2035 CHOICES

Champaign-Urbana Urbanized Area Transportation Study

Long Range Transportation Plan

December 2009

Champaign Urbana Urbanized Area Transportation Study
Champaign County Regional Planning Commission
1776 East Washington Street
Urbana, IL 61802

CHOICES 2035

Champaign-Urbana Urbanized Area Transportation Study

Long Range Transportation Plan

December 2009

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Executive Summary

Plan Purpose and Scope

The Long Range Transportation Plan (LRTP) is a federally mandated document that is updated every five years, and details how the urbanized area transportation system will evolve over the next 25 years. The LRTP covers the Champaign-Urbana-Savoy-Bondville urbanized area as delineated by the 2000 U.S. Census, and looks at a 25 year metropolitan planning area which encompasses land outside the urbanized area which is likely to be included in the urbanized area between the years 2009 and 2035. The LRTP looks at the projected evolution of automobile, bicycle, pedestrian, bus transit, rail, and air travel over the next 25 years. This plan has a regional scope and is not meant to take the place of local transportation plans and comprehensive land use plans. Its main purpose is to identify major regionally beneficial transportation projects which can be targeted for federal funding. While smaller localized transportation projects were reviewed and taken into consideration during the planning process, the LRTP lends itself to a broader regional focus, which attempts to bring multiple jurisdictions together under one common vision. The LRTP focuses on increasing the mobility of area residents and the connectivity of the entire transportation system in order to create a more efficient travel network.

LRTP Mission

To provide a safe, efficient, and economical transportation system that makes the best use of existing infrastructure, optimizes mobility, promotes environmental sensitivity, sustainability, accessibility, economic development, and enhances quality of life for all users.

A detailed existing conditions analysis was completed for the urbanized area and metropolitan planning area during the winter and spring of 2009. The existing conditions analysis looked at current land use and development patterns, environmental conditions, and the current status of the transportation network as it relates to motorists, bicyclists, pedestrians, transit users, rail, and air travelers. Overall, the transportation network within the urbanized area is performing well in 2009, and has made positive progress since the last LRTP update in 2004.

Existing Conditions Findings

- Land development patterns between 2004 and 2009 have shown lower densities and expanding land areas.
- The urbanized area continues to meet attainment status.
- Water quality in rivers and streams has declined in the urbanized area.
- The total number of crashes in the urbanized area decreased between 2004 and 2007.
- The total mileage of bicycle facilities rose by over 40% in the urbanized area.
- CU-MTD operates over 48 weekday and weeknight routes in 2009 compared to only 27 in 2004.
- Amtrak ridership from Illinois Terminal rose by over 98% between 2004 and 2008.

Goals, objectives, strategies, and measures of effectiveness (MOEs) were created to direct the vision of the LRTP and the plan's implementation process. The goals provide a general statement about the end state of the LRTP. Objectives refer to sub-goals necessary for the completion of the broader goals. Strategies are specific action items that can be taken to complete each objective. Finally, measurements of effectiveness are data sets and tracking measures to see how the urbanized area performs over the five year periods between plan updates. The measurements are based on real data collected during the LRTP update process.

During this update of the LRTP, the vision for the urbanized area was reflected in three regional vision maps: one for roadway projects, one for bicycle and pedestrian projects, and one for transit, rail and air travel. The regional vision is meant to convey large over-arching ideas that will be complemented in more detail by local plans such as municipal comprehensive plans or municipal transportation plans. The vision looks at broad concepts such as compact and sustainable growth, multi-modal transportation facilities, increasing mode share in the urbanized area, expanding connectivity for all transportation network users, and improving the efficiency of the current transportation network. A complementary future conditions chapter is included in this plan to discuss in more detail the projected evolution of the transportation network and how each mode may function in the year 2035. The future conditions chapter also touches on linking land use decisions to the transportation network, and analyzing multi-modal options for new development.

Vision Concepts

Land Use Vision
- Sustainable and Compact Development
- Multi-Modal Transportation Connections
- Green Infrastructure

Roadway Vision
- Reduce Vehicle Miles Traveled
- Reduce Greenhouse Gas Emissions
- Increase Efficiency, Connectivity and Mobility

Bicycle/Pedestrian Vision
- Increase Number of Bicycle Facilities
- Continue Constructing Pedestrian Facilities in New Development
- Continue Safety and Education Programs

Transit, Rail and Air Vision
- Increase Transit Ridership and Frequency
- Increase Amtrak Ridership and Frequency
- Increase Enplanements and Carriers at Willard Airport

In order to comply with federal mandates for the LRTP, projects which are "fiscally constrained" have been noted separate from the overall vision for the future. The term fiscally constrained refers to regionally significant projects which are fully funded or have a reasonably guaranteed source of funding for future implementation. The projects considered fiscally constrained as part of this LRTP update are as follows:

- I-74 widening from IL-47 to Prospect Avenue
- Olympian Drive extension from Apollo Drive to US 45
- Olympian Drive extension from east of Duncan Road to I-74
- Olympian Drive grade separation over CN railroad tracks
- IL-130 widening with medians from University Avenue to Windsor Road
- Florida Avenue extension to IL-130
- Windsor Road reconstruction from Philo Road to IL-130
- Curtis Road improvements between Wesley Avenue and Wynstone Drive
- High Capacity Transit Network

Funding projections were completed for transportation projects using federal, state and local funding sources. Due to the expiration of the current federal transportation bill (SAFETEA-LU), future federal funding sources are difficult to predict. Therefore, an average was used to project federal and state funding based on the amount of transportation funding between fiscal years 2005 and 2009. Local funding projections were completed with help from local agencies including the City of Champaign, City of Urbana, Village of Savoy, and CU-MTD. Funding projections for Champaign County and the University of Illinois were completed using the current 2010-2013 Transportation Improvement Program for the urbanized area.

The regional vision and implementation of the LRTP is dependent on strong coordination between all local agencies in the urbanized area. The successful implementation of the LRTP will result in a well connected, efficient and safe transportation network for all users. The need for *"Choices"* in transportation is more important than ever with transportation costs increasing and the affordability of personal vehicles becoming out of reach for more and more urbanized area residents. This plan provides a regional vision for offering more travel choices to residents.

1 Introduction

1.1 Purpose of the LRTP

The Long Range Transportation Plan (LRTP) is a document that details how the local area transportation system should evolve over the next 25 years. The Federal Highway Administration (FHWA) requires an update every five years in order for communities in urbanized areas to receive federal and state funding for transportation projects. According to United States Code (USC) Title 23 Section 134, the LRTP must at minimum contain the following:

- An identification of transportation facilities (including but not necessarily limited to major roadways, transit, and multi-modal and intermodal facilities) that should function as an integrated metropolitan transportation system, giving emphasis to those facilities that serve important national and regional transportation functions.
- A financial plan that demonstrates how the adopted long-range transportation plan can be implemented, indicates resources from public and private sources that are reasonably expected to be made available to carry out the plan, and recommends any additional financing strategies for needed projects and programs.
- Assess capital investment and other measures necessary to:
    - Ensure the preservation of the existing metropolitan transportation system, including requirements for operational improvements, resurfacing, restoration, and rehabilitation of existing and future major roadways, as well as operations, maintenance, modernization, and rehabilitation of existing and future transit facilities
    - Make the most efficient use of existing transportation facilities to relieve vehicular congestion and maximize the mobility of people and goods
    - Indicate as appropriate proposed transportation enhancement activities

Each urbanized area, or a geographic region with a population over 50,000, has a Metropolitan Planning Organization (MPO) designated for transportation planning. The Champaign County Regional Planning Commission (CCRPC) is the MPO for the Champaign-Urbana-Savoy-Bondville urbanized area. Within the CCRPC, the Champaign-Urbana Urbanized Area Transportation Study (CUUATS) has been designated the transportation planning entity. CUUATS staff is responsible for updating the LRTP and completing other federally mandated transportation planning documents. This update of the LRTP looks past the 20 year planning horizon to a 25 year planning horizon in order for the LRTP to remain consistent with other planning documents and processes which have occurred in the urbanized area since 2004. Various corridor studies that have been incorporated into this update of the LRTP look out to the year 2035. To remain consistent with previously adopted plans, the LRTP will use the year 2035 as its planning horizon year.

1.2 MPO History

The transportation planning process began with Congressional approval of the Federal-Aid Highway Act on October 23, 1962. This legislation requires that in urbanized areas, programs for Federal-Aid Highway projects approved after July 1, 1965, must be based on a "...continuing and comprehensive transportation planning process carried on cooperatively by states and local communities." This required "three-C" planning process established the basis for metropolitan transportation planning used today.

As a result of the 1962 Act, a new official body, the Champaign-Urbana Urbanized Area Transportation Study (CUUATS) was created in 1965 to build upon this planning effort and administer the area's three-C transportation planning process. In order to assure that comprehensive regional planning efforts were achieved, the Governor of the State of Illinois designated the Champaign County Regional Planning Commission (CCRPC) as the MPO in March 1974.

The Champaign County Regional Planning Commission Chief Executive Officer (CEO) serves as the CEO of the Champaign-Urbana Area MPO. CCRPC administers CUUATS staff, and to avoid any duplication of effort, it has recognized CUUATS as its own transportation planning entity. In March 1979, a Memorandum of Agreement was signed by all member agencies of CUUATS, CCRPC and IDOT "...for the purpose of continuing and documenting the framework of a continuing, cooperative and comprehensive transportation planning process that results in plans and programs consistent with the comprehensively planned development of the Champaign-Urbana urbanized area." An updated Memorandum of Agreement was endorsed by all participating CUUATS member agencies in June 2001. This document delineates responsibilities and actions between CUUATS and the CCRPC.

