September 20, 2018

SION NORTHEASTERN ILLINOIS **PRESSWAY SYSTEM**



JACOBS ch2m

FOR THE

Leveraging and optimizing existing transportation infrastructure, enhancing inter-agency coordination and deploying advanced technologies an Integrated Corridor Management (ICM) System improves mobility for all travelers

ICM as a mobility solution recognizes and adapts to

- Challenges of a constantly changing, improving mature transportation network
 - High demand to move both within the corridor (local) and through the corridor (regional)
 - Fiscal and physical constraints on expanding network capacity
 - Multiple facilities managed by multiple stakeholders
- ICM is a strategy-based mobility solution to make travel *smarter* along a corridor

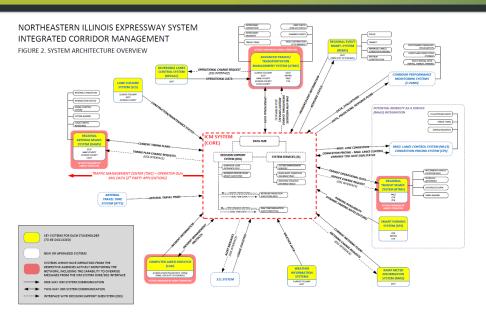
ICM optimizes the regional transportation network and addresses the Counties desire for an integrated network*

- ICM improves a transportation corridor by integrating applicable operational systems (interstates, expressways, arterials, transit, parking facilities, others) and operating them as one integrated system
- Leverages and optimizes existing transportation infrastructure & management systems by facilitating interface and real-time data communication
- Promotes inter-jurisdictional coordination to actively manage regional transportation networks
- Continues the region's legacy as a leader in traffic management
- Enhances the region's livability, economic vitality, and resiliency

* June 12, 2017, Letter from County Boards in the region to Secretary Blankenhorn

An integrated real-time management system allows coordinated operations, maximizes efficiency and enables travelers to make informed decisions

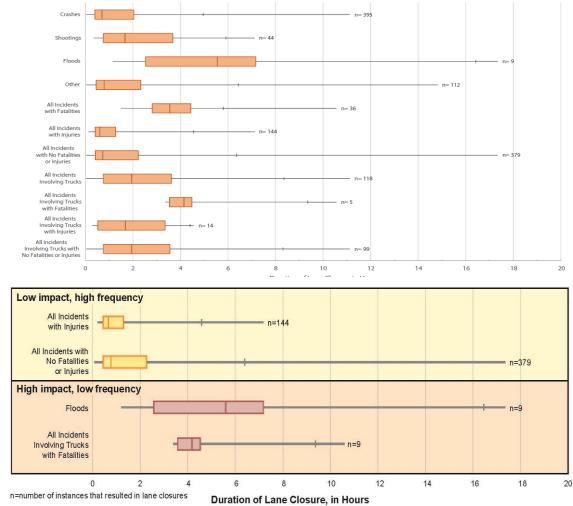
- Operators are able to proactively and collaboratively manage the corridor through systems that "talk" to each other
- Use historical data and monitor changing conditions using real-time information to manage congestion



- Operations are managed using decision support systems, which implement automated response plans, with optional manual overrides
- Travelers use pre-trip and route information to optimize travel decisions and can dynamically shift modes

ICM deployment largely benefits non-recurrent congestion

- Lane closures from incidents significantly affect travel time reliability
- Low Impact High Frequency incidents can get maximum benefits
- Low Frequency High Impact incidents, such as flooding, chemical spills, multi-vehicle collisions can have reduced impact



ICM optimizes existing transportation capacity better value over time than expansion of systems

Annual Benefits of ICM in San Diego and Dallas (modeled results)

Evaluation Measure	I-15 Corridor (San Diego)	US 75 (Dallas)
Travel Time Savings (Person-Hours)	246,000	740,000
Improvement in Travel Time Reliability	10.6%	3%
Gallons of Fuel Saved	323,000	981,000
Tons of Mobile Emissions Saved	3,100	9,400
10-Year Net Benefit (not including safety)	\$104 million	\$264 million
10-Year Cost/Annual Cost	\$12 million/\$1.42 million	\$13.6 million/\$1.62 million
Benefit-Cost Ratio	10:1	20:1
Source: FHWA 2017		

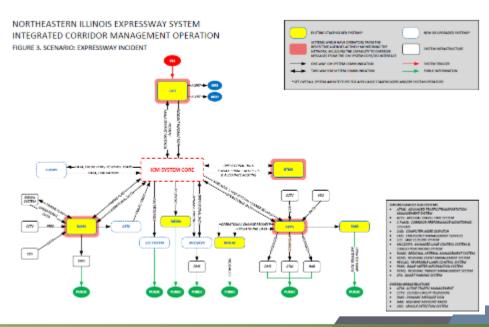
I-90 Jane Addams/Kennedy corridor has the foundation elements for an ICM pilot in region due to:

- I-90 Jane Addams Tollway Smart Corridor
- Pace Express Bus & Park and Ride Stations
- I-90 Kennedy Expressway
- City of Chicago, O'Hare Airport
- Chicago Transit Authority Blue Line
- IDOT Principal Arterials
- Regional Transportation Authority
- City of Chicago, Dept of Transportation
- Cook County
- Metra: NCS, MDNL

Coordinated operations during an incident improves mobility and safety

System operators are able to provide real-time travel information to travelers, including multimodal options for avoiding an incident. Key functions are automated by the ICM System Intelligence, such as

- Update of signal timing for parallel streets to be used as alternate routes
- Update transit operators in preparation for additional volume from route/mode shifters, including schedule change requests
- Support emergency response with signal preemption
- Control demand by adjusting traffic inflow rates upstream of the incident



Phased approach to ICM deployment manages jurisdictional and technical complexities

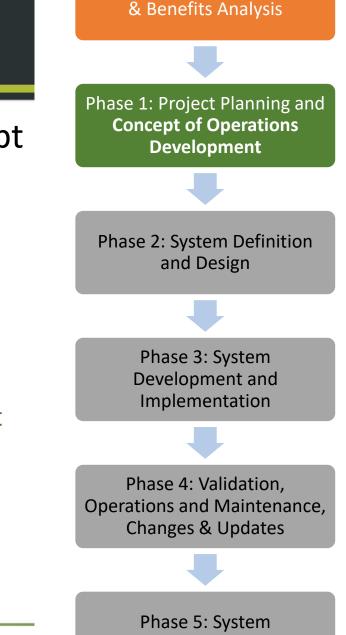
How do we get started?

- Identify stakeholders and project champion in the region
 Key topics ICM team will need to address:
- Coordination with the regional transportation planning and operation process (RTOC)
- System interfaces with the regional ITS architecture
- Project Charter approved by the stakeholders
- Initial and lifecycle funding challenges

Discussion and next steps

Recommendation: Develop a concept of operations for an ICM system along identified pilot corridor leveraging existing ITS infrastructure investments

- Discussion with stakeholders
- Identify funding and initiate
 - Phase 1: Project Planning and Concept of Operations Development



Retirement/Replacement

Phase 0: Concept Exploration

Leveraging and optimizing existing transportation infrastructure, enhancing inter-agency coordination and deploying advanced technologies an Integrated Corridor Management (ICM) System improves mobility for all travelers

September 20, 2018

SION NORTHEASTERN ILLINOIS **PRESSWAY SYSTEM**



JACOBS ch2m

FOR THE