

**APPROVED**

**FINAL**

# *DSATS 2030*

## *Long Range Transportation Plan*

### **SAFETEA-LU Compliance Update:**

*A companion document to the DSATS 2030 Long Range Transportation Plan*

for the

### **DeKalb-Sycamore Area Transportation Study (DSATS)**



Adopted July 25<sup>th</sup>, 2007

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## OVERVIEW

The DeKalb-Sycamore Area Transportation Study (DSATS) is the federally recognized Metropolitan Planning Organization (MPO) for the urbanized area consisting of DeKalb, Sycamore, Cortland and the surrounding area. DSATS was formed in 2003 following the US Census Bureau's designation of DeKalb as an "urbanized area" with a combined population exceeding 50,000. The City of DeKalb Community Development Department provides staff for the DSATS program.

DSATS serves as a forum for discussing regional transportation issues, provides transportation planning assistance, and coordinates state and federal transportation investments in the area. DSATS is responsible for the following planning activities, which occur at regular intervals:

<i>Planning Document</i>	<i>How often document is updated</i>	<i>Time Horizon</i>
Unified Planning Work Program	Annually	1 year
Transportation Improvement Program (TIP)	Every 2 years	4 years
Long Range Transportation Plan (LRTP)	Every 5 years	25 years

New federal transportation legislation was signed into law on August 10<sup>th</sup>, 2005 soon after the adoption of the DSATS 2005 Long Range Transportation Plan (LRTP). This law is entitled the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). It replaces the Transportation Equity Act for the 21st Century (TEA-21) as authorization of the federal surface transportation programs for highways, highway safety, and transit. SAFETEA-LU retains many of the goals and programs found in TEA-21, but there are a number of modified and/or new requirements that MPOs must address through the long range transportation planning process.

This Overview section addresses revised planning and programming requirements. It provides a summary of how DSATS is meeting those requirements until a full update of the LRTP is completed, which will be due in 2010. The second section restates Goals and Objectives from the LRTP and includes new objectives related to security and the environment that address new federal requirement. Following sections provide a more in-depth discussion of how DSATS is complying with the SAFETEA-LU requirements, or a description of the actions underway to bring the region into compliance at the earliest possible time. Updated maps are also included.

## REVISED FEDERAL PLANNING AND PROGRAMMING REQUIREMENTS

The following are SAFETEA-LU planning and programming requirements that have been revised or added to the surface transportation bill. They include:

- Update requirements for regional transportation plans and transportation improvement programs (“metropolitan plan cycles”)
- Annual listing of projects
- Topic areas that must be addressed (metropolitan and statewide transportation “planning factors”)
- Coordination with state Strategic Highway Safety Plan
- Environmental mitigation activities

- Consultation with other agencies
- Transit major capital project improvement review/approval process
- Management/maintenance of existing facilities
- Congestion management process
- Public participation plan/program
- Coordinated public transit/human services transit plans
- Air quality conformity analysis / plan

## **COMPARISON – SAFETEA-LU vs. TEA-21**

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SAFETEA-LU addresses the many challenges facing our transportation system today – challenges such as improving safety and security, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, and protecting the environment – as well as laying the groundwork for addressing future challenges. SAFETEA-LU promotes more efficient and effective Federal surface transportation programs by focusing on transportation issues of national significance, while giving State and local transportation decision makers more flexibility for solving transportation problems in their communities.

SAFETEA-LU continues a strong fundamental core formula program emphasis coupled with targeted investment. One of these areas is Security, which is one of the eight Planning Factors noted in Sec. 450.306 of the February 14, 2007 regulations. The regulations state that the metropolitan transportation planning process shall provide for consideration and implementation of projects, strategies, and services that will address increasing the security of the transportation system for motorized and non-motorized users.

Since its inception DSATS has maintained compliance with these mandates by completing documents such as the Long Range Transportation Plan (LRTP), Transportation Improvement Program (TIP), and the Unified Planning Work Program (UPWP). With every reauthorization bill, however, new rules and practices are promoted which require MPOs and other government agencies to review their existing documents and make changes that renew compliance. Security was one of the elements which needed to be addressed/revised according to the new regulations.

Table 1 documents the key SAFETEA-LU planning and programming requirement changes relative to those found in the TEA-21 legislation. Included in the table is a determination as to whether a gap exists in DSATS planning efforts. For the most part, the MPO through the regional transportation planning process has addressed the metropolitan planning requirement changes adopted as part of SAFETEA-LU.

**Table 1: Summary of SAFETEA-LU Planning Requirements**

General Planning Requirements	Previous TEA-21 Requirements/Period	New SAFETEA-LU Requirements/Period	How DSATS is addressing
Planning Cycle for Updating the Regional Transportation Plans (RTP)	Due every 5 years in air quality attainment areas	No change for attainment areas	DSATS will develop a new LRTP for adoption in 2010.  See also page 16.
Planning Cycle for Transportation Improvement Programs (TIP)	Due every 2 years and contains listing of projects/strategies covering the next 3 years	Due every 4 years and contains listing of projects/strategies covering the next 4 years <i>Sections 6001(i), 6001(k)</i>	DSATS will continue to update its TIP every two years, covering a period of 4 years. This update also includes a map of short-term major maintenance and capacity projects.  See also page 16.
Annual Listing of Projects	Must address: <ul style="list-style-type: none"> <li>• Roadway</li> <li>• Transit</li> <li>• Other</li> </ul>	Must address: <ul style="list-style-type: none"> <li>• Roadway</li> <li>• Transit</li> <li>• Pedestrian walkways</li> <li>• Bicycle facilities</li> <li>• Other</li> </ul>	DSATS will develop and publish a list of projects no later than 90 days after the previous program year, per federal requirement.  See also page 16.
Existing Transportation Facilities	Not found in TEA-21	LRTP should include written discussion of strategies to improve the performance of existing facilities.	The LRTP's first objective under the goal of developing a safe and secure transportation system is to "preserve and maintain the existing transportation system to maximize the performance of transportation facilities". This is being accomplished through means such as transportation system management, access management, pavement

General Planning Requirements	Previous TEA-21 Requirements/Period	New SAFETEA-LU Requirements/Period	How DSATS is addressing
			<p>condition monitoring and intersection improvements.</p> <p>See also page 17, Transportation System Management and Operations.</p>
<p>Planning Factors in Metropolitan Transportation Plan</p>	<ul style="list-style-type: none"> <li>• Support Economic Vitality</li> <li>• Increase Accessibility and Mobility</li> <li>• Protect the Environment</li> <li>• Enhance Modal Integration</li> <li>• Promote Efficient System Management</li> <li>• Preserve the Existing System</li> <li>• Increase Safety and Security</li> </ul>	<ul style="list-style-type: none"> <li>• Support Economic Vitality (<u>expanded definition</u>)</li> <li>• Increase Accessibility and Mobility</li> <li>• Protect the Environment</li> <li>• Enhance Modal Integration</li> <li>• Promote Efficient System Management</li> <li>• Preserve the Existing System</li> <li>• Increase Safety...</li> <li>• <u>Increase Transportation Security</u></li> </ul>	<p>See Table 2 for an overview of how DSATS is addressing each of these planning factors.</p> <p>See also page 21 for how DSATS is specifically addressing the Security Planning Factor.</p>

General Planning Requirements	Previous TEA-21 Requirements/Period	New SAFETEA-LU Requirements/Period	How DSATS is addressing
MPO Consultation with certain agencies	Not expressly referred to in TEA-21.	LRTP could refer to the procedure for consulting with the following state and local agencies: <ul style="list-style-type: none"> <li>• Environmental protection</li> <li>• Tribal government</li> <li>• Wildlife management</li> <li>• Land management</li> <li>• Historic preservation</li> </ul>	DSATS maintains a consultation contact list for projects that involve potential disruption to natural and historic assets. Primary contacts include, but are not limited to, the Illinois EPA, Illinois DNR, and Illinois State Historic Preservation Office.  See also page 23.
Coordinated Public Transit Human Services Transportation Plans	Not found in TEA-21	Written plan for agencies who will receive funding for transportation disadvantaged transit programs.	In July 2006, DSATS convened a local committee of human service and transportation providers. This group will reconvene to oversee the development of DSATS HSTP, which has been budgeted for and will be completed in the first quarter of Fiscal Year 2008 (July-September).  See also page 23.
Strategic Highway Safety Plans (SHSP)	Not found in TEA-21	LRTP should refer to goals and objectives in the state-adopted State Highway Safety Plan	DSATS has adopted new objective 1h, which addresses the <u>State of Illinois' Comprehensive Highway Safety Program</u> .  See also page 24.