CUUATS member agencies are: the Cities of Champaign and Urbana, the Village of Savoy, Champaign County, University of Illinois, Champaign-Urbana Mass Transit District, Champaign County Regional Planning Commission, and Illinois Department of Transportation, all of which are voting members. In 2002, the Village of Bondville was included by the Census in the urbanized area, which made it eligible to be a CUUATS member agency.

The MPO is responsible for the following aspects of the transportation planning process:

- To design and set goals and objectives of the planning process and the long range transportation plan;
- To give advice regarding development in the study area;
- To review and advise on proposed changes in transportation planning concepts;
- To serve as liaison between governmental units in the study area;
- To obtain optimum cooperation of all governmental units in providing information and in implementing various elements of the transportation plan.

1.3 CUUATS Organizational Structure

CUUATS operates under the principal direction of two committees - the Policy Committee and the Technical Committee. In its organizational structure, the Technical Committee acts as a working committee under the direction of the Policy Committee.

CUUATS Policy Committee

The CUUATS Policy Committee consists of local elected and appointed officials of those agencies that have a primary interest in transportation. Each member is expected to reflect the official position of his or her constituent agency and/or the public interests they represent. The members include:

1. Mayor, City of Champaign.
2. Mayor, City of Urbana.
3. President, Village of Savoy.
4. Chair, Champaign County Board.
5. Chair, Champaign-Urbana Mass Transit District Board of Trustees.
6. Bureau Chief of Program Development, Illinois Department of Transportation, Region 3/District 5.
7. Executive Director of Facilities and Services, University of Illinois.

This committee assumes the decision-making authority for CUUATS and establishes policies that guide and form the transportation planning process. The committee has a variety of responsibilities, which range from approving the annual Transportation Improvement Program (TIP) to helping establish the metropolitan planning boundary of the study area.

CUUATS Technical Committee

The CUUATS Technical Committee consists of staff from all CUUATS participating agencies. It performs analyses and makes recommendations concerning transportation issues to the Policy Committee for their approval. The actual technical work is performed by CUUATS staff and the CUUATS Technical Committee member organizations.

CUUATS Technical Committee membership is composed of representatives of the following agencies:

1. County of Champaign (2 voting members): County Engineer, Assistant County Engineer.
2. City of Champaign (2 voting members): Director of Public Works, City Engineer.
3. City of Urbana (2 voting members): Director of Public Works or City Engineer, Community Development Director.
4. Village of Savoy (2 voting members): Director of Public Works, Village Manager.
5. University of Illinois (2 voting members): University Traffic Engineer, Director of Campus Parking & Transportation.
6. Mass Transit District (1 voting member): Managing Director of CUMTD.
7. Regional Planning Commission (1 voting member): Chief Executive Officer.
8. State of Illinois (2 voting members): Planning and Services Supervisor, Federal Aid Coordinator, Bureau of Local Roads.
9. Technical Advisors (non-voting): IDOT Central Bureau of Urban Program Planning; FHWA Division Office; Village of Bondville representative; IDOT Public Transportation Division; Airport, Rail, and Freight Representatives; Township Representatives (Somer, Hensley, Champaign, Urbana).

CUUATS Staff Structure

The professional time and services for transportation planning in this cooperative effort is provided through a composite approach. It consists of CCRPC staff assigned to CUUATS as well as staff from IDOT and other member agencies. CUUATS staff performs the day-to-day operations of the agency, with technical expertise in transportation systems planning and other related areas. The staff, in conjunction with CUUATS member agencies, collect, analyze and evaluate demographic, land use, and transportation data to determine the transportation system requirements of the urbanized area. They also prepare materials for use at Technical and Policy Committee meetings and other meetings including those of any existing subcommittees. Staff members participate in all CUUATS meetings and provide expertise as needed. In addition, they represent the agency at other meetings of importance to planning activities within the region.

The current staff members are:

1. CCRPC Chief Executive Officer
2. CUUATS Transportation Planning Manager
3. Transportation Engineer II
4. Transportation Engineer I
5. Transportation Engineer I
6. Transportation Planner II
7. Transportation Planner I
8. Transportation Planner I
9. Administrative Secretary

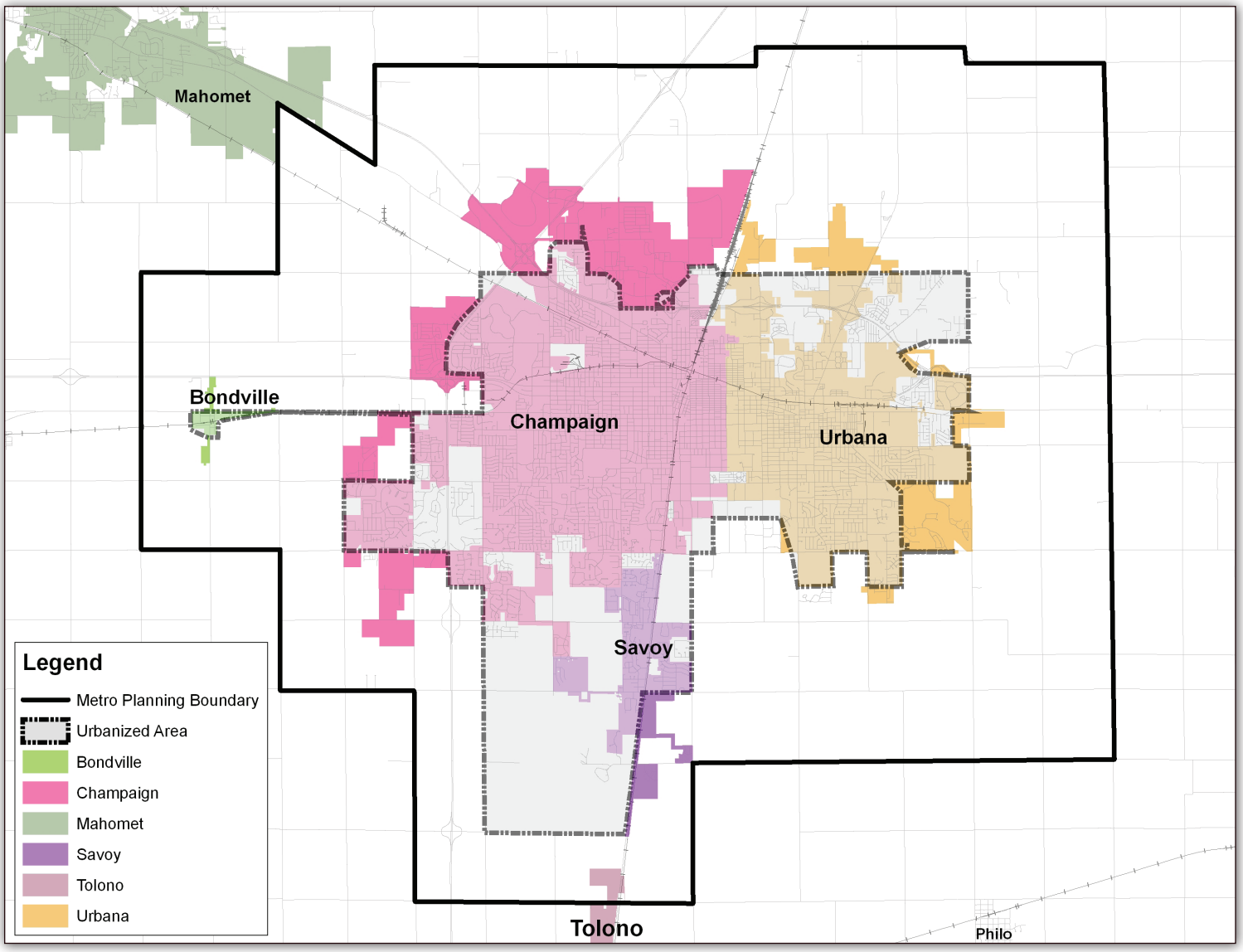
1.4 CUUATS Funding

CUUATS is funded by federal transportation planning funds from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). The funds typically require a minimum 20% local match, which is supplied by the cities of Champaign and Urbana, University of Illinois, Champaign County, and the Village of Savoy. To ensure that all funds are well managed and that planning activities are completed in accordance with federal and state guidelines, the state has entered into an agreement with the MPO and the agencies represented by the MPO to coordinate the planning process.

1.5 LRTP Planning Area

The LRTP must consider the local metropolitan area, which in our case is the Champaign-Urbana-Savoy-Bondville urbanized area. The US Census Bureau designates the urbanized area boundaries every decennial census year. In addition, the area that will likely be incorporated into the urbanized area over the next 25 years must also be considered; this larger area is called the metropolitan planning area. The urbanized area and metropolitan planning area boundaries have not been reconfigured for this LRTP update because the 2010 Census is only one year away and will be available during the next LRTP update in 2014. While Mahomet and Tolono are not currently part of the urbanized area or metropolitan planning area, CUUATS will inform either municipality if any regional transportation projects affect them. Figure 1.1 shows the 2000 urbanized area boundary for Champaign-Urbana-Savoy-Bondville and the metropolitan planning area boundary approved by the CUUATS Technical and Policy Committees in February 2009.

