Chapter One—Introduction

Overview of the Strategic Regional Arterial System

The 2010 Transportation System Development Plan adopted by the Chicago Area Transportation Study (CATS) and the Northeastern Illinois Planning Commission (NIPC) recognizes that not all long distance highway travel can be accommodated by the freeway and expressway system. Realizing that the arterial system will have to carry some long distance trips in addition to serving local travel, the 2010 Plan designated a system of Strategic Regional Arterials (SRA's) to compliment the freeways and expressways.

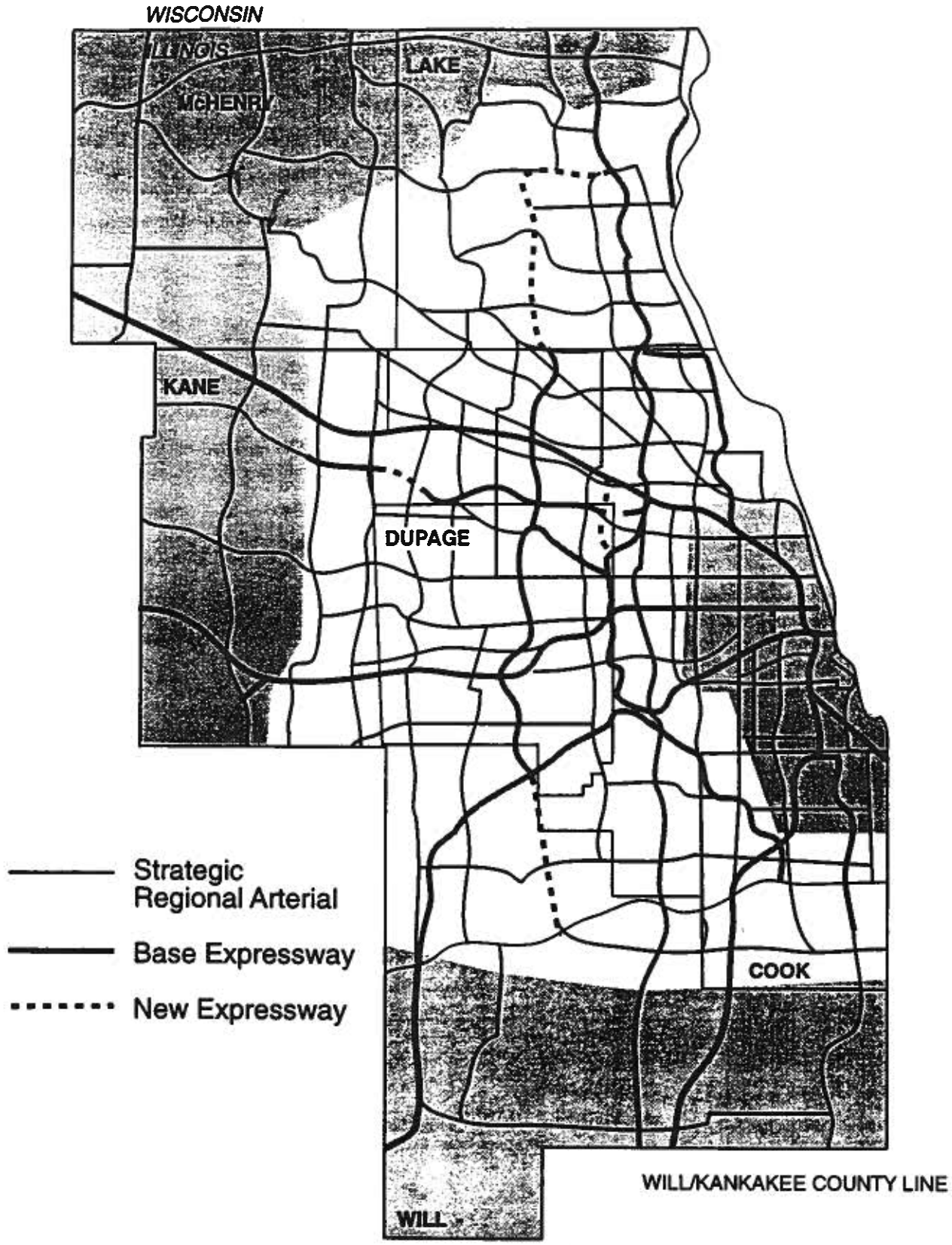
The SRA system is an extensive 1,340 mile network of roads serving urban, suburban and rural areas in northeastern Illinois. See Exhibit 1.1. This system includes 66 designated routes which are intended to serve as a second tier alternative to the freeway and expressway system. The SRA's include both IDOT state routes and routes within local government jurisdiction. Each of these designated routes services local and through trips as either a primary or collector/distributor road. SRA route selection was based on criteria which included future travel demand and spacing of the routes within levels and intensity of development.