General Planning Requirements	Previous TEA-21 Requirements/Period	New SAFETEA-LU Requirements/Period	How DSATS is addressing
Public Participation Plan (PPP)	Not a separate section in TEA-21	SAFETEA-LU requires a stand-alone, written plan for collecting public comments to MPO documents.	DSATS maintains a stand-alone Public Involvement Policy, a revised version of which is being reviewed concurrently with the LRTP SAFETEA-LU Update.  See also page 26.
Environmental Mitigation	Not found in TEA-21	LRTP must include a textual discussion of the types of potential environmental mitigation activities and potential locations for these activities, to restore and maintain environmental functions that could be affected by the LRTP.	DSATS has adopted a new objective 5f related to <u>environmental protection</u> .  A contextual discussion of environmental mitigation is addressed in the <i>Environmental Mitigation</i> section on page 27.  Figure 3 identifies future roadway improvement projects and their proximity to sensitive features such as parks, wetlands, and floodplain.  EcoCAT-the Ecological Compliance Assessment Tool, a service of the Illinois DNR, is identified in the section below as a resource for MPO partner agencies.
Transportation Air Quality Conformity  <b>NOT APPLICABLE TO DSATS</b>	3-year cycle for transportation conformity determination for RTPs and TIPs.	<b>4-year</b> cycle for transportation conformity determinations for LRTPs and TIPs.	<u>Not applicable</u> as the DeKalb-Sycamore Urbanized Area is in attainment.



General Planning Requirements	Previous TEA-21 Requirements/Period	New SAFETEA-LU Requirements/Period	How DSATS is addressing
Congestion Management Process/System for Transportation Management Areas (TMAs)  <b>NOT APPLICABLE TO DSATS</b>	Named "Congestion Management System"	Named "Congestion Management Process," and given a more central emphasis in plans and TIPs.	Not applicable as the DeKalb-Sycamore Urbanized Area is not a TMA.
Transit major capital improvements  <b>NOT APPLICABLE TO DSATS</b>	Basic criteria for rating projects: <ul style="list-style-type: none"> <li>• Alternatives Analysis</li> <li>• Justification</li> <li>• Local Financial Commitment</li> </ul>	Basic criteria for rating projects: <ul style="list-style-type: none"> <li>• Alternatives Analysis</li> <li>• Justification of Project</li> <li>• Local Financial Commitment</li> <li>• Economic Development Potential</li> <li>• Reliability of Ridership and Cost Forecasts</li> </ul>	Not applicable, as the DSATS LRTP is not proposing major transit capital improvements.

**Table 2: Required SAFETEA-LU Planning Factors**

SAFETEA-LU Planning Factor	DSATS Goals and Objectives	DSATS / Partner Planning Efforts
<p>1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.</p>	<p>Goal 4 and its objectives address the relationship between transportation investments and economic activity.</p>	<p>DSATS has identified transportation improvement projects to support the planned growth of its constituent communities as well as Northern Illinois University.</p>
<p>2. Increase the safety of the transportation system for all motorized and non-motorized users</p>	<p>Goal 1 and its objectives address accidents, the designation of truck routes, and railroad crossing safety.</p> <p>Goal 5 and its objectives address the relationship with land use planning and ensuring that conflicts and negative impacts are minimized.</p>	<p>The existing LRTP contains an analysis of safety issues. This SAFETEA-LU Update contains a section regarding the State’s Comprehensive Highway Safety Program and relevant programs and strategies.</p> <p>DSATS is planning a study of truck movement with the objective of reducing conflicts with other modes as well as other negative impacts of this type of freight movement.</p> <p>DSATS is participating in the Safe Routes to School Program.</p> <p>DSATS has adopted a Bikeways Plan (July 26, 2006).</p> <p>DeKalb County is currently undertaking a countywide inventory and analysis of potential public safety hazards.</p> <p>The Voluntary Action Center completed a Hazard and Security Plan for its transit services in 2005 with the help of Peter Schauer</p>

SAFETEA-LU Planning Factor	DSATS Goals and Objectives	DSATS / Partner Planning Efforts
		<p>Associates, a consulting firm hired by IDOT to assist rural and small urban operators develop these plans. The model was developed by AECOM Consult for the Transit Cooperative Research Program, sponsored by the FTA.</p>
<p>3. Increase the ability of the transportation system to support homeland security and to safeguard the personal security of all motorized and non-motorized users.</p>	<p>DSATS has adopted a new objective 1g related to working with national, state and local partners to ensure adequate communication and coordination in the event of emergencies affecting or involving the transportation network.</p>	<p>DSATS supports the mission of the Transportation Committee of the Illinois to "...maximize the security of the Illinois transportation system for the movement of people and goods by ensuring that transportation professionals have available and utilize the tools, training, and methods jointly considered most effective to protect our citizens and the State's infrastructure investment."</p> <p>Ongoing or future planning activities are identified in the Security Planning Factor section below.</p> <p>DSATS has also adopted a regional <u>ITS Architecture</u>, the implementation of which will ensure greater security and responsiveness of the transportation system in the event of emergencies.</p> <p>As described under Planning Factor #2, the Voluntary Action Center has completed a Hazard and Security Plan for its transit services.</p>

SAFETEA-LU Planning Factor	DSATS Goals and Objectives	DSATS / Partner Planning Efforts
4. Increase accessibility and mobility of people and freight.	Goal 2 and its objectives address capacity as well as transportation system management to ensure appropriate levels of service.	DSATS has conducted travel forecasting to evaluate long-term travel demand and impacts on the roadway network. These results have informed long-term planning including needs for future roadway alignment and functional class changes. Improvements to the travel demand model will be made for the LRTP Update in 2010.
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.	<p>Goal 3 and its objectives address alternative transportation modes and linkages as well as transit oriented and pedestrian friendly development.</p> <p>Goal 5 addresses impacts on the environment, the coordination with future land use plans, and the importance of planning that includes all stakeholders. New Objective 5f references impacts on the natural environment.</p>	<p>DSATS has adopted a Bikeways Plan (July 26, 2006).</p> <p>The Environmental Mitigation section addresses natural and historic resource planning, mitigation techniques and means to engage appropriate agencies through the project development cycle.</p>

SAFETEA-LU Planning Factor	DSATS Goals and Objectives	DSATS / Partner Planning Efforts
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.	<p>Goal 1 and its objectives address multi-modalism, including the mitigation of conflicts and safety issues.</p> <p>Goal 3 and its objectives address linkages between modes and connecting major trip attractions through a bicycle network.</p> <p>Goal 4 and its objectives address integration with rail and the movement and transfer of goods.</p>	The DeKalb-Sycamore Urbanized Area is impacted the heavy movement of freight by rail and truck. Transportation planning efforts continue to address at-grade safety and access issues.
7. Promote efficient system management and operation.	Goal 2 and its objectives relate to mobility and accessibility including the identification of truck routes and access management.	<p>DSATS has also adopted a regional <u>ITS Architecture</u>, the implementation of which will ensure greater efficiency and responsiveness of the transportation system for its users.</p> <p>See also page 17, Transportation System Management and Operations.</p>
8. Emphasize the preservation of the existing transportation system.	Goal 1 and its objectives address system preservation and fiscally constrained improvements, identifying mitigation techniques to minimize the number and severity of accidents, developing a multi-modal system, and identification of routes appropriate for trucks.	The LRTP's first objective under the goal of developing a safe and secure transportation system is to "preserve and maintain the existing transportation system to maximize the performance of transportation facilities". This is being accomplished through means such as transportation system management, access management, pavement condition monitoring and intersection improvements.

## UPDATED GOALS AND OBJECTIVES

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This chapter restates the vision statement, goals and objectives from the DSATS 2030 LRTP. In deference to SAFETA-LU guidelines, the LRTP now includes new objectives related to security (1g), highway safety (1h) and environmental mitigation (5f). All of these statements provide guidance in the planning process and define the means by which specific transportation improvements are evaluated.

### *Vision Statement*

*The DeKalb-Sycamore Area Transportation Study will cooperatively develop a comprehensive, regionally coordinated, and integrated multi-modal transportation system that meets the needs and goals of the area's citizens.*

### **Goal 1: Develop a safe and secure multi-modal transportation system that provides for the efficient movement of people and goods.**

#### **Objectives**

- a) Preserve and maintain the existing transportation system to maximize the performance of transportation facilities.
- b) Identify appropriate mitigation techniques to minimize the number and severity of accidents within the DSATS area.
- c) Identify future year transportation improvements that are fiscally constrained and support the creation of a comprehensive, multi-modal transportation system.
- d) Select and program transportation projects that are consistent with community values and goals.
- e) Promote truck routes that minimize negative impacts to the community and maximize direct linkages on truck compatible facilities.
- f) Work with the railroads and community to maximize safety, minimize travel delays, and reduce negative impacts of train traffic on the community.
- g) Work with national, state and local partners to ensure adequate communication and coordination in the event of emergencies affecting or involving the transportation network.
- h) Work in partnership with IDOT to implement the objectives of the State's Comprehensive Highway Safety Program.