Figure 1.1 CUUATS Planning Area Boundary, Urbanized Area Boundary, and Corporate Limits



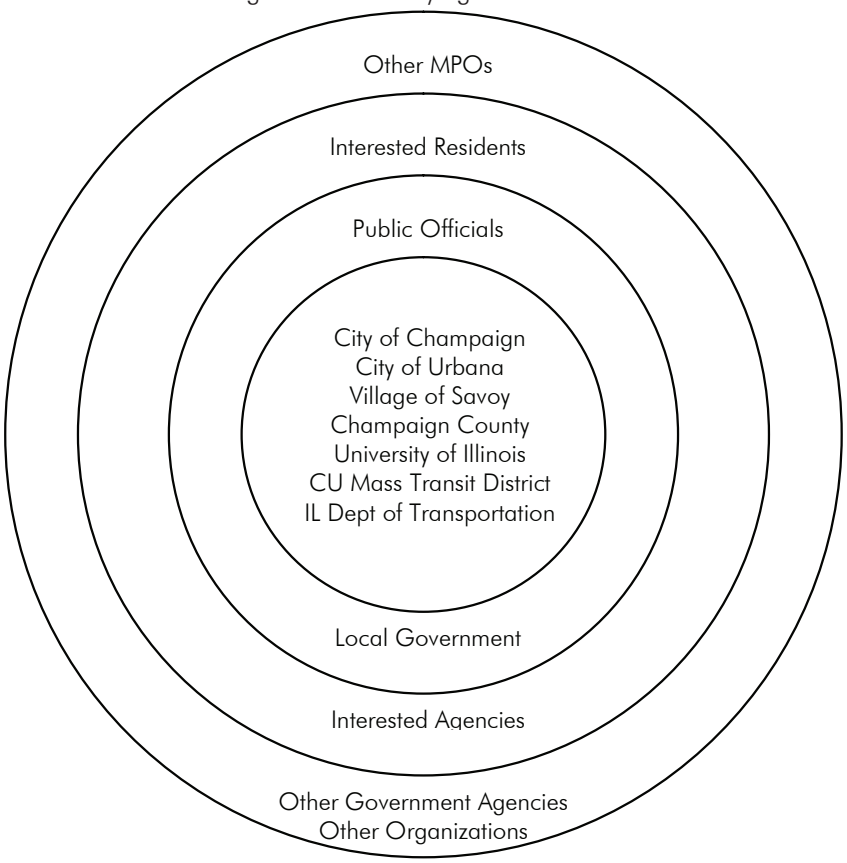
1.6 LRTP Process

The LRTP process occurred over an 11-month time period extending from January 2009 through December 2009. The following is a summary of the principal tasks undertaken during the process.

Identifying stakeholders

Stakeholders are persons, agencies, and organizations that have a vested interest in the local area transportation system. Stakeholders can be considered conceptually as a set of concentric circles. CUUATS member agencies become the inner circle of stakeholders by forming the LRTP Steering Committee, which is the decision making body regarding the LRTP process, inputs, and products. In the next ring of the circle, public officials and local government staff that are not on the Steering Committee provide insight into previous and current planning efforts and projects for each jurisdiction. Data, information, and advice are taken from this group of stakeholders. The third ring of the circle includes local residents and organizations that have shown an interest in the transportation planning process by attending meetings, requesting information, or providing comments. Concepts and project-specific information are taken into consideration from this group of stakeholders. The outermost ring includes other MPOs, government entities, organizations and agencies that provide data and information concerning their local area transportation systems and planning processes. Staff uses this group of stakeholders to help determine best practices and accepted standards for planning, design, engineering, and implementation.

Figure 1.2 Identifying Stakeholders



Involving the public

The transportation planning process affects every resident and visitor in the urbanized area in some manner. In 2001, CUUATS developed a Public Involvement Procedures (PIP) document that defined procedures used by CUUATS to involve the public in every phase of the planning process. In 2007, CUUATS staff updated the Public Involvement Procedures document to meet the following federal regulations listed in the 2005 SAFETEA-LU Transportation Bill:

- Hold any public meetings at convenient and accessible locations and times;
- Employ visualization techniques to describe plans; and
- Make information available in electronically accessible format and means, as appropriate to afford reasonable opportunity for consideration of public information.

CUUATS staff has developed a number of public outreach techniques to garner input during the LRTP planning process which are listed below:

- LRTP Web Page - Staff created a web page specifically for the dissemination of information related to the LRTP. All information pertaining to the LRTP's public input process is posted to this website.
- CUUATS Facebook Page - Staff created a page on the social networking website Facebook in an attempt to reach younger members of our community, specifically those attending the University of Illinois or Parkland College and local high school students.
- Direct Mailing - Staff sent flyers to the entire CUUATS mailing list for each of the public meetings.
- Newspaper/Television Ads - Advertisements for LRTP public meetings were posted in the News-Gazette and on the local Champaign and Urbana government television stations. Press releases were also distributed to local television, radio and newspaper agencies.
- LRTP Flyer Distribution - LRTP publicity flyers were also posted on all CUUATS member agency websites as well as on the Champaign and Urbana Park District websites.

To achieve the widest possible participation, the PIP document encourages citizen involvement from initial development through completion of projects. In addition, federal law requires early and continuing public involvement that provides opportunities to participate for all residents, independent of gender, race, national origin, age, or income. Staff makes every effort to fulfill these standards in their planning processes. The LRTP requires public involvement on two fronts: during the planning processes, and in review of the final document. Federal law mandates a 30-day public comment period before the CUUATS Policy Committee approves the final LRTP document. For more information on the public involvement techniques used in the creation of this plan, please refer to the Public Participation Appendix.

Existing Conditions

The LRTP document contains an extensive analysis of existing land use, environmental, and transportation conditions throughout the urbanized area. This analysis provides staff with current data on which to base future projections and recommendations. The existing conditions report also provides readers and urbanized area residents with up-to-date categorical information so they too can make more informed decisions about the future of their community.

Developing Goals & Objectives

Goals and objectives help direct how the LRTP will be implemented. They identify end stages we would like to achieve and the means by which to achieve them. Goals and objectives were developed by staff and approved by the LRTP Steering Committee. The formulation of the goals and objectives was based on analysis of public input, local knowledge, and best planning practices. Revisiting the goals and objectives during each LRTP update is a key step in evaluating the overall effectiveness of the plan. If the urbanized area is failing to meet short term and long term goals, plan recommendations may need to be adjusted to reflect more accurate and attainable goals and objectives. During this update of the LRTP, CUUATS staff created a set of Measures of Effectiveness (MOEs) to track progress toward completing the goals and objectives laid out in the LRTP. Tracking progress toward these goals every five years will provide a feedback system and help to set and reset goals and objectives during future LRTP updates.

Travel Demand Modeling

The CUUATS Travel Demand Model helps staff evaluate existing traffic conditions and forecast future conditions for cars and transit based on existing transportation system conditions and other input factors. The model helps determine future transportation needs based on estimated future traffic volumes that are the result of scenarios inputted into the model.

Developing Scenarios for 2035

Determining how we would like to see our transportation system evolve in the future has a strong basis in land use planning, development patterns, and the existing transportation infrastructure. With the help of the public and other stakeholders, an ideal scenario was identified in 2004 that elaborates how we as a community would like to see things evolve over the next 25 years. The 2004 preferred alternative was used as the base scenario for this LRTP update, with the addition of some new transportation projects based upon the proposed future vision for the Champaign-Urbana-Savoy-Bondville area.

Future Conditions in 2035

The Future Conditions in 2035 Chapter details regional concepts for land use, development and transportation and how each could evolve over the next 25 years. This chapter looks at new techniques and technologies to reduce Vehicle Miles Traveled, increase system efficiency, mobility and connectivity, and reduce greenhouse gas emissions. It also describes how different modes of transportation should link together to create a seamless transportation network offering multiple travel choices throughout the entire urbanized area.

Determining the Budget for Transportation Projects

By Federal law, the LRTP must be financially constrained, meaning transportation projects must have reasonably guaranteed funding sources for them to be included in the LRTP projects list. Specifically:

> *The LRTP must include a financial plan that demonstrates the consistency of proposed transportation investments with already available and projected sources of revenue. The financial plan shall compare the estimated revenue from existing and proposed funding sources that can reasonably be expected to be available for transportation uses, and the estimated costs of constructing, maintaining and operating the total (existing plus planned) transportation system over the period of the plan. (23 CFR 450.322)*

Future funding projections were completed for federal, state and local funding sources through the year 2035. Federal and state funding was based on a five-year average for the urbanized area. The local funding sources were completed with the help of local agency staff as well as utilizing the 2010-2013 Transportation Improvement Program for the urbanized area.

Identifying Projects

Many people consider a list of projects to be a sufficient plan for the future. In reality, a projects list is created based on the principles developed in a plan. All the inputs identified and created for the LRTP influenced which projects were chosen to be included in the LRTP document. Project selection is further based on anticipated available funding, public demand, and existing plans from local agencies. If a proposed project does not meet the criteria established in the plan, it will not be included in the LRTP unless measures are taken to correct those issues that do not meet LRTP standards.

LRTP Mission

To provide a safe, efficient, and economical transportation system that makes the best use of existing infrastructure, optimizes mobility, promotes environmental sensitivity, sustainability, accessibility, economic development, and enhances quality of life for all users.

Implementation

An implementation chapter is included at the end of the document and describes potential obstacles to the successful implementation of the LRTP and possible solutions to each obstacle. Problems and obstacles will arise over the next 25 years as the elements in the plan are implemented. How each problem is solved will determine the level of success for this plan.

