browseable: "ICM Knowledgebase"

- Resources Available Now in the ICM Knowledgebase:
 - Pioneer site CONOPs and Requirements Documents
 - AMS Resources and Findings
 - Technical Integration/Data Gap Technical Resources
 - Lessons-Learned from ICM Pioneer Sites
- KTT Resources Coming Soon:
 - Pioneer Site Webinars and peer exchanges
 - New fact sheets
 - Resource guidance documents

The screenshot shows the ICM Knowledgebase website. At the top, there is a header with the ITS logo and the text "Intelligent Transportation Systems U.S. Department of Transportation". Below the header, there is a search bar labeled "Search Knowledgebase" with a search button. To the left of the search bar, there are navigation links: "Major Initiatives", "ICM Home", "Knowledgebase Home", "FAQs", "What's New", and "Contact Us". Below these links, there is a "Browse Knowledgebase" section with options for "Conference/Event", "Resource Type", "ICM Lifecycle Step or Phase of SE Process", and "View All".

The main content area is titled "Integrated Corridor Management Systems" and "ICM Knowledgebase". It includes a welcome message: "Welcome to the USDOT's Integrated Corridor Management Knowledgebase. The ICM Knowledgebase is intended to be a highly-useable, reliable one-stop search tool and reference that provides transportation professionals the tools, strategies, sample documents and knowledge they need to successfully implement ICM in their corridors. Its multiple search options are designed to help you conveniently find the information you need today." There is also a small image of a woman working at a computer.

Below the welcome message, there is a "Search the ICM Knowledgebase:" section with a "Keywords" option. It says: "Enter the keyword search term of your choice. The Google-powered search engine will deliver all ICM Knowledgebase documents that meet your search criteria:" followed by a search input field and a "Search" button.

There is also a "Browse Knowledgebase:" section with three options: "Conference/Event", "Resource Type", and "ICM Lifecycle Step or Phase of Systems Engineering Process". Each option has a brief description and a "View All" link. For example, "Conference/Event" says: "View all of the documents in the ICM Knowledgebase categorized by type of resource (guidance, sample document or template, presentation, lessons/learned, etc)".



Next Steps

- Complete Analysis, Modeling and Simulation results from Three Pioneer Sites
- Select demonstration sites – October
- Conduct demonstration and evaluation
 - Operational in 18 months
 - Evaluation for 18 months