### **Goal 2: Identify and support transportation improvements to ensure a high level of mobility and accessibility throughout the metropolitan planning area.**

#### **Objectives**

- a) Provide sufficient roadway capacity to maintain an acceptable level of service throughout the area.
- b) Evaluate alternatives to minimize travel delays associated with signalized intersections, stop sign-controlled intersections, and at-grade rail crossings.

- c) Identify priority corridors where access management techniques can be implemented to improve traffic flow and have positive safety benefits.
- d) Maintain truck routes that provide direct connections to the Interstate system while minimizing negative impacts on residential areas.

**Goal 3: Develop a transportation system that promotes the use of alternative modes including public transit and the development of a regional bicycle network.**

**Objectives**

- a) Support transportation improvements that enhance existing linkages and create new linkages between transportation modes.
- b) Support transit oriented and pedestrian friendly development and explore opportunities for transit service.
- c) Enhance the level of transit service to persons with special needs, older adults, and at-risk groups.
- d) Establish a regional bicycle network that serves recreational and utilitarian trips by connecting major trip attractions such as schools, colleges, libraries, parks, and other important trip destinations.
- e) Identify and preserve right-of-way, including abandoned rail lines, for future bicycle and multi-use trails.

**Goal 4: Support transportation enhancements and projects that promote existing and future economic development.**

**Objectives**

- a) Evaluate the economic impacts and benefits of potential transportation projects and support those projects that maintain or enhance the economic vitality of the region.
- b) Ensure adequate accessibility to major highways and interstates to promote the efficient movement and transfer of goods within and beyond the DSATS area.
- c) Support transit improvements and programs that increase access to local and regional employment centers.
- d) Support projects that encourage the planned growth of airport facilities and operations including projects that provide improved accessibility to the airport.
- e) Support and enhance rail operations by identifying potential intermodal connections to support existing and future business operations.

**Goal 5: Balance transportation improvements with potential impacts to the surrounding physical and social environment.**

**Objectives**

- a) Encourage a proactive planning process that recognizes the land use/transportation connection and provides for coordinated management with existing and planned transportation facilities and future land use plans.
- b) Preserve adequate right-of-way for future transportation infrastructure to minimize the negative impacts, including potential displacement, to area residents and businesses.
- c) Mitigate the negative effects of traffic, such as cut-through traffic and excessive noise, on residential neighborhoods.
- d) Apply as appropriate, context sensitive solutions consistent with IDOT design guidelines when planning and designing transportation improvements.
- e) Maintain an open transportation planning process that encourages involvement and input from all communities, businesses, individuals and stakeholders.
- f) Ensure that transportation planning and project implementation minimize and/or mitigate impacts on the natural environment.



# GENERAL PLANNING REQUIREMENTS

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## PLAN UPDATE CYCLES

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*Revised TEA-21 Provision: Amended 23 U.S.C. 135/49 U.S.C. 5304 (f)(1)*

Metropolitan transportation plans in air quality standard attainment areas shall be updated at least every five years. DeKalb-Sycamore Urbanized Area is an air quality attainment area. A revised LRTP will be due in 2010. Non-attainment and maintenance areas require updates every four years.

## TRANSPORTATION IMPROVEMENT PROGRAM (TIP) CYCLES AND SCOPE

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*Revised TEA-21 Provision: Amended 23 U.S.C. 134/49 U.S.C. 5303 (j)(1)(D).*

Metropolitan area TIPs must be updated at least every four years and must contain at least four years of projects and strategies. DSATS will continue to update its TIP every two years, covering a period of 4 years. This update document includes a map, Figure 1, that includes these short-term major maintenance and capacity projects.

## ANNUAL LISTING OF OBLIGATED PROJECTS

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*Revised TEA-21 Provisions: 23 U.S.C. 134/49 U.S.C. 5303(j)(7)(B) and 23 U.S.C. 135/49 U.S.C. 5304(g)(4)(B)*

SAFETEA-LU specifies that the MPO shall develop and publish an annual listing of transportation projects, including those to which federal funds have been obligated in the preceding year. This “shall be a cooperative effort of the state, transit operator, and MPO.” The list is required to include the following project breakouts:

- Roadway
- Transit
- Bicycle Transportation Facilities
- Pedestrian Walkways
- Other

The presently published TIP does not specifically call out the non-motorized system portion of roadway projects, nor does it list federally funded sidewalk and trail projects. Beginning in fiscal year 2009, DSATS will collaborate with IDOT, DeKalb County and local municipalities to publish a detailed annual listing of these projects, if any. The annual listing of obligated projects shall be developed no later than 90 calendar days following the end of the program year. The TIP and subsequent annual listings will be publicly-accessible through the DSATS website and distributed to a list of consultative agencies, as discussed below.

# TRANSPORTATION SYSTEM MANAGEMENT AND OPERATIONS

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*New SAFETEA-LU Provision: Not Addressed in TEA-21.*

## BACKGROUND AND INTRODUCTION

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SAFETEA-LU and its associated implementing regulations include efforts to “promote efficient system management and operation” as a required planning factor in the MPO planning process. SAFETEA-LU also states that “A [long-range] transportation plan...shall contain, at a minimum...Operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods.” While federal law and regulation has required some focus on transportation system management and operations for a number of years, management and operations strategies such as incident response, special event planning, and work zone management have received relatively little attention. However, during the last two decades, various constraints have highlighted the need for coordination of regional operations strategies within the planning process. Among the factors making it increasingly difficult to construct new highway and transit capacity are:

### ***Environmental, Community, and Space Constraints***

In many metropolitan areas, there are fewer opportunities for highway or transit capacity expansion along congested corridors. Often the environmental and community impacts that would result from new or widened roadways go beyond what is acceptable to the public. In some cases, there is little or no additional space within public right-of-ways. These constraints on traditional infrastructure construction have placed increased pressures on public officials and transportation agencies to find new ways of enhancing the effective capacity and reliability of the existing transportation network.

### ***Funding Constraints***

As transportation construction costs have increased, State and local budgets have become more strained. Some transportation capacity projects move forward despite community, environmental, and space constraints, but overcoming these constraints requires longer construction periods, frequent project mitigations, and more complex construction techniques. This means that each project consumes a bigger share of available funds. At the time that project costs are increasing, many states and localities are facing infrastructure deterioration from years of deferred maintenance. These funding challenges mean that few agencies can build all of the facilities that might be desired.

### ***Inability to Respond to Short-term Problems***

Major construction projects rarely deliver new capacity in the short term. In fact, some large-scale projects take well over a decade to complete. At the same time, transportation patterns are more diverse and less predictable than ever. New transportation challenges emerge unexpectedly as a result of economic shifts or short-term trends. Thus, there is a need for transportation solutions that can respond quickly to congestion, safety, and economic concerns.

Thus, interest in improving the reliability and operating efficiency of the transportation system is now becoming paramount in importance for MPOs. This is because an effective transportation system requires not only the provision of highway and transit infrastructure for movement of the public and freight, but also the efficient and coordinated operation of the regional transportation

network in order to improve system efficiency, reliability, and safety. Furthermore, linking planning and operations is important to improve transportation decision-making and the overall effectiveness of transportation systems.

## **PLANNING FOR OPERATIONS**

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“Planning for operations” can be defined as a set of activities with the intent of making investment decisions and/or establishing and carrying out plans, policies, and procedures that enable and improve transportation systems management and operation. For a regional transportation system Management and Operations (M&O) program to be effective, those directly responsible for operating the system must agree on what measures to use to assess performance, a concept for how the system should be operated on a regional basis, and how to make changes to achieve desired improvements in system operating performance.

The statutes and regulations that govern the transportation planning process have the flexibility to accommodate and, in fact, encourage M&O solutions. It has become clear that MPOs, State DOTs, and other agencies that lead transportation planning efforts can use the planning process as an important forum and tool for collaboration between planners and operators. Coordination between planners and operators helps ensure that regional transportation investment decisions reflect full consideration of all available strategies and approaches to meet regional goals and objectives.

### ***Management and Operations Goal***

The goal of DSATS is to link operations and planning of the regional transportation system to solve operational problems, improve system performance, and improve communication across transportation-related agencies. There are many programs in the region that, in order to be successful, must cross functional and jurisdictional boundaries; examples include corridor signal system coordination, pavement management, traveler information services, response to weather events, and emergency management. These programs depend on an unprecedented level of collaboration, coordination, and integration to achieve optimum performance and truly benefit the region’s residents, businesses and travelers. Planning for operations at the regional level is therefore a deliberate, collaborative, and coordinated activity that takes place when transportation agency managers responsible for day-to-day operations work together at a regional level with transportation planners.