2 The C-U-S-B Urbanized Area

2.1 Historical Review of the Urbanized Area

This section offers a brief review of the history of the long range transportation planning process in the Champaign-Urbana urbanized area over the last 50 years. Transportation plans and relevant documents from 1960 to the 2000s were reviewed as part of this historical review. Three long range transportation plans were adopted between 1960 and 2000. These transportation plans were based on twenty-year time frames, and some were frequently updated as a part of the continuing transportation planning process. This historical review is an important aspect of the current planning process, whereby one can evaluate the historical evolution of the urbanized area with respect to each transportation proposal. The primary purpose of these plans was to provide a long range transportation planning guide to aid local officials in making planning and policy decisions. In doing so, each plan satisfied its secondary purpose, which was to meet the Federal Highway Administration's requirements.

Pre-1960 Planning

Prior to 1960, two major street and highway plans had been completed for Champaign-Urbana. The consultants, Harland Bartholomew and Associates, prepared a comprehensive plan for Champaign in 1926. The second plan was a component of a comprehensive plan by consultants Swanson and Associates in 1950 for the Champaign-Urbana area. Both plans proposed an efficient transportation network, which if followed; would have significantly improved many of the street network irregularities.

1960 - A Major Street and Highway Plan

This long range plan by Harland Bartholomew and Associates looked at transportation needs over a twenty year horizon to serve the future needs of the projected population, which was projected to be 140,000 in 1980. This represented a 75 percent increase over that of 1960. The proposed plan was based on detailed studies of anticipated increases in population, land use, and vehicular travel in and around the Champaign-Urbana urbanized area. The routes proposed were primarily determined by considering economics and expanding traffic needs of a growing urban population.

During the 1960s, Champaign-Urbana experienced rapid urban growth, creating an immediate need for the LRTP planning process. The plan was written to guide and provide for a well coordinated, adequate and economical street system. Due to multiple agencies having jurisdiction over adjacent lands, the plan emphasized inter-agency coordination, so as to have a single comprehensive transportation plan. At the time, Champaign and Urbana did not have comprehensive plans and this transportation plan was to be adopted as a part of a comprehensive plan. The Street and Highway Plan emphasized utilizing the existing transportation network to maximize benefits from previous investments. The plan focused on ways to increase the capacity of the existing system. The plan also recognized the absence of a street hierarchy and sought to identify a network of major streets, developing them to a higher level and reducing expenditures in smaller street developments. The Street and Highway plan had three over-arching goals:

- Utilize existing streets to the maximum extent possible
- Construct infrastructure where and when necessary
- Acquire the right-of-way for the future construction needs as soon as it is practical, ideally concurrent with new land development

The plan also looked at transportation on campus and administered the operation of special bus routing in the campus area. It proposed removal of parking on Green Street from Wright Street to Fourth Street and provision of dedicated parking lots. The plan recognized the issue of pedestrian/vehicular conflict on campus and proposed hedge plantings along sidewalks, clear definition of sidewalks, and walk and wait signs at signalized intersections.

1970 - Comprehensive Transportation Plan for Champaign-Urbana

This long range plan, by Harland Bartholomew and Associates, was a comprehensive transportation plan, spanning a twenty year time frame for an estimated population increase from 94,236 in 1965 to 137,200 in 1985. This plan summarized transportation planning data and made recommendations for the development of a short and long range transportation plan. Current and future land uses were evaluated to forecast the estimated traffic in 1985. The plan also set forth a systematic

improvement program to serve the growing population. It presented a financially attainable program to be carried on as a normal and continuing function of the community, corresponding with the financial capabilities of each jurisdiction. Surveys of existing economic, population, land use, transit ridership, and major street conditions were done to create mathematical models to predict future travel demands. This allowed the plan to suggest improvements commensurate with demands and needs beyond the design year ensuring a long range plan.

Complementing its focus on transportation, the plan's major goals were to encourage urban growth in a controlled manner. It designated a major thoroughfare system to connect the new and the existing developed areas. The plan aimed to provide for economical transportation solutions with flexibility for future expansion and compatibility with the overall comprehensive plan. The plan suggested maximum use of traffic operations and adequate capacity on all elements of the transportation system while maintaining a desirable level of service. It emphasized eliminating indirect or circuitous routes and discouraged infringement of abutting land uses which could disrupt the efficiency of major thoroughfares. The plan encouraged reservation of the rights-of-way by means of a regulatory ordinance and also ensured a minimum level of mass transit for public service.

Three locations were identified as having a very high frequency of accidents: the outer connection ramp in the southeast quadrant of the I-57/I-74 interchange, the intersection of Chestnut Street and University Avenue in Champaign, and the segment of Neil Street between Washington Street and Columbia Avenue.

1979 - Update to the Comprehensive Transportation Plan for Champaign-Urbana

Apart from providing a safe, efficient and economical transportation system, the 1979 update aimed to organize land uses in a balanced, functional and mutually compatible manner. This plan focused on guiding growth and expansion in harmony with the natural environment. It strived to accommodate a system that would safely and conveniently encompass a variety of transportation modes and thus enhance the overall quality of life. It also identified land use, traffic, vehicle registration, crashes, and financial resources as key areas to be improved upon.

Capacity deficiencies in the transportation system were derived from travel demand data. The plan emphasized consideration of high crash frequency locations within the short range programs alongside other long range projects.

Developing mass transit plans for a small community was a speculative endeavor at that time, and was restricted by the available funding. During this plan, mass transit service was expanded to cover almost 100 percent of the urban area. The number of buses, and hours of service, were increased to include weekday evenings and Sundays. Annual ridership increased by 2,600,000 in 1978 up from 640,000 in 1972. Routes were modified to better accommodate citizens' needs, eliminating ineffective services and equipping buses with lifts for elderly and handicapped.

Considering the increased biking activity in Champaign-Urbana, particularly on the University campus, this plan laid special emphasis on biking as a mode of transportation. The growing demand for better bicycle facilities and bike planning was addressed by CUUATS' Long Range Transportation Plan.

The plan also tried to improve air quality by promoting increased vehicular occupancy, reduced vehicle miles traveled and decreased vehicle travel time. This plan also made efforts to reduce congestion by increasing vehicle speed through roadway improvements, signal progression, etc. A bikeway plan, public transit promotion and decreased vehicle operation time were some of the efforts presented to conserve energy and improve air quality for the community. A financially attainable plan was also developed using the best funding information available in collaboration with different implementing agencies.

1982 - Major Review of the Comprehensive Long Range Transportation Plan for Champaign-Urbana

The 1980 LRTP update classified projects into long range and short range categories and prioritized them by urgency of needs. These included projects like signal enhancements, using modern technology intersection improvements and road widening.

1986 - Long Range Transportation Plan Update

Apart from functioning as a planning guide, the 1986 LRTP update also involved critical assessment of the previous and ongoing transportation proposals. It analyzed whether the transportation plan reflected the changing growth patterns and area wide priorities within the available financial resources. Moreover, it helped locate various cross sections of roads for

short range development. Several major and minor roads were planned for capacity enhancement by widening their right-of-ways.

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)

Although ISTEA was a piece of federal legislation, it is important to note the affect it had on metropolitan planning organizations and transportation planning processes around the United States. ISTEA recognized changing development patterns, diversity within metropolitan areas, and the importance of providing more control for MPOs over transportation in their regions. ISTEA had significant affects on the Long Range Transportation Plan process as well, by stressing the importance of integrating environmental and intermodal considerations within a financially constrained vision for the future. ISTEA also made MPOs responsible for developing Long Range Transportation Plans within their respective areas, in cooperation with the State and transit operators.

2000 - C-U In 2030 Transportation and Mobility Plan

CUUATS completed this long range plan covering a thirty year period, aimed at serving the future needs of an estimated population of 203,847 by the year 2030, an increase of 18 percent over the population in 1990. The employment was projected to increase by 52 percent within the same period, from 53,253 in 1990 to 80,962 in 2030. The plan reviewed the progress made since the 1970 plan, which included extending and improving Windsor Road from Neil Street east to Philo Road, completion of the TR-151 (Olympian Drive) interchange at I-57, extending Church Street and University Avenue to I-72, and a widening of I-74.

The intent of C-U In 2030 was to determine the future needs for the various modes of transportation in the Champaign-Urbana-Savoy area. Working towards building a consensus, CUUATS developed this plan using the input and cooperation of several groups and agencies. While the Illinois Department of Transportation (IDOT) provided guidance on compliance and regulations, local governments identified the improvement programs and specific projects for future needs. The general public also participated in the planning process by identifying problems and proposing alternatives.

Although the plan does not give the exact timing for future projects, it suggests five general types of improvements:

- Traffic Management Corridors
- Improved Corridors
- Localized Improvements
- New Corridors
- Transportation Improvement Program (TIP) projects

The plan gave special emphasis to pedestrians given the high percentage of work related walking trips in the urbanized area. Recommendations were made for the provision of sidewalks in all new development. Pedestrian signals, wide sidewalks and audible signals were also recommended. The plan also calls for new residential development to be conveniently located near retail projects to provide easier access for pedestrians.

The primary goal of the transit system was to provide service that is safe, reliable and committed to total accessibility. The mass transit system's primary service was a fixed route and scheduled system with principal transfer locations in Downtown Champaign (Illinois Terminal), Downtown Urbana (Lincoln Square Village) and the University of Illinois (Illini Union). The plan called for additional investment in a rail component and suggested investigating the feasibility for establishing a high speed rail corridor along the Chicago-Champaign-Carbondale-Memphis line. The plan also recommended studying ways to increase air travel at Willard Airport.

