# NCHRP Project 03-131 Planning and Implementing Multimodal, Integrated Corridor Management: Questions and Answers

## **What is Integrated Corridor Management?**

Integrated corridor management (ICM) takes an integrated, multimodal/multiagency approach to congestion management. Rather than address the shortcomings of the separate roadways and modes in isolation, ICM treats the individual transportation components (highways and roads, transit, parking lots, bicycle and pedestrian trails, etc.) as elements of an interrelated transportation corridor. ICM uses technology and operational strategies as tools for transportation operators to address recurring and non-recurring congestion, and optimizes performance of the transportation infrastructure. ICM promotes interjurisdictional coordination and the use of a broad toolbox of transportation system management and operations (TSMO) strategies to optimally detect, monitor, and respond to events and changing conditions. General benefits of ICM include improved mobility, reliability, and safety, and reductions in fuel consumption and fuel emissions.

## **What was the scope of 03-131?**

The objective of this research was to develop a guidebook for agencies planning and implementing multimodal, integrated corridor (or area) management. The guidebook features multiple real-world examples drawn from a variety of contexts and an appropriate range of agency capabilities.

## **How was the Guidebook developed?**

The information and recommendations presented within the guidebook was developed through the National Cooperative Highway Research Program’s (NCHRP) Project No. 03-131. A literature review, stakeholder survey, and interviews were used to identify issues, needs, and best practices for ICM planning, development, deployment, and operations & maintenance. The combination of the literature and stakeholder information allowed the development of the Guidebook, to include sections to address each phase of the Systems Engineering process.

## **Who is the Audience for the Guidebook?**

The intended audience of this document is public agency staff, academia, and contractors involved in planning, designing, implementing, maintaining, managing, and operating integrated corridor management systems to improve the operations of their transportation networks in a more multi-agency, multi-modal approach. This document should allow readers to gain a further appreciation of how ICM planning fits into the current planning process, some of the key lessons learned from other metropolitan areas who have planned and, in some cases, implemented ICM systems. Readers are assumed to have a general awareness of intelligent transportation system (ITS) technologies and transportation management principles.

## **What pre-planning activities should a region consider for considering ICM?**

Regions considering ICM, should perform pre-planning, foundational activities that will set the stage for the ICM planning process. These activities offer a set of optional, up-front steps that practitioners can step through to (1) quickly determine whether ICM is a potential reasonable solution to their circumstances, and (2) sketch out the general contours of a prospective ICM project. It allows for initial pre-assessment before extensive time and resources are invested in more comprehensive ICM planning.

## **What planning activities should a region perform to plan an ICM project?**

## The objectives of the Planning and Concept Phase are to coordinate across project partners and stakeholders and gather information necessary to define the desired ICM capabilities, corridor resources and available corridor data to help inform the corridor boundaries and project needs assessment. This in turn helps project stakeholders to gain a clear understanding of where ICM may be beneficial so that they can define the high-level ICM project goals and objectives. The four major product outputs from this phase are the Project Management Plan, Systems Engineering Management Plan, Concept of Operations and the Analysis Plan, including preliminary feasibility assessment of the proposed ICM system (ICMS). These documents are crucial for organizing the management and the technical programming approach to ICM in a region and implementing an ICMS.

## Tasks in this planning phase include:

## • Identify & Diagnose Problem

## • Establish ICM Objectives & Scale

## • Determine Potential Partners

## • Engage Potential Partners

## • Assess Potential Partners’ Needs

## • Develop ICM Concept of Operations

## • Designate Performance Metrics

## • Assess Benefits of the Planned ICM Deployment

## • Initiate Formal Agreements

## • Develop Plan for Implementation

## **What planning activities should a region perform to plan for development and deployment of an ICM program?**

The activities for this phase include the processes to take requirements to design, the key questions agencies need to ask to decide how they want to implement ICM, and which components of an ICM will best fit their needs and requirements. Additionally, since funding limitations are almost always a constraint, agencies should develop an implementation plan and phasing the design and development of an ICM system.

## **What planning activities should a region perform to plan for operating and maintaining an ICM program?**

Planning is needed to transition from the design and deployment of an ICM to the Operations and on-going Maintenance of the ICM, especially as travel patterns, operational polices, and expertise of the operators change. The Guidebook processes introduce the operations and maintenance process for an ICM program, and the processes and plans agencies should perform in preparing for operations and maintenance of their ICM system.