### ***Measuring Performance of the Regional Transportation System***

One of the critical components in developing regional management and operational strategies is establishing performance measures. Performance measurement involves the act of developing specific transportation system performance criteria and quantitatively tracking those measures. Performance measures have many functions and can be used to:

- Identify what attributes of the transportation system are most important
- Provide information on current system conditions and performance
- Evaluate the success of implemented and on-going projects and programs
- Provide a metric for communicating with decision-makers and the public about past, current, and expected future transportation system conditions
- Serve as criteria for investment decisions made in the transportation planning process

Efforts to focus on system performance often result in better recognition of the value associated with management and operational improvements. Data on system performance can highlight the value of investments in programs that minimize incident-related delays, provide information on

real-time travel conditions, and improve emergency response times by showing how they can improve transportation system reliability and reduce travel times for customers.

Performance measures can also help link planning and operations by focusing attention on customer-oriented outcomes and elevating attention to M&O strategies within the transportation planning process. By focusing attention on system characteristics that are important to the traveling public, the issues faced by operators such as incident response, work-zone management, and provision of traveler information take on greater importance. Incorporating these issues into the planning process will help focus planning on those issues which are of the highest importance to the traveling public in the region.

### ***Approach to Management & Operations***

In order to integrate transportation system M&O into the regional planning process, DSATS will develop a program that identifies key transportation performance measures of relevance to the region, coordinate with transportation system operators and providers to collect appropriate data for those measures, compile and analyze the data and produce regular reports on the performance of the region's transportation system. This information will be used by DSATS to help develop Long Range Transportation Plans and Transportation Improvement Programs by facilitating the development of more cost-effective and performance-based transportation investments and actions.

### ***Creation of Performance Measures***

Performance measures developed for this region will be multimodal (e.g., highway, transit, non-motorized modes) and address a cross-section of key issues, including congestion, safety, mobility, reliability and accessibility. As the region's experience and capabilities related to M&O evolve, the number and categories of performance measures may be expanded to provide additional detail on the performance of the region's transportation system for planners, policy-makers and the public.

Performance measures can be grouped into three categories:

- Input measures - which generally address the supply of resources;
- Output measures - which address the delivery of transportation programs, projects, and services; and
- Outcome measures - which address the degree to which the transportation system meets policy goals and objectives.

While input and output measures are the easiest to implement, outcome measures focus on the effects that the traveling public most cares about - issues such as travel time and delay, safety, and reliability.

DSATS will initially focus on a core set of output measures. Using simpler output performance reporting can inspire the attention and collaboration necessary to design measures that address the most important aspects of the system performance. As DSATS gains experience and temporal data on various measures, a blend of both output and outcome measures may be preferable to using either type alone. Output measures provide an immediate indication of accomplishment for those activities whose benefits accrue over the long term (i.e., where "outcomes" are not immediately apparent). However, DSATS will attempt to monitor outcomes over the long term as data and expertise allow.

Categories of performance measures that the Metropolitan Planning Organization will use to frame development of a set of core regional performance measures include:

**Table 3: Regional Transportation Performance Measures**

Category	Examples of Possible Core Performance Measures
Safety	<ul style="list-style-type: none"> <li>· Change in Number of K (Fatal) and A (incapacitating injury) types of crashes</li> <li>· Change in Number of Crashes/Million Miles Traveled</li> <li>· Pedestrian or Bike Accidents per Year</li> <li>· Number of Traffic Fatalities/Injuries within Region</li> </ul>
Congestion & Reliability	<ul style="list-style-type: none"> <li>· Change in average travel time between selected origins &amp; destinations</li> <li>· Total hours of delay in region</li> <li>· Person-miles (or hours) of travel in congested conditions</li> <li>· Travel Time Index</li> </ul>
Accessibility & Mobility	<ul style="list-style-type: none"> <li>· Percent of region's population within ¼-mile (OR 15 minute walk distance) of transit services</li> <li>· Total transit ridership OR transit mode share</li> <li>· Number of access permits granted on congested roadway segments</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>· Change in mobile source emissions (or appropriate proxy)</li> <li>· Change in energy consumption (or appropriate proxy)</li> <li>· Acres of wetlands created/impacted/banked due to transportation projects</li> </ul>

The actual performance measures ultimately employed by DSATS will be dictated to a great extent by (1) the system operation and management priorities determined to be of highest importance by DSATS and its planning partners and (2) the extent to which data to support a particular measure can be obtained in a cost-effective and usable manner. The focus on management and operations requires more detailed data than has traditionally been analyzed by DSATS. The system focus means that data on conditions are needed virtually everywhere on the transportation system, across jurisdictions and modes. Issues such as data formats, accuracy, consistency, and appropriate use can complicate the process of establishing inter- and intra-agency data sharing programs.

DSATS will work collaboratively with the Illinois Department of Transportation (IDOT), local governments and the local transit agency to address these challenges and develop a core performance measurement program. In particular, DSATS will work with IDOT to use information available through the Illinois Roadway Information System (IRIS) for developing and reporting performance measures. IRIS is a computerized database managed by IDOT in which a variety of condition and performance data is collected and maintained on all public highways as defined in Illinois Compiled Statutes.

# SECURITY PLANNING FACTOR

*Revised TEA-21 Provisions: 23 U.S.C. 134/49 U.S.C. 5303(h)(1) and 23 U.S.C. 135/49 U.S.C. 5304 (d)(1).*

## OVERVIEW

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SAFETEA-LU calls for the security of the transportation system to be a stand-alone planning factor, signaling an increase in importance from prior legislation, in which security was coupled with safety in the same planning factor. Signaling an increase in importance from prior legislation, the safety of the transportation system and the security of the transportation system are treated as stand-alone planning factors.

A goal of DSATS is to “develop a safe and secure multi-modal transportation system that provides for the efficient movement of people and goods”. As part of that goal, one objective is to “work with national, state and local partners to ensure adequate communication and coordination in the event of emergencies affecting or involving the transportation network.” Coordination and information sharing between local transportation officials, providers and emergency responders is part of ongoing development of the area’s ITS infrastructure.

## ADDRESSING GAPS IN SECURITY

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DSATS looks to IDOT and its work with Illinois Terrorism Task Force (ITTF) for leadership, support and direction related to appropriate measures for the DeKalb-Sycamore Urbanized Area. The mission of the Transportation Committee of the ITTF is to “...maximize the security of the Illinois transportation system for the movement of people and goods by ensuring that transportation professionals have available and utilize the tools, training, and methods jointly considered most effective to protect our citizens and the State’s infrastructure investment.” DSATS supports this mission.

The Transportation Committee of ITTF has four work groups to address the highest priority topics. They include: Evacuation Implementation, Vulnerability Assessment, Training/Users Outreach, and the Inland Waterways & Port Security Workgroup. The most likely issues for DSATS relate to evacuation followed by training and vulnerability assessment. DeKalb-Sycamore is unlikely to be a target of terrorism. However, it’s proximity to both the Chicago metropolitan area and a likely evacuation route (I-88) mean that the area is likely to be impacted by an emergency situation in Chicago. DSATS is committed to participating in all aspects of response planning as appropriate.

Below is a list of ongoing or future planning activities that DSATS has identified as important tasks in addressing the security planning factor in the DeKalb-Sycamore Urbanized Area:

- **Appropriate Transportation Security Plan Component**
  - Identify any emerging security targets within and near the urbanized area.
  - Identify critical transportation routes, including those needed for evacuation.
  - Identify alternative routes in the event of bottlenecks or other hazards such as train derailment.
  - Identify hazardous material transport routes and actions to take in case of spillage or theft.
  - Identify key locations to communicate about routing and other mobilization and evacuation information (i.e., where to go, when, and why).

- **Inter-Agency Coordination**
  - Consultation with Region 3 offices of the Illinois Emergency Management Agency (IEMA), which is responsible for coordinating mitigation, preparation, response and recovery operations.
  - Identify emergency routes and evacuation procedures for the urbanized area.
  - Include in the planning process security related stakeholders such as local law enforcement agencies, fire departments and rescue squads, federal response agencies, and the regional office of the Department of Homeland Security (DHS).
  
- **Public Information and Education**
  - Educate the public about how they should use the area transportation system in case of an emergency and/or disaster.
  - Maintain and update the area's Intelligent Transportation Systems (ITS) architecture plan as a tool to coordinate and implement security strategies for the area's transportation system.

# COORDINATION AND CONSULTATION

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## **MPO CONSULTATION WITH CERTAIN AGENCIES**

*Revised TEA-21 Provisions: 23 U.S.C. 134/49 U.S.C. 5303(g) and (i)(4) and (j)(1)(C). 23 U.S.C. 135/49 U.S.C. 5304(f)(2) and (f)(2)(D) and (g)(2)*

Metropolitan Planning Organizations must develop a process for incorporating the following agencies into the transportation planning process:

- Environmental protection (e.g., Illinois Environmental Protection Agency)
- Wildlife management (e.g., Illinois Department of Natural Resources)
- Land management (e.g., IDNR, Illinois Department of Agriculture)
- Historic preservation (e.g., Illinois Historic Preservation Agency)

In developing policy, transportation improvement programs, and project plans, DSATS will consult with state and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation. This will occur as appropriate throughout the project cycle from planning through permitting to implementation. As also discussed in the Environmental Mitigation Section, DSATS member agencies will utilize EcoCAT, the Environmental Compliance Assessment Tool, as a means of engaging the Illinois Department of Natural Resources.