C-U In 2030 recommended the use of Federal, State and local funding to go to certain regionally significant projects. It identified the Curtis Road interchange at a cost of $17.3 million, construction of Olympian Drive with a cost of $24.3 million, an extension to Olympian Drive with a cost of $6.0 to $7.2 million, reconstruction of IL-130 with a cost of $5.0 million, and an extension of US-150 with a cost of $6.0 million. Some safety projects on campus were also recommended, such as speed reduction on roadways, enhancing pedestrian crossings, traffic calming, improving turning radii, exclusive turn lanes, improving signal timing, and pedestrian crosswalks. Traffic signal coordination along certain corridors on Neil Street and University Avenue had an estimated cost of $8,300 per intersection, totaling $500,000 for the entire project.

2.2 Geographic Location and Incorporated Units

The Champaign-Urbana-Savoy-Bondville urbanized area, had a 2000 population of 123,885, and comprised over 40 square miles of Champaign County, located in east-central Illinois. It is situated approximately 135 miles south of Chicago, 120 miles west-northwest of Indianapolis, and 180 miles northeast of Saint Louis. There are four municipalities within the urbanized area, as designated by the US Census Bureau[1]: City of Champaign, City of Urbana, Village of Savoy, and the Village of Bondville.

City of Champaign

The City of Champaign is the largest and most populated municipality in the urbanized area with a 2000 population of 67,518. As of 2008, the approximate land area of the City of Champaign was 22.4 square miles. The transportation system includes 405 miles of roadways within its municipal boundaries, 35 miles of bicycle and/or pedestrian paths, direct access to three interstates (I-57, I-72, and I-74), and community-wide public bus service.

City of Urbana

The City of Urbana is the second largest municipality in the urbanized area with a 2000 population of 37,372. As of 2008, the approximate land area of the City of Urbana was 11.7 square miles. The transportation system includes 202 miles of roadways within its municipal boundaries, 26 miles of bicycle and/or pedestrian paths, direct access to one interstate (I-74), and community-wide public bus service.

Village of Savoy

The Village of Savoy is the third largest municipality in the urbanized area with a 2000 population of 4,476. As of 2008, the approximate land area was 2.5 square miles. The transportation system includes 46 miles of roadways within its municipal boundaries, 1.75 miles of bicycle and/or pedestrian paths, and public bus service in the north and central portions of the community.

Village of Bondville

The Village of Bondville is located approximately two miles west of the City of Champaign on Illinois Route 10. It is the smallest and least populated municipality in the urbanized area with a 2000 population of 455. As of 2008, the approximate land area was .25 square miles. The transportation system within the municipal boundaries of Bondville includes approximately 8.9 miles of streets.

Workers living in the urbanized area utilize a variety of transportation modes when traveling to and from work, as seen in Table 2.1.

Table 2.1 Commuting to Work

Transportation Mode	% of Workers in Population Aged 16 or Older			
	Champaign	Urbana	Savoy	Bondville
Car, truck, or van; drove alone	65%	53%	80%	74%
Car, truck, or van; carpooled	11%	11%	10%	20%
Public transportation (includes taxicab)	6%	11%	5%	-
Walked	12%	17%	0%	-
Other means	3%	5%	1%	-
Worked at home	3%	3%	4%	6%

Source: US Census Bureau, 2000

[1] It is important to note that the urbanized area boundary is not equal to the combination of the four communities' corporate limit boundaries; instead, the Census Bureau defines the urbanized area based on population density of Census blocks. This disparity reveals itself in the 2000 urbanized area population of 123,885, which is roughly 14,000 higher than the combined populations of the four communities. This is significant because funding levels for transportation projects are often based on urbanized area population. Source: US Census Bureau.

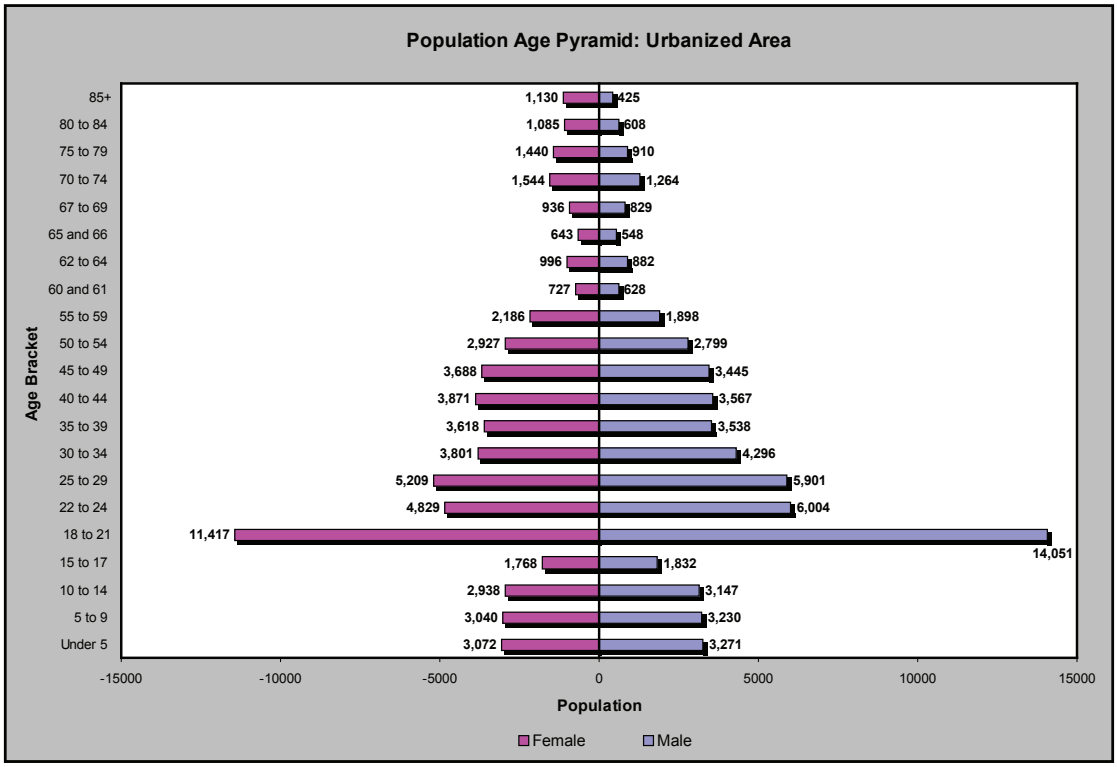
2.3 General population characteristics

According to the 2000 Census, Champaign County, Illinois has a population of 179,669. Of these residents, 123,885 (69%) live inside the urbanized area, consisting of 49,692 households, with the average household size being 2.5 persons.

Age

The 2000 Census shows the largest group of urbanized area residents (20.6%) falls in the 18-21 years of age bracket. This bracket includes students attending the University of Illinois at Urbana-Champaign. As can be seen in Figure 2.1, there is a higher population of males under the age of 35 than females; this trend reverses for the older population.

Figure 2.1 Population Age Pyramid



Source: US Census Bureau, 2000

Race & Origin

As can be seen in Table 2.2, the urbanized area population is primarily white (73.2%). The second largest racial group is black or African-American (14%). The urbanized area has a higher percentage (26.8%) of its population in minority race categories than the county, which only has 21% non-white population.

Table 2.2 Racial Groups as a Percentage of Population

Race (percentage of total population)	County	Urbanized Area
White Alone	79.0%	73.2%
Black or African American Alone	11.2%	14.0%
American Indian and Alaska Native Alone	0.2%	0.2%
Asian Alone	6.5%	9.0%
Native Hawaiian and Other Pacific Islander Alone	0.0%	0.0%
Some Other Race Alone	1.2%	1.5%
Two or More Races	1.9%	2.0%

Source: US Census Bureau, 2000

The Census differentiates between persons of Hispanic origin and race. The urbanized area is home to 4,274 persons who stated they were Spanish, Hispanic, or Latino on the Census forms, representing 3.4% of the urbanized area population[2].

Education

According to the 2000 Census, 38% of Champaign County residents over 25 years of age have a bachelor's degree or higher, placing it 3rd in educational status for Illinois counties. This compares to 47% of residents over age 25 in the urbanized area with the same achievement. Of residents over the age of 25 in the urbanized area, 25% have completed post-graduate degrees, ranking it 1st compared to all Illinois counties for this distinction. Of Champaign County residents over age 25, 91% have at least a high school degree, compared to 92% of urbanized area residents over age 25.

Approximately 9% of the county population over age 25 did not graduate from high school, compared to 8% at the urbanized area level and 19% at the state level. Overall, Champaign County proves to have a highly educated population.

Income

The 1999 per capita income for the urbanized area was $19,253. This is lower than the county, state, and national figures, which are $19,708, $23,104, and $21,587, respectively. Table 2.3 shows the poverty status of the urbanized area population in 1999 according to age. As can be seen in the table, over 20% of the urbanized area is considered to be living below the poverty level. This contrasts with 16% for the county, 11% for the state, and 12% for the nation. More detailed Census information tells us that the majority of the population living in poverty in the urbanized area is in the 18-24 age bracket (62.5%). The presence of the University of Illinois students appear to result in a disproportionate number of persons living below the poverty level for both the urbanized area and the county.