Purpose of this Report

Given the importance of the SRA's to efficient travel through and within the region, public sector investments will be required to improve the SRA system, both physically and operationally. Public sector resources are limited and competition for funds is increasing. Public officials are required to make informed decisions in order to plan and design effective improvement projects and to assign priorities among competing projects. An information database is required to assist public officials in making informed decisions when selecting among competing SRA improvement projects. This database should logically incorporate parameters which comparatively measure the travel efficiency and operational performance of each SRA route.

The objective of this study is to develop operational performance parameters that can be used to measure and quantitatively describe travel conditions on each of the SRA routes and the entire system. The performance parameters are intended to measure and monitor the ability of the SRA's to efficiently move people. Each of the parameters should:

- Be easily understandable and relatively simple to use;
- Accommodate on a consistent rational basis the varying route and land use conditions;
- Maximize the use of existing data sources and ongoing data collection programs;
- Minimize the need for data that would be cost prohibitive;
- Utilize data that could be collected consistently;
- Be consistent over time, allowing for a historical perspective; and
- Provide flexibility to incorporate the use of new technologies for collecting data or measuring system performance.



THE STRATEGIC REGIONAL ARTERIAL SYSTEM

SRA Strategic Regional Arterial Planning Study

Exhibit 1.1

The performance parameters are specifically intended to describe operational conditions. Measures such as of how efficiently and safely the specific routes and the system accommodate the movement of people and vehicles are included along with measures of the effectiveness of specific operational and physical improvements to parameters such as traffic flow, travel times, safety, access, etc. Parameters measuring changes on a before and after basis or historical time period will provide a basis for evaluating the effectiveness of specific types of improvements and will facilitate more informed decision-making in the allocation and application of public funds for roadway infrastructure improvements. These parameters will also be used to measure the effectiveness of transportation demand management strategies, traffic control and regulation strategies, IVHS, advanced technologies and other related traffic or transit management techniques.

The performance parameters are not intended to assess or measure the physical conditions of a roadway such as pavement, drainage, structures, and other physical features. Similarly, the performance parameters are not intended to measure user or maintenance costs.

The Intermodal Surface Transportation Efficiency Act (ISTEA) has mandated that integrated intermodal transportation planning processes be implemented statewide and within the urbanized centers. Elements of the planning process include a Traffic Congestion Management System and a Traffic Monitoring System. These management components entail data collection and analysis and operations performance elements. The SRA performance parameters addressed in this report have been structured to comply with and be incorporated into the Traffic Congestion Management System and Traffic Monitoring System.

Organization of this Report

This report is presented in five chapters. This first chapter presents an overview of the SRA system and a statement of the problem which the report is intended to address. This is followed by a discussion of alternative measures of performance as presented in technical literature, the corresponding data requirements, and inherent problems or constraints with each. Recommendations for SRA appropriate performance measures are described in the third chapter. Data collection requirements and alternative programs for collection of the data with associated costs are presented in the fourth chapter. The fifth chapter discusses futuristic issues such as technologies which will permit refinements and cost savings in the collection of data and other performance parameters which could then be measured.