DSATS will ensure that its various efforts are informed by appropriate agency and technical resources. Standing and ad hoc committee membership will reflect this. Furthermore, DSATS will maintain appropriate distribution lists for meeting agendas and minutes as well as project plan sets.

## **COORDINATED PUBLIC TRANSIT-HUMAN SERVICES TRANSPORTATION PLAN (HSTP)**

*New SAFETEA-LU Provision: 23 U.S.C. 134 (i)(5)(A) and 49 U.S.C. 5303 (i)(5)(A). (1) Special Needs of Elderly Individuals and Individuals with Disabilities [49 U.S.C. 5310(d)(2)(B)(i) and (ii)]; (2) Job Access and Reverse Commute [49 U.S.C. 5316(g)(3)(A) and (B)]; and (3) New Freedom [49 U.S.C. 5317(f)(3)(A) and (B)]*

Numerous local programs supported by state and federal agencies provide separate transportation services, including services for the elderly, hospital access for low-income individuals, services for the physically and mentally handicapped, rural transportation, and transportation for job training or job access. In Illinois, there are 62 different programs administered by nine different federal departments that provide human service transportation funding. Without coordination among providers, this can lead to duplication and/or inefficiency.

Federal transit law, as amended by SAFETEA-LU requires that projects funded from the Section 5310 (Elderly and Disabled), Section 5311 (Rural and Small Urban), Section 5316 (Job Access and Reverse Commute, or JARC), and Section 5317 (New Freedom) programs be derived from a locally developed, coordinated public transit-human service transportation plan (HSTP). Grants for the initial round of these programs are due in October 2007.

The DeKalb-Sycamore Urbanized Area consists of two transit systems. The ATC Huskie Line is a student-run transit system focused on serving the NIU student population. TransVAC is a



county-wide transportation service provided by the Voluntary Action Center (VAC) of DeKalb County. VAC is a private non-profit organization, which provides the following services.

- Green Line, a semi-fixed, regular bus route that loops through City of DeKalb
- Demand response services and subscription services
- Paratransit
- Med-VAC, which provides transportation for out-of-town medical appointments
- Shuttle service between DeKalb and Kishwaukee Community College

These services are available to the general public on a countywide basis; however, the majority of customers come from within the DSATS metropolitan area.

DSATS will continue to coordinate planning to meet both general and specialized transit needs. A transit study for the DeKalb area, the Transit Development Plan (TDP), was completed at the end of 2004. This detailed transit study analyzed existing transit operations within DeKalb and made recommendations for improving and/or expanding transit. In July 2006, DSATS convened a local committee of human service and transportation providers. This group will reconvene to oversee the development of DSATS HSTP, which will be completed in the first quarter of Fiscal Year 2008 (July-September).

In Illinois, the local Metropolitan Planning Organization (MPO) is responsible for ensuring that the new federal coordination requirements are met for urbanized areas while IDOT is responsible for other areas. IDOT has created a framework for developing the plan and project submission process for human services transportation funding. IDOT has created eleven planning regions supported by IDOT Regional Coordinators and a local review committee. The non-urbanized portion of DeKalb County is within Region 3. A key responsibility of the IDOT Regional Coordinator will be to work with the DSATS to integrate HSTP activities of Region 3 with that of the DeKalb-Sycamore Urbanized Area.

The HSTP will address the following issues, building from previous or existing planning efforts as appropriate:

- Inventory of transportation facilities and services
- Assessment of human service transportation needs
- Analysis of gaps in or inefficient provision of human service transportation services
- Recommended short and long-term transportation strategies to address gaps and improve coordination

An action plan will also be incorporated into the HSTP. It will identify steps, responsibilities, timelines and communication strategies. Identified projects for future funding will be reflected in the DSATS Transportation Improvement Program (TIP).

## **STRATEGIC HIGHWAY SAFETY PLANS (SHSP)**

*Revised TEA-21 Provision: Not Addressed in TEA-21.*

SAFETEA-LU requires a statewide plan/ program for systematically incorporating projects that address safety issues into the project development and prioritization process. Each MPO's long-range transportation plan must reference and be consistent with the adopted SHSP. The 2005 DSATS LRTP identified and analyzed high accident locations. Figure 4-7 identified high accident locations and Figure 6-2 identified "roadway safety concern areas". Some of these

locations have been addressed as a result of completed maintenance and improvement projects. Others are identified for short or long-term improvements. DSATS' LRTP now includes a new objective related to implementation of the objectives of the State of Illinois' Comprehensive Highway Safety Plan (CHSP).

The CHSP is a statewide, coordinated, integrated, safety plan that focuses on the four Es of highway safety identified in SAFETEA-LU: engineering, enforcement, education and emergency services—and integrates them into the following areas of areas of emphasis identified by the federal government.

- Alcohol and other impaired driving
- Driver behavior and awareness
- Highway/railroad grade crossings
- Information systems for decision making
- Intersections
- Large trucks
- Roadway departure
- Safety belts/occupant protection
- Vulnerable users (pedestrians, bicyclists and motorcyclists)
- Work zones

Many of these programs are statewide and are the responsibility of state officials and agencies. They are listed in the Illinois Transportation Plan. However, many programs and strategies may be particularly relevant to the DeKalb-Sycamore area, and would involve participation by local officials. These may include, but are not necessarily limited to the following programs:

- Highway Safety Improvement Program (HSIP)
  - HSIP Road Program
  - Highway-Railway Crossing Program
  - High Risk Rural Roads Program
- Motorcycle/Pedestrian/Pedal Cycle Program
  - Partner with local, state and federal agencies on pedestrian and pedal cycle safety programs
  - Provide technical assistance with the Safe Routes to School Initiative
- Occupant Protection Program
  - Identify and focus on part-time seat belt users (males ages 16-34)
  - Coordination between local officials and Regional Occupancy Protection Resource Center in Rockford
- Impaired Driving Program
  - Underage Drinking Prevention Program
- Work Zone Safety Program

# **PUBLIC PARTICIPATION PLAN (PPP)**

*Revised TEA-21 Provisions: Amended 23 U.S.C. 134(i)(6) on plans and 23 U.S.C. 134(j)(7)(a) on TIPs, and for transit, amended 49 U.S.C. 5303(i)(6) and 49 U.S.C. 5303(j)(7)(a)*

SAFETEA-LU states that MPOs should publish or otherwise make available for public review transportation plans and TIPs “including (to the maximum extent practicable) in electronically-accessible formats and means, such as the World Wide Web.” These publication requirements must be in place prior to adoption of transportation plans and TIPs addressing SAFETEA-LU provisions.

The DSATS Policy Board maintains a stand-alone Public Participation Plan. The intent of the plan is reflected in the plan’s mission statement and objectives, which are restated below:

## ***Public Participation Plan Mission Statement***

*The DeKalb-Sycamore Area Transportation Study will provide opportunities for meaningful public and stakeholder involvement in the transportation related decision-making processes. DSATS will accomplish this by making information accessible to all citizens through multiple venues and techniques. Actual and meaningful discussion and input is the key to effective public involvement. This Policy outlines the strategies that DSATS will employ to accomplish this goal.*

## ***Objectives of the DSATS’ Public Participation Plan***

- Notify the public in a timely manner of policies, progress of specific projects, and issues related to the planning process.
- Engage all stakeholders with opportunities for participating in the decision-making process.
- Listen to citizen concerns and ideas and address them in a prompt manner.
- Learn from collected information and stakeholders’ ideas to develop consensus and resolve conflicts, to generate better planning decisions.
- Expand an effective outreach process that includes an integrated feedback process for evaluation and improvement.
- Evaluate regularly the measured effectiveness of participation strategies.

## **ENVIRONMENTAL MITIGATION**

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*Revised TEA-21 Provisions: 23 U.S.C. 134(i)(2)(B) and 23 U.S.C. 135(f)(4) and a similar provision for transit appear in the amended 49 U.S.C. 5303(i)(2)(B) and 49 U.S.C. 5304(f)(4)*

A discussion of potential environmental mitigation activities in Metropolitan Transportation plans is a requirement of SAFETEA-LU. This legislation also emphasizes consultation, as applicable, with federal and state land management, and wildlife and regulatory agencies.