Table 2.3 Poverty Status by Age in 1999

Poverty Status in 1999 by Age	Urbanized Area
Income in 1999 Below Poverty Level:	21%
Under 5 Years	5%
5 Years	1%
6 to 11 Years	5%
12 to 17 Years	4%
18 to 64 Years	84%
65 to 74 Years	1%
75 Years and Over	1%
Income in 1999 At or Above Poverty Level	79%
Under 5 Years	6%
5 Years	1%
6 to 11 Years	7%
12 to 17 Years	7%
18 to 64 Years	67%
65 to 74 Years	6%
75 Years and Over	5%

Source: US Census Bureau, 2000

As stated previously, there are 49,692 households in the urbanized area. Of these, 69% are one- or two-person households. The median household income for the urbanized area in 1999 was $33,460. This compares to $37,780 for the county, $46,590 for the state, and $41,994 for the nation. Within the urbanized area, 52% of the households are renter-occupied as opposed to 48% owner-occupied. Table 2.4 shows population by household type for the urbanized area.

[2]Even though persons of Hispanic origin are not classified as a racial group by the Census, they are considered to be a significant minority group in our community and in our efforts to consider all minority groups in our planning processes.

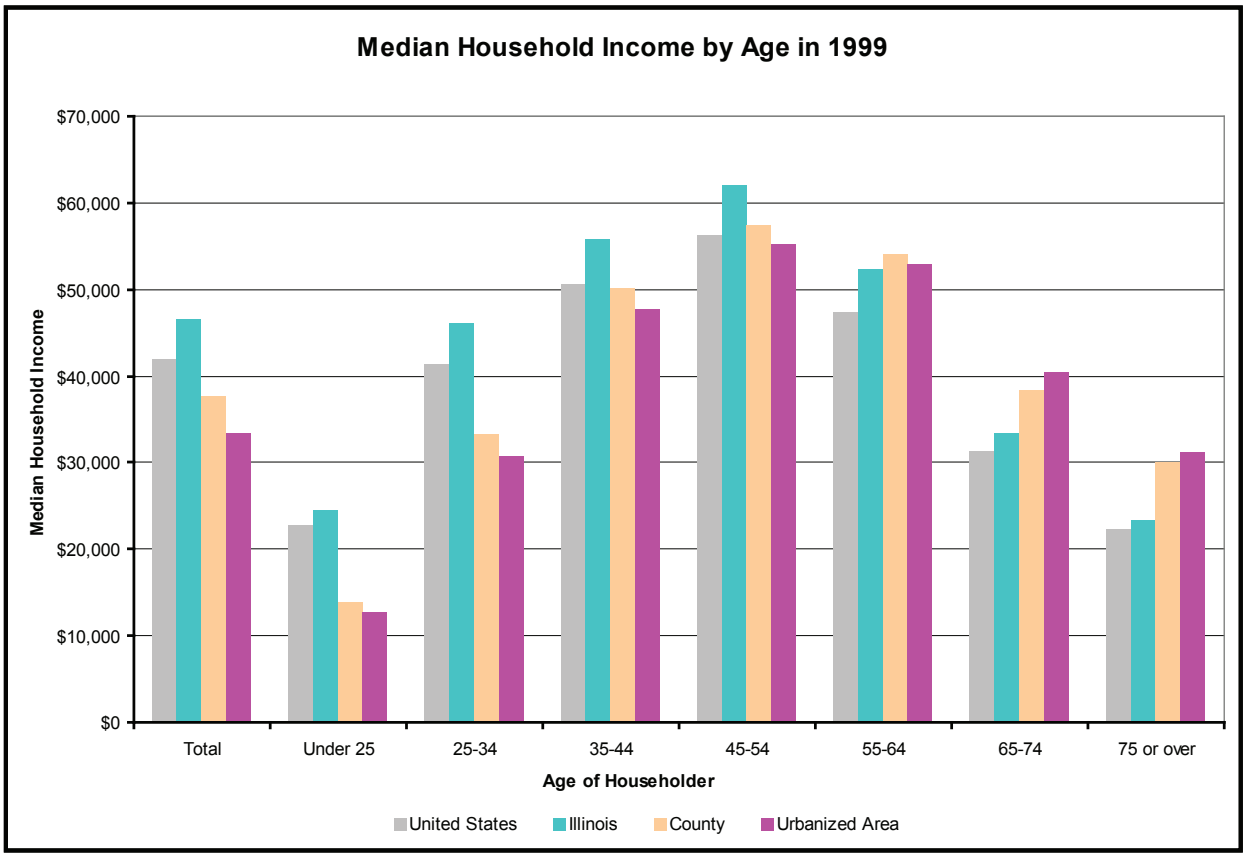
Table 2.4 Population by Household Type

Household Size	Urbanized Area	Percent
1-Person Household	17,444	35%
2-Person Household	16,688	34%
3-Person Household	7,087	14%
4-Person Household	5,590	11%
5-Person Household	2,052	4%
6-Person Household	453	1%
7-or-More-Person Household	378	1%
Total:	49,692	100%

Source: US Census Bureau, 2000

A different perspective shows median household income by age, as seen in Figure 2.2. One can see that householders under age 25 (typically in the 18-25 year age range) have a far lower median income than other age ranges. In addition, the urbanized area and county seem to fall especially short for this age range compared to state and national levels.

Figure 2.2 Median Household Income by Age



Source: US Census Bureau, 2000

2.4 Population Trends

Between 1990 and 2000, the urbanized area grew by about 7.5% in population, but increased in land area by about 33%. One result of this is that a disproportionate mileage of roadways in newly expanded areas must be maintained under the auspices of urbanized area and local agency funding, which in turn affects other transportation projects' funding in the area. This growth in land area was due to development, municipal annexations and the inclusion of the Village of Bondville in the urbanized area. This trend should continue with the next Census urbanized area designation in 2010, when the Villages of Mahomet and Tolono will likely be included due to their population density and proximity to the Champaign-Urbana urbanized area.

Rural-Urban Ratio

Since 1980, the urbanized area has been encompassing 2-3% of the county's population from its rural areas every ten years. This trend (seen in Table 2.5) is anticipated to continue at least over the next 25 years.

Table 2.5 Rural-Urban Population Ratio

Ratios	1980	1990	2000
Urbanized Area	64%	67%	69%
Outside Urbanized Area	36%	33%	31%

Source: US Census Bureau, 2000

2.5 Employment

Champaign County is a regional employment center, largely due to the presence of the University of Illinois and the two major medical centers located here. According to the Illinois Department of Employment Security (IDES), the labor force in 2007 was 105,053 versus 99,468 in 2004. The IDES also reported in 2007 that the County's top four employment sectors were:

- Educational Services - 19,516 employees
- Health Care and Social Assistance - 11,272
- Manufacturing - 10,701
- Retail Trade - 9,946

These four industries, as well as several others, have shown growth since 2004. These growth patterns are not surprising given the ongoing expansions of the University and hospital campuses as well as the retail services needed to support additional population and employment growth. The continued development of the North Prospect commercial corridor has added to the strong retail oriented employment base. Several manufacturers in the area, such as Kraft Foods and Plastipak Packaging, provide a significant number of jobs to residents as well.

Table 2.6 Champaign County's Top Employers

Top 10 County Employers	No. of Employees
University of Illinois	10,500
Carle Clinic Association	2,919
Carle Foundation Hospital	2,750
Kraft Foods Inc.	1,325
Provena Covenant Medical Center	1,200
Wal-Mart Super Center	1,050
Plastipak Packaging	800
Christie Clinic Association	740
Hobbico	700
Jeld-Wen	675

Source: Champaign County EDC (2008)

2.6 Traveling in the Urbanized Area

The majority of urbanized area residents have access to at least one vehicle per household. As can be seen in Table 2.7, the number of vehicles available per household by race is disproportionate. White residents have the highest percent of access to a vehicle (91%), while those residents who classified themselves as other than white alone had a lower percent of access to a vehicle, averaging 76%.

Table 2.7 Access to Vehicles in the Urbanized Area

Vehicles per Household, Urbanized Area	White Alone	Two Races	Asian Alone	Black Alone	Latino	American Indian/ Alaskan	Other Race	Hawaiian/ Pacific Islander
No Vehicle	9%	17%	20%	20%	27%	29%	30%	N/A
1 or More Vehicles Available	91%	83%	80%	80%	73%	71%	70%	N/A

Source: US Census Bureau, 2000

As in most American cities, the majority of people drive their own vehicle to work. Table 2.8 shows 64.4% of workers over the age of 16 in the urbanized area drive alone to their place of work. Other modes of transportation (walking, bicycling, and public transit) total 20.9% of the chosen travel modes. Comparable university-based urbanized areas are shown as well.

Table 2.8 Travel Mode to Work in the C-U-S-B Urbanized Area and Comparable Urbanized Areas

Travel Mode (Workers Over Age 16)	Champaign-Urbana	Bloomington, IN	State College, PA	Lafayette, IN	Iowa City, IA	Ann Arbor, MI
Drove Alone in a Car, Truck or Van	64.4%	70.4%	54.7%	75.8%	65.3%	74.8%
Walked	11.6%	11.1%	22.1%	8.0%	12.0%	8.0%
Carpooled in a Car, Truck, or Van	10.6%	10.3%	10.2%	10.2%	11.1%	8.7%
Public Transportation	6.8%	2.3%	7.2%	1.8%	6.6%	3.6%
Worked at Home	3.4%	3.1%	3.8%	2.5%	2.4%	3.3%
Bicycle	2.5%	2.1%	1.5%	1.1%	1.9%	1.0%
Other Means	0.4%	0.5%	0.4%	0.5%	0.4%	0.4%
Motorcycle	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%

Source: US Census Bureau 2000, Comparable urbanized areas taken from Big.Small.All Indicators Project

Table 2.9 illustrates that white residents drove alone in personal vehicles more than any other race, whereas persons that identified "other race" in the Census drove alone the least. In addition, non-white persons use public transit more than white persons. Latinos and householders that listed "other race" account for the highest percentage of commuter bicyclists of all races, and Asian householders account for the highest percentage of pedestrian commuters of all races.