### **OVERVIEW**

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Environmental mitigation activities are strategies, policies, and programs that serve to minimize or compensate for the disruption of the built and natural environment that would be associated with implementation of recommended transportation projects. As the projects included in the Transportation Improvement Plan (TIP) have been defined in only very general terms (i.e. expansion from a two-lane to a three-lane route, a new corridor along an identified general alignment, etc.), the discussion of potential mitigation measures are restricted to general elements of the built and natural environment.

DSATS and its member units of government must consult with Illinois DNR before authorizing, performing, or funding any action that disturbs the land, water, or air. DSATS can begin this process by utilizing EcoCAT, the Ecological Compliance Assessment Tool. This tool was created to help local governments as well as state agencies initiate consultation under related environmental legislation. EcoCAT utilizes geographic information system (GIS) databases to flag potential adverse impacts of construction projects on the natural environment. EcoCAT does not, however, replace more detailed analysis that may be required as part of Environmental Assessments or Environmental Impact Statements.

Illinois DOT's Bureau of Design and Environment maintains a manual ("BDE Manual") that presents most of the information normally required for location, design and environmental evaluation of state highway construction projects. Of greater interest to local units of government is the Bureau of Local Roads and Streets Manual, which addresses current design and environment policies and procedures for use in developing local agency highway projects. Its contents are updated on an ongoing basis.

### **WATER RESOURCES**

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The DeKalb-Sycamore Urbanized Area includes water resources including streams and wetlands. Transportation projects may cross or run alongside a stream or river or touch a wetland area. In these cases it is a goal to avoid, to the fullest extent practicable, any activity that adversely impacts streams or wetlands during the design, construction, or maintenance of the transportation facility. Appropriate action throughout the project development steps is needed to avoid, minimize, and mitigate impacts as required by federal, state, and local law. Impact analysis and mitigation are integral parts of the project development process. Early review and analysis of project alternatives by regulatory and resource agencies combined with effective inter-office coordination are required to develop successful transportation projects.

As it relates to water resources, DeKalb County plays a significant environmental policy and regulatory role for the entire DSATS urbanized area. Relevant efforts include a planned Phase 2 Stormwater Management Plan, a countywide groundwater study and floodplain regulation ordinance. In the event that impacts to streams and wetlands are unavoidable, a wide variety of mitigation strategies are available, which always begins with evaluation of on-site opportunities (e.g., natural channel design techniques, bankfull culverts, wetland creation, etc.) within the

project work area. Once the on-site (within the project area) resources are exhausted, the search can begin for mitigation opportunities off-site. Mitigation opportunities may include mitigation banking, stream and wetland creation, restoration, and/or preservation, and possibly even preservation of upland buffers adjacent to stream and wetland resources.

## **STORM WATER MITIGATION**

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Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces such as driveways, sidewalks, and streets prevent stormwater runoff from naturally soaking into the ground. Stormwater can pick up debris, chemicals, and other pollutants as it flows the storm sewer system or directly to a lake, stream, river, or wetland. Stormwater runoff can pollute water bodies and also cause them to overflow and flood. There are multiple mitigation techniques that can be used to curb storm water runoff. These techniques can include bioretention, detention ponds, grass swales, and filter strips.

Grass swales are planted areas that line a ditch or channel near impervious surfaces and are designed to capture stormwater run off and filter it into the ground. For post-construction stormwater management in new development and redevelopment, the use of grass swales, where feasible, should be used in median and drainage ditches. These are low cost stormwater conveyances.

Vegetative filter strips and buffers are areas of land with vegetative cover that are designed to accept stormwater runoff from upstream development. They can be constructed, or existing vegetated buffer areas can be used. Dense vegetative cover facilitates water filtering into the ground. Unlike grass swales, vegetative filter strips are effective only for areas with no defined channels.

Bioretention is a practice that manages and treats storm water runoff using a conditioned planting soil bed and planting materials to filter runoff stored within a shallow depression. The method combines physical filtering and adsorption with biological processes to retain and treat surface runoff before it leaves a site. Detention ponds are used to capture large amounts of water and slowly filter it back into the ground. Detention ponds are usually used in large residential or commercial developments.

Whenever an acre or more of ground is disturbed for roadwork, it is IDOT's responsibility to implement measures to control the discharge of sediment and other pollutants into nearby rivers, streams and wetlands. Highway construction projects must comply with the National Pollutant Discharge Elimination System (NPDES). This requires an Erosion Control and Sediment control Plan, which implements both temporary measures during construction (e.g., silt fences) and permanent measures (e.g., stormwater ponds) following completion of a project.

## **WETLAND MITIGATION**

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Wetlands are areas where the water table stands near, at, or above the land surface for at least part of the year and are described according to the degree of wetness and the type of vegetation that the site supports. Wetlands are important elements of a watershed because they serve as the link between land and water resources. Wetlands help to curb flooding by slowing down the flow of excess rainwater and absorbing it. Wetlands also cleanse water as it filters back into the water table, and provides natural habitats for a number of plant and animal species. Often times, transportation projects can negatively impact wetland areas. Mitigation measures strive to avoid, minimize, and mitigate impacts to streams and wetlands throughout the project development process as required by federal, state, and local law.

The Illinois Interagency Wetland Policy Act (IWPA) includes the identification and delineation of regulated wetlands. Under the Clean Water Act (CWA) and IWPA, the responsible unit of government must demonstrate that all measures were taken to first avoid and then minimize impacts to wetlands to the fullest extent practicable. Unavoidable impacts are mitigated by either restoring the wetland or creating new wetlands. Wetland Compensation Plans must adhere to a schedule of increasing compensation ratios based upon the amount of adverse wetland impact and the location of compensation projects. Guidance for wetland restoration and creation is maintained in the *Illinois Wetlands Restoration and Creation Guide*. Procedures for ensuring compliance with the CWA and IWPA are detailed in the *IDOT Wetlands Action Plan*.

Although there are five government agencies in Illinois with primary wetland regulatory authority, the United States Army Corp of Engineers (USACE) is considered the lead agency. Section 404 of the Clean Water Act "prohibits the discharge of dredged or fill material into waters of the United States without a permit from the U.S. Army Corps of Engineers." The DeKalb-Sycamore Urbanized Area falls within the Rock Island District.

## **FLOODPLAINS**

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Use of the land adjacent to a stream has a major impact on protecting water quality, avoiding flood damage, maintaining fish and wildlife habitat, and accessing water-related recreation. Also known as the floodplain, the area adjacent to the stream channel serves as a natural reservoir for storing excess water during a flood. When the main stream channel cannot accommodate the level of runoff from precipitation, the spreading of floodwaters into the floodplain helps reduce the amount of damage incurred by flooding. The "floodway" is an area that includes the stream channel area plus a more immediate area of floodplain. It is an area of greater regulatory concern as it where flood water currents are strongest. It is distinguished from the "flood fringe". The floodway can often be found on the local flood insurance map

Construction in the floodway of the rivers, lakes and streams of the state requires a permit from the IDNR's Division of Water Resource Management. Federal funded projects require special requirements imposed by Executive Order 11988 when the project will entail significant flood plain encroachment. These requirements are in addition to the special hydraulic analyses associated with determining bridge and culvert heights and widths. A project which will have significant floodplain encroachment will require the preparation of an Environmental Assessment or Environmental Impact Statement (EIS). Both the BDE Manual and IDOT Water Quality Manual provide additional information and procedures for projects involving floodplains.

Possible impacts to floodplains require consideration in the planning, design, construction, and maintenance of transportation projects. Construction includes such activities as building structures, channel modifications, bridges, culverts, dams, levees, grading, and other similar activities. Floodplains are considered impacted if fill is added, vegetation is removed, or heavy equipment is placed in the floodplain.

The following are general planning and design guidelines/objectives for transportation projects:

- Avoid or minimize impacts to floodplains.
- Coordinate with watershed management plan.
- Seek out community input and local requirements regarding flood prone areas.
- Maintain natural drainage patterns and runoff rates to the extent practicable.

The following are general construction and maintenance guidelines:

- Establish special requirements into plans, specifications and estimates provided to contractors.

- Confine construction staging area to the smallest area needed.
- Implement erosion control best management practice.
- Maintain riparian vegetation or replace as soon as possible.
- Properly handle, store, and dispose of hazardous materials.
- Implement spill control and clean up practices.
- Conduct on-site monitoring during construction to ensure floodplains are protected as planned.

## **SECTION 4(F) IMPACTS TO PUBLIC LANDS**

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Section 4(f) of the Department of Transportation Act requires that special effort be made to preserve public parks and recreation lands, wildlife and waterfowl refuges, and historic sites. Section 4(f) specifies that federally funded transportation projects requiring the use of land from a public park, recreation area, wildlife and waterfowl refuge or land of significant historic site can only occur if there is no feasible and prudent alternative. Using Section 4(f) land requires all possible planning to minimize harm.