Table 2.9 Travel Mode to Work by Race/Ethnicity

Travel Mode	White	Black or African American	Amer. Indian or Alaskan Native	Asian	Other Race	Two or More Races	Hispanic or Latino
Drove Alone in a Car, Truck or Van	67.8%	60.7%	50.0%	43.2%	38.3%	57.5%	47.6%
Walked	10.7%	7.7%	18.2%	24.1%	19.9%	14.8%	19.6%
Carpooled in a Car, Truck, or Van	9.6%	15.9%	23.5%	11.5%	13.4%	14.7%	10.5%
Public Transportation	5.0%	11.9%	0.0%	14.8%	16.7%	8.2%	13.7%
Worked at Home	3.6%	3.0%	0.0%	2.9%	0.8%	4.2%	1.0%
Bicycle	2.7%	0.9%	8.3%	2.4%	9.3%	0.0%	6.8%
Other Means	0.4%	0.0%	0.0%	0.6%	1.6%	0.6%	0.8%
Motorcycle	0.2%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%

Source: US Census Bureau, 2000

Table 2.10 shows that the majority of residents in the urbanized area take less than 15 minutes to arrive at their place of work.

Table 2.10 Travel Time to Work

Travel Time, Urbanized Area	% of Workers Working Outside Their Home
Less Than 5 Minutes	5%
5 to 9 Minutes	20%
10 to 14 Minutes	30%
15 to 19 Minutes	24%
20 to 24 Minutes	9%
25 to 29 Minutes	2%
30 to 34 Minutes	4%
35 to 39 Minutes	0%
40 to 44 Minutes	1%
45 to 59 Minutes	2%
60 to 89 Minutes	1%
90 or More Minutes	1%

Source: US Census Bureau, 2000

According to the 2000 Census, 14,312 people commute into Champaign County to work, whereas 4,943 Champaign County residents work outside Champaign County. Vermilion County is the highest exporter of workers to Champaign County, followed by Piatt, Douglas, and Ford Counties. Given that there are few public transit service options between these counties, one can assume that the majority of these commuters travel alone or carpool in personal vehicles. Currently, one of the only county to county commuter routes in the area is a Job Access and Reverse Commute (JARC) route that travels from Vermilion County to Champaign County.

Conclusion

The urbanized area has grown in population, employment base and land area. Census population estimates for 2007 indicate the urbanized area grew by 12.2% since the 2000 Census was completed. The urbanized area will continue to grow as we look to the year 2035. The Long Range Transportation Plan is tasked with supplying a plan for a transportation system that is flexible and can adapt to changes in demographics and mode share. As the urbanized area grows, so must our transportation network. The key is growing in a sustainable fashion that pays close attention to the amount invested in new infrastructure to serve our fringe areas and the amount invested in the existing transportation network to serve established development within the urbanized area.

3 Existing Conditions - Land Use

Introduction to Existing Conditions

The Existing Conditions report for the LRTP 2035 contains information detailing the current conditions for land use and development, the environment, and the transportation network for the urbanized area and metropolitan planning area. This report also reviews historical data and discusses trends that have occurred since the last LRTP update in 2004. This information is necessary in order to understand the direction the urbanized area and metro area are heading in the three categories listed above. By analyzing the existing conditions, we are able to make better predictions for the future and adjust the goals and objectives in this document to reflect the current and future direction of the region.

The 2004 LRTP developed a set of performance measures tied to eleven goals and objectives as a way to track and measure the progress that the urbanized area makes between each LRTP update in achieving the desired outcomes. Performance measures use data collected at regular intervals to help adjust the vision, goals and objectives which shape the transportation network for the future. Performance measures also provide agencies with communication tools to bring to the public in showing tangible evidence of the changes taking place as a result of the planning process.

2004 LRTP Goals

1. Compact development and economic vitality will be principal considerations of the transportation planning and implementation process.
2. The urbanized area transportation system will become more time and cost efficient during the 20 year planning horizon.
3. The urbanized area transportation system will be secure from human and natural hazards.
4. Transportation modes and facilities in the urbanized area will be safe for all users.
5. All transportation system users will have convenient, multi-modal access to all parts of the urbanized area and will travel with increased mobility during peak traffic hours.
6. To provide facilities for alternative modes of transportation in order to decrease the number of vehicles on our roadways.
7. Provide a user-friendly, integrated regional transportation system that supports accessibility and promotes desirable social impacts.
8. All transportation system users in the urbanized area will have access to a network of transportation modes and infrastructure that maximizes connectivity between origins and destinations and the modes used to travel between them.
9. To the greatest extent possible, the existing capacity of the urbanized area transportation system will be maximized through innovative transportation system management approaches with minimal investment in construction to enhance capacity.
10. To the greatest extent possible, the existing transportation infrastructure will be preserved and utilized in making improvements to the transportation system.
11. Interagency coordination will be emphasized in all phases of the transportation planning and implementation process.

Performance measures can be used for specific projects, such as the before and after effects of a roadway improvement, or measuring changes in the regional transportation network, such as shifts in annual ridership for the local transit district. Performance measures can also be used to evaluate different scenarios and alternatives for improvements to the transportation network. Selecting specific evaluation measurements can create easy comparisons between multiple alternatives used for local or regional transportation projects. It is critical that the indicators and performance measures are consistent with the goals presented in the plan, and are also easily understood by the public and decision makers.

Performance measures can be easily created, but they must be able to meet some key criteria, including:

- Data collection for performance measures must be cost effective
- Data collection must occur in a timely manner
- Data quality must be sufficient to fully support performance measures
- Measures must be clear and understandable to public and decision makers
- Measures must be comparable over time

With the looming expiration of the current surface transportation bill, SAFETEA-LU, transportation officials at the federal level are investigating the use of a performance based funding system where transportation dollars are granted based on an MPO's ability to show measurable improvements in their transportation system. With this in mind, the goals and performance measure benchmarks should be set at the MPO level through the LRTP planning process and adjusted based on historical data and future projections.

LRTP 2035 Performance Measures

The LRTP 2035 has two sets of performance measures. One set of MOEs is for existing conditions and one set for future conditions. The first set is directly related to the existing conditions of the urbanized area. These MOEs track historical data up to the latest year available for that particular data source. Most of the data collected for the existing conditions MOEs are valid through 2008 or 2009. These MOEs show where we were during our previous LRTP update and where we are now. These data sets allow CUUATS staff to look back over the last five to ten years to track the progress of the urbanized area and analyze trends such as transit ridership, historical Vehicle Miles Traveled (VMT) and crash history. Reviewing this data is also important to aid in the redefining of goals and objectives during each LRTP update.

The second set of MOEs are for future conditions. These data will cover 2009 to 2035 and evaluate how the future vision and future projects in the urbanized area change the different performance indicators and measures. As different alternatives and projects are evaluated, the CUUATS travel demand model provides data regarding future VMT, congestion measures and delay. This base information can be used in more detailed measures of evaluation like greenhouse gas emission, intersection level of service calculations and gallons of gasoline consumed.

3.1 Land Use Overview

The 140 square mile metropolitan planning area which encompasses the Champaign-Urbana-Savoy-Bondville (C-U-S-B) urbanized area acts as the LRTP's 25-year planning boundary. Planning for future land use not only addresses the community where new land uses are located, but can address all communities within the metropolitan planning area. The siting of industrial uses, municipal services or new commercial centers are just a few examples of land uses that could have effects on the region's transportation network or environmental balance. This chapter looks at the makeup of existing land uses within the metropolitan planning area and the approved plans affecting the future of land use decisions in the urbanized area.

The majority of land within the metropolitan planning area is agricultural because the planning boundary encompasses large areas that fall outside the immediate urbanized area, and are not within a municipal boundary. Much of this agricultural land is in active use and provides an important economic benefit to many within the metropolitan planning area. Inside the urbanized area, a variety of land uses exist. Figure 3.1 shows the existing land uses in the metropolitan planning area as of 2009. Table 3.1 shows acreages for the principal land uses.

Table 3.1 Land Uses in the Metropolitan Planning Area*

2009 Land Use	Square Miles	% of Total
Agricultural	98.9	71.06%
Single Family	12.6	9.02%
Institutional	12.1	8.66%
Commercial	6.6	4.72%
Private Open Space	2.8	2.00%
Multi-Family	2.3	1.67%
Public Open Space	2.0	1.44%
Industrial	1.2	0.88%
Mobile Homes	0.5	0.37%
Utilities	0.3	0.18%
Total	139.2	100.0%

* Land use data was compiled for the metropolitan planning area using Champaign County Assessors land use classification data. The data was corrected for specific parcels which were not yet in the assessors database or had changed since the database's last update.

As previously mentioned, agricultural land makes up the largest land use category in the metropolitan area totaling 98.9 square miles or 71% of the total. The majority of the agricultural areas fall outside the 2000 Census defined urbanized area.

The second largest land use category is residential, comprising 15.4 square miles or 11% of land in the metropolitan planning area. The residential category is made up of three different residential sub-categories: single family residences, multi-family residences and mobile homes. Single family residential parcels make up 9% of the acreage in the metropolitan planning area, multi-family makes up 1.7% and mobile homes make up 0.4%.