IDOT's BDE Manual includes procedures for completing 4(f) evaluations. As projects are advanced through the project development process, Section 4(f) properties may be identified as impacted areas. If Section 4(f) resources are impacted it is required that specific measures to minimize harm or mitigate the impacts be identified and evaluated. These activities involve close coordination with the officials that have jurisdiction of the specific resources.

In cases where projects have Section 4(f) impacts and there is no feasible and prudent alternative to avoid use of the resource, it is required that project sponsors consider "all possible planning to minimize harm." Minimization of harm may entail both alternative design modifications that lessen the impact on 4(f) resources and mitigation measures that compensate for residual impacts. Minimization and mitigation measures should be determined through consultation with the official or the agency owning or administering the resource. Neither the Section 4(f) statute nor regulation requires the replacement of 4(f) resources used for transportation projects, but this option is appropriate as a mitigation measure for direct project impacts.

Mitigation measures involving public parks, recreation areas, or wildlife and waterfowl refuges may involve a replacement of land and/or facilities of comparable value and function, or monetary compensation, which could be used to enhance the remaining land. Mitigation of historic sites usually consists of those measures necessary to preserve the historic integrity of the site and agreement by FHWA. In any case, the cost of mitigation should be a reasonable public expenditure in light of the severity of the impact on the Section 4(f) resource in accordance with federal requirements.

Reasonable mitigation for impacts to Section 4(f) resource impacts may be:

- Modify the transportation facility design
- Minimizing construction noise or limiting construction to specific times
- Landscape or screening of resource
- Installation of enhancements such as park benches, trash receptacles, signage, etc.
- Improving access or expansion/ pavement of parking areas
- Rerouting of traffic
- Direct compensation for improvements to on-site resources

## **SECTION 6(F) IMPACTS TO LAND CONSERVATION RESOURCES**

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Section 6(f) of the Land and Water Conservation Fund Act of 1965 applies to any USDOT funded projects which involve the use of lands which have Land and Water Conservation (LAWCON) or Open Space Land Acquisition and Development (OSLAD) funds involved in their purchase or development. IDOT, as part of its BDE Manual has procedures in place for handling 6(f) lands when developing highway projects. These procedures focus on early and on-going coordination with local officials as well as the Illinois Department of Natural Resources.

## **FARMLANDS**

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DeKalb County's growth management policies address the inappropriate or premature conversion of farmland to urbanized uses. In the development of a project, consideration is given to the impacts that the action will cause in conversion of farmland to non-farm uses. Under certain circumstances, coordination must be initiated with the U.S. Department of Agriculture, Natural Resources Conservation Service and/or the Illinois Department of Agriculture to evaluate the impacts on farmland and obtain the views of those agencies on alternatives to the proposed action. As practical, proposed actions will be developed to be compatible with programs and policies to protect farmland. The BDE Manual outlines coordination procedures and defines those lands subject to these provisions.

## **HISTORIC AND CULTURAL RESOURCES MITIGATION**

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Appropriate measures must be taken to avoid and/or minimize impacts on properties that are included or eligible for the National Register of Historic Places. Where such properties will be affected, the Advisory Council on Historic Preservation shall be afforded a reasonable opportunity to comment prior to project approval. Special efforts shall be made to minimize harm to any National Historic Landmark. The BDE Manual contains specific procedures for minimizing harm to historic resources in cooperation with the Advisory Council on Historic Preservation and the State Historic Preservation Officer.

Mitigation measures may involve a variety of methods including, but not limited to aesthetic treatments, avoidance, archaeological data recovery, salvage and re-use of historic materials, informing/ educating the public and documentation per the Historic American Buildings Survey (HABS)/Historic American Engineering Record (HAER). Approaches may vary widely depending on the type of historic property, the qualities that enable the property to meet the National Register Criteria of Eligibility, the location of the historic property with respect to the project, etc. Mitigation plans are should be developed in consultation with IDOT, the Illinois State Historic Preservation Agency, FHWA, consulting parties (i.e., local officials, organizations, public), federally recognized Native American Indian tribes, as applicable.

## **THREATENED & ENDANGERED SPECIES**

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Throughout Illinois, land use change has been one of the largest causes for decline in species range and diversity. Contamination and degradation of natural waters has also contributed to loss of habitat. In the development of a transportation project, special studies and coordination are required when the action may affect federal or state-listed threatened and endangered species.

The Illinois Endangered Species Protection Board determines which plant and animal species are threatened or endangered in the state and advises Illinois DNR on means of conserving those species. IDOT also conducts studies and coordination activities on actions that may adversely impact areas included in or eligible for the Illinois Natural Areas Inventory. Federal designations in DeKalb County include two species of animal and two species of plant. State designations in



DeKalb County include two species of plant and five species of animal. Two Natural Areas have been identified just outside the jurisdiction of DSATS: the Wilkinson/Renwick Marsh, located adjacent to the west side of Annie Glidden Road, north of Illinois Route 64; and a natural area referred to as DeKalb Geological Area, which is located west of Nelson Road and south of Twombly Road.

It is IDOT's policy that in the development of a project, an assessment shall be made of the likely impacts on threatened or endangered species of plants or animals listed in the federal or state level as threatened or endangered and on state-designated Natural Areas. Every effort is made to minimize the likelihood of jeopardizing the continued existence of listed threatened or endangered species or the destruction or adverse modification of a Natural Area. Efforts are also made to avoid negative impacts on areas of habitat designed as critical habitat or essential habitat. The BDE Manual specifies procedures for avoiding and/or mitigated impacts on endangered or threatened species and Natural Areas including consultation with the U.S. Fish and Wildlife Service and the Illinois Department of Natural Resources.

If there is the potential for impacting a designated species, a number of potential mitigation could include the following:

- Restricting the clearing of trees during sensitive roosting periods
- Relocation of listed plant species out of construction areas
- Restricting blasting activities during sensitive roosting periods
- Timely removal of carcasses from roadways to minimize the potential of vehicles striking scavenging bald eagles
- Inclusion of "critter crossings" to allow species to pass across roadways
- Measures to ensure that all equipment is in proper working order to minimize construction noise and reduce the risk of equipment spills and leaks.

## **NOISE MITIGATION**

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Roadway projects that add lanes or replace pavement may require an investigation of noise levels. The level of roadway noise depends upon the volume of traffic, the speed of traffic and the number of trucks in the flow of traffic. Noise is produced by the engine, exhaust and tires; and it is exacerbated by such conditions as defective or faulty equipment or conditions that cause laboring of the vehicle (e.g., trucks on steep inclines).

Federal laws and regulations require that it may be necessary to undertake special technical analyses to identify and evaluate the potential noise impacts a project will involve. Once a noise impact is identified, IDOT will evaluate feasible and reasonable noise abatement methods to reduce traffic noise impacts. Traffic noise can potentially be reduced by addressing the noise source, noise path or noise receiver. The BDE manual includes specific guidance and procedures for determining the need for noise abatement evaluations and the types of mitigation strategies that are appropriate for a variety of situations. The manual also specifies coordination requirements with local government and public participation procedures.

Noise mitigation involves one or a combination of measures that create physical distance or which block or filter the noise. They include:

- Creating buffer or setback zones
- Planting dense vegetative strips
- Constructing barriers
- Restricting truck traffic along certain routes or in certain periods of the day
- Enforcement of muffler restrictions

Physical solutions to noise mitigation have both positive and negative characteristics. Buffers or setbacks require large amounts of land, as do measures such as vegetative strips or earthen berms. Vegetative strips, though aesthetically more pleasing, must be sufficiently dense to achieve noise attenuation. Noise barriers such as walls take less space and can be built of a variety of materials suitable to their context. They do require maintenance, however, and negative reactions can result from restriction views, a sense of confinement, and a reduction in air circulation, sunlight, etc. Noise mitigation can also be aggravated by conditions such as grade changes between source and receiver.

# **PROVISIONS NOT APPLICABLE TO DSATS**

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## **AIR QUALITY CONFORMITY**

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*Revised TEA-21 Provision: Amended 23 U.S.C. 134(i)(3)*

This revised provision does not apply to the DeKalb-Sycamore area. In air quality non-attainment areas, an MPO must demonstrate a program for attaining air quality conformity through the end of the planning period. In these areas, long range transportation plans and air quality analysis must be revised every four years.

## **CONGESTION MANAGEMENT PROCESS IN TMAS**

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*Revised TEA-21 Provisions: Amended 23 U.S.C. 134(k)(3) and 49 U.S.C. 5303(k)(3)*

Transportation Management Areas (TMAs) are generally those metropolitan areas in excess of 200,000 where additional planning is required and where there are additional resources available for congestion management, such as ITS and travel demand management (TDM). This provision does not apply to the DeKalb-Sycamore urbanized area.

## **MAJOR CAPITAL INVESTMENT PROJECTS (NEW STARTS)**

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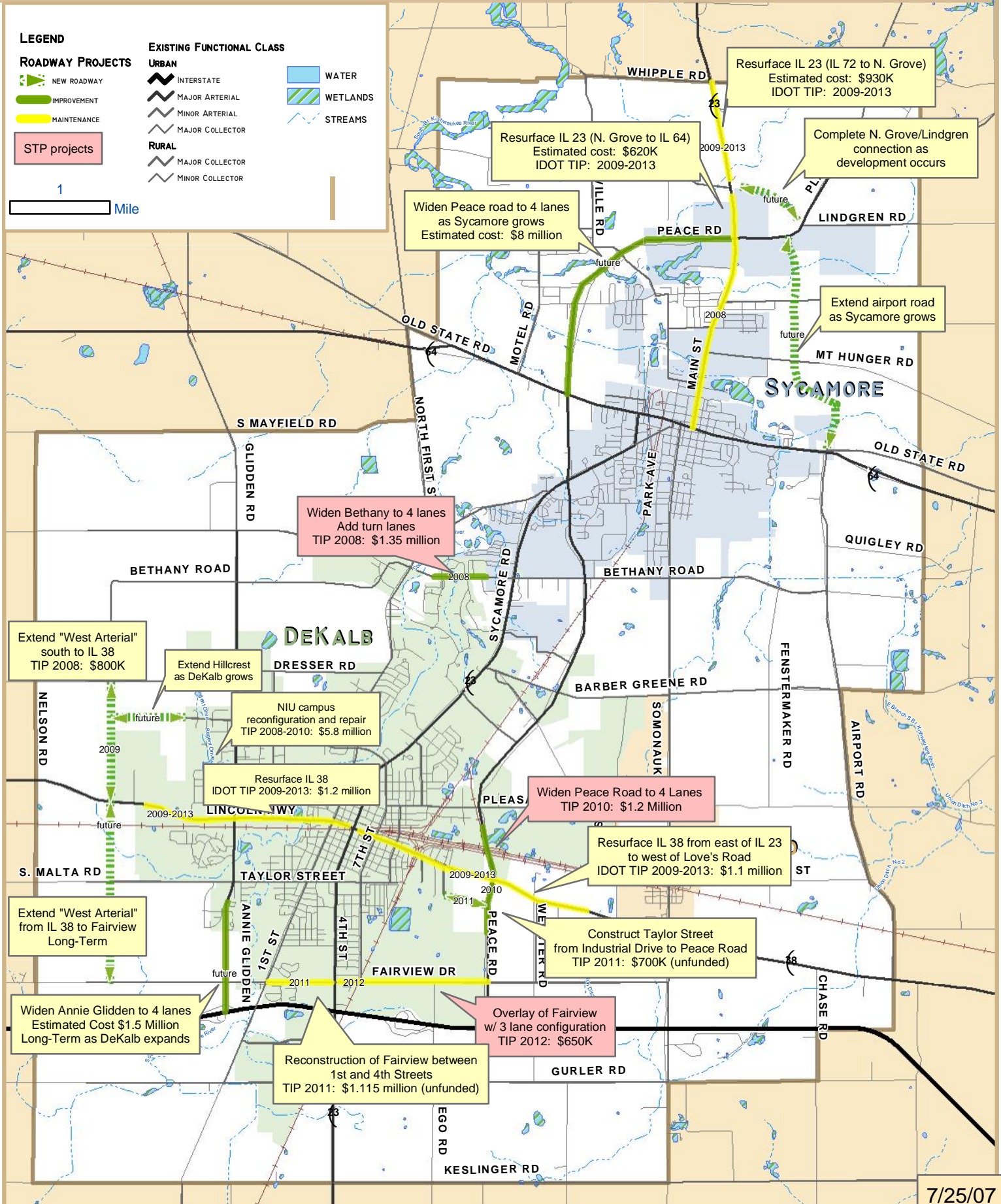
*Revised TEA-21 Provision: Amended Section 5309*

New Starts funding is intended for major investments in fixed-guideway transitways, such as light rail transit. New federal legislation emphasizes economic development as a criterion for selection of these types of projects. The DSATS LRTP is not proposing major transit capital investments, so this change is not applicable to the DeKalb-Sycamore urbanized area.

# DSATS SAFETEA-LU COMPLIANCE UPDATE

FIGURE I

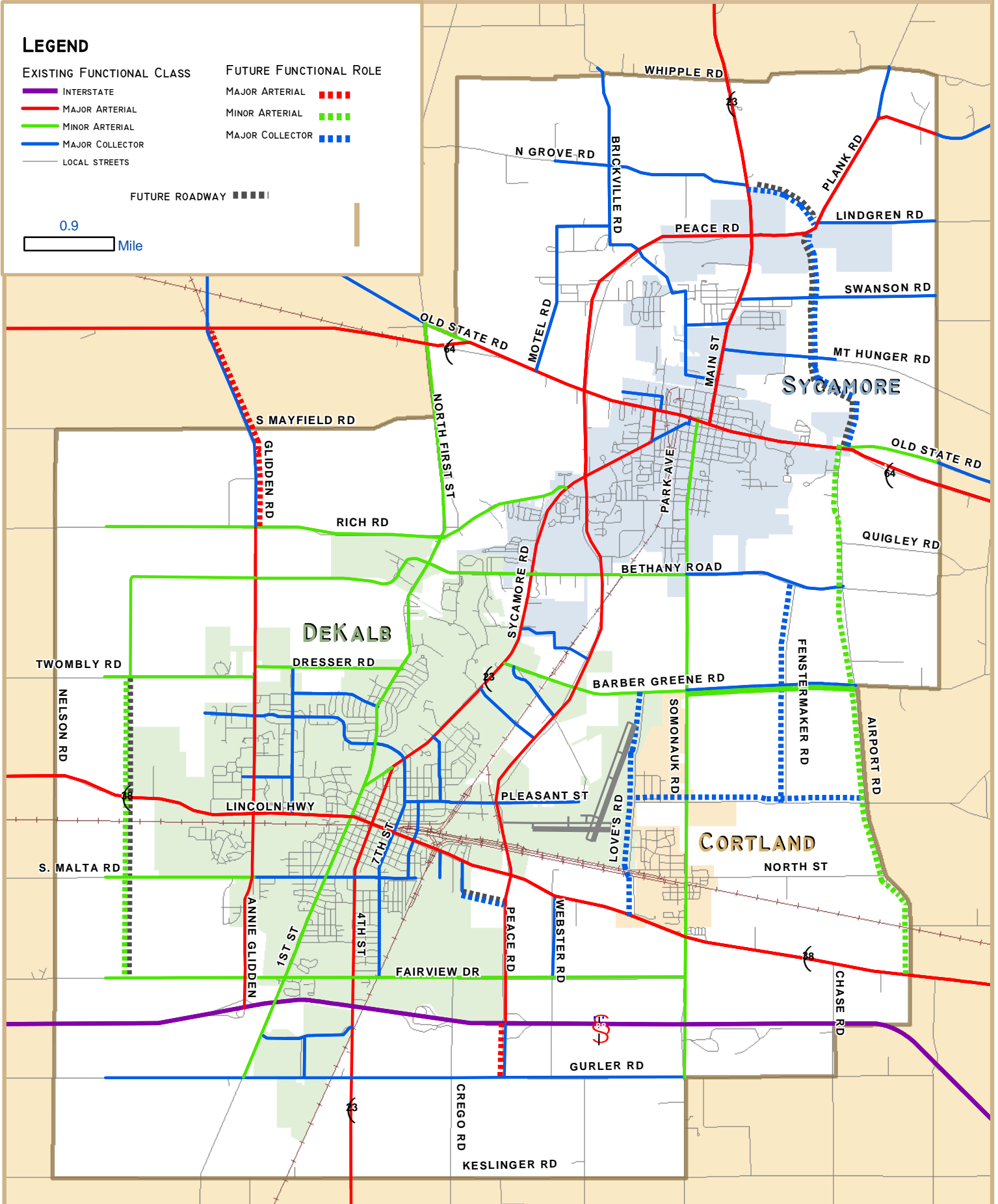
## ROADWAY PROJECTS & FUTURE ALIGNMENTS



# DSATS SAFETEA-LU COMPLIANCE UPDATE

FIGURE 2

## LONG TERM FUNCTIONAL ROLE















# DSATS SAFETEA-LU COMPLIANCE UPDATE

FIGURE 3

## ENVIRONMENTAL SENSITIVITY COMPOSITE



### Legend

-  NEW ROADWAYS AND CAPACITY IMPROVEMENTS
-  MAINTENANCE
-  School
-  350' buffer from schools
-  Park
-  open water
-  streams
-  wetlands
-  100 Year Flood Zone
-  1/4 mile water buffer
-  1/4 mile wetland buffer
-  1/4 mile stream buffer

Note: The depiction of buffers does not imply particular environmental conditions or regulations. Rather, they illustrate the potential for environmental impacts that should be explored.