The third largest land use category is institutional, comprising roughly 12 square miles or 8.6% of the metropolitan planning area. The institutional category is mostly made up of land held by the University of Illinois, including large agricultural tracts which are part of the South Farms. The Parkland College campus is included in this category. The institutional category is also comprised of municipally owned land, the two airports (Willard and Frasca), cemeteries, and churches, among others.

The remaining 9.4% of land in the metropolitan planning area holds a mix of uses ranging from commercial to public and private open space. Most newer urbanized area land uses are segregated from one another, requiring non-pedestrian travel between them. New development occurring on the fringe of the urbanized area has tended to continue to separate land uses, making daily trips between home and work or trips to shopping needs dependent on a personal vehicle. Recent planning activities within the urbanized area have begun to address fringe area growth and promote mixed-use development, as well as ways of making other modes of transportation such as walking, biking or transit, more viable commuting options. As a result, Champaign and Urbana have seen an increase in the number of infill and mixed-use development projects.

3.2 Planning Documents 2004-2009

Since the last LRTP update in 2004, many planning related documents have been adopted in the urbanized area. These planning documents span both large areas, such as comprehensive plans, and also smaller planning areas, such as campus corridors. The following is a list of the planning documents which have been completed as of June 2009:

2005

- Urbana Comprehensive Plan 2005
- Champaign Downtown Plan
- Champaign Northwest Growth Area Plan
- Philo Road Action Plan
- Urbanized Area Intelligent Transportation Systems Plan
- Greenways and Trails Plan 2005 Update

2006

- US 45 Corridor Study

2007

- Illinois 130/High Cross Road Corridor Study
- University of Illinois Multi-Modal Study
- Big.Small.All (Champaign County Visioning Process)

2008

- Human Services Transportation Plan for the Urbanized Area
- Urbana Bicycle Master Plan
- City of Champaign Transportation Master Plan
- Curtis Road Interchange Master Plan
- St. Mary's Road Corridor Study
- Philo Road Beautification Plan
- Cunningham Avenue Beautification Study
- Boneyard Creek Master Plan
- Sustainable Urbana: Approach for Strategic Planning

2009

- Village of Savoy Comprehensive Plan Update
- Staley/Rising Corridor Study
- Champaign County Hazard Mitigation Plan

There are a number of important planning documents which are scheduled to be completed in 2009 or early 2010, which include:

- University Avenue Corridor Study
- Mobility Implementation Plan (miPLAN)
- City of Champaign Comprehensive Plan Update
- Champaign County Land Resource Management Plan

The LRTP 2035 will incorporate the pertinent visions, goals and objectives of each of the studies listed above as they relate to the urbanized area and issues of regional concern. Each of the planning documents listed have some over-arching principles in common that will be incorporated into this LRTP update. These elements are as follows:

Smart Growth

Smart growth can mean a number of different things depending on the community or region, but overall, it focuses growth within existing service areas and seeks to limit the exploitation of land resources and development patterns contributing to "sprawl". Many of the plans listed above have long term visions of growing more compactly, and linking neighborhoods to jobs and daily services through multi-modal transportation networks providing alternatives to driving. Smart growth also focuses on preserving environmentally sensitive areas and reducing greenhouse gas emissions.

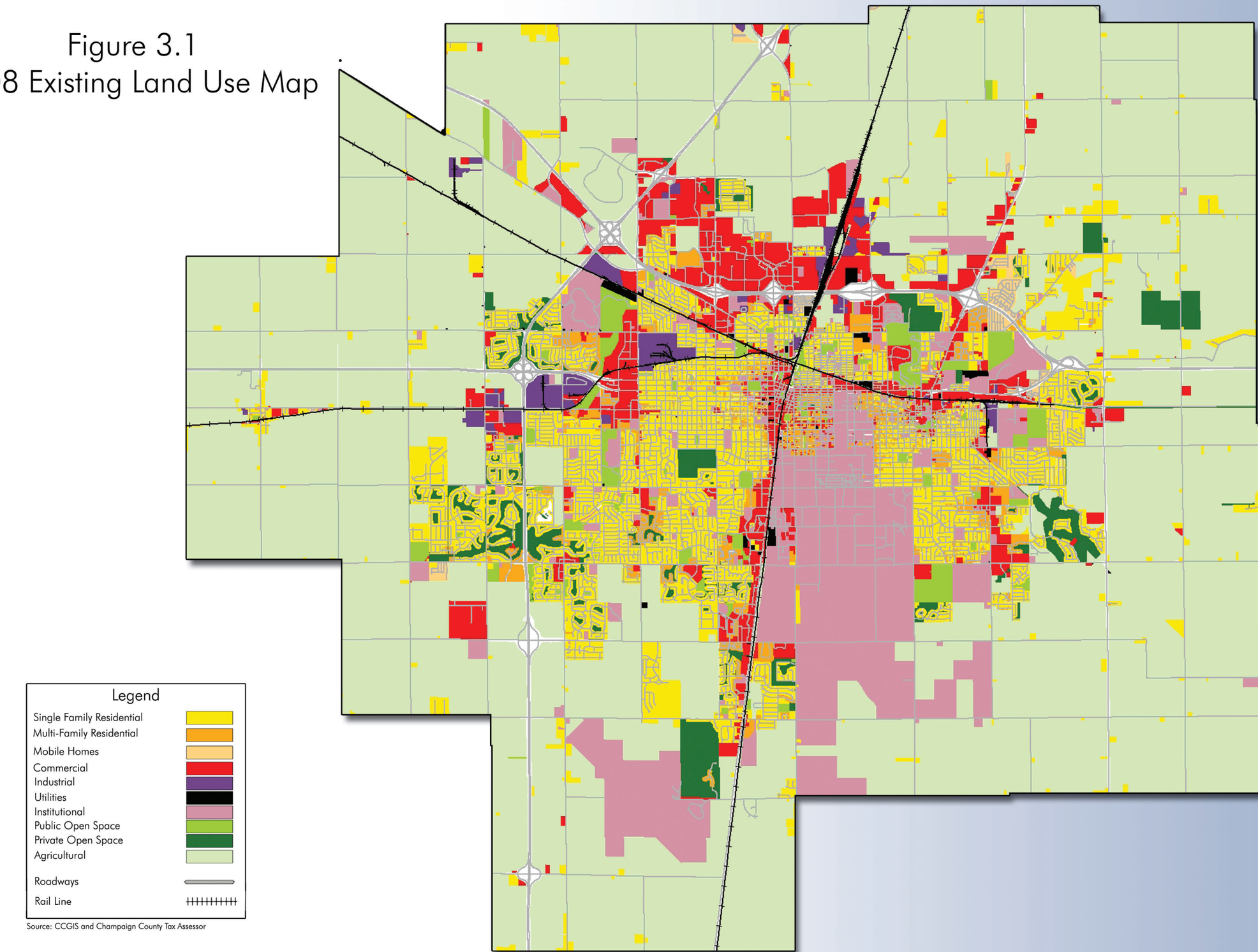
Multi-Modalism

Many of the plans listed above recommend adding transportation infrastructure which promotes and facilitates the movement of pedestrians, bicyclists and transit users in order to reduce the total number of personal vehicle trips in the urbanized area. Reducing the number of personal vehicle trips will help relieve congestion, reduce stress on our current roadway system and help reduce harmful emissions. Increasing travel options in the urbanized area also helps provide additional choices to those who may not be able to afford a personal vehicle.

Sustainability

Sustainability is a term describing the development of the built environment that meets the needs of today's users but does not cause undue hardship on future generations. The future vision will be developed with sustainable practices for development, environmental protection and energy efficient transportation in mind.

Figure 3.1
2008 Existing Land Use Map



Source: CCGIS and Champaign County Tax Assessor

The Champaign Transportation Master Plan, Urbana Comprehensive Plan and Savoy Comprehensive Plan Update provide examples of how local and regional planning efforts are moving in the direction of facilitating a more sustainable growth pattern for development and transportation infrastructure. The Champaign Transportation Master Plan calls for the establishment and intensification of development in specific areas called "Nodes", where there is a strong mix of uses providing housing and employment options, as well as an expansion in the choices available for travel. The nodes are connected to the rest of the city, and more specifically, to various "Neighborhoods" through a multi-modal transportation network. The idea of nodal development patterns has also been extended to the Curtis Road Interchange Master Plan and the Staley/Rising Road Corridor Study. The nodal development pattern allows for new greenfield development where services are already extended, but also focuses on infill development.

> *"The Plan creates a vision for a multi-modal transportation system that helps achieve the City's goals of sustainable growth."*
> -Champaign Transportation Master Plan

The Urbana 2005 Comprehensive Plan addresses ways in which the City can promote Smart Growth principles while still allowing for some additional greenfield development where current services are available. The Comprehensive Plan also calls for a mix of uses in new developments that will meet the needs of a diverse community and provide convenient access to a multi-modal transportation network. The City lays out extensive goals and objectives to maintain its unique character and to preserve its existing environmental assets. The goals established by Urbana were carried over to the Illinois 130/High Cross Road Corridor Study and the University Avenue Corridor Study and complemented the development of the Urbana Bicycle Master Plan.

> *"Urbana will promote healthy, balanced growth while preserving its community heritage. Appropriately designed infill development will be encouraged to help revitalize the built urban environment, while new growth areas will be developed in a contiguous, compact and sustainable manner."*
> -Urbana Comprehensive Plan 2005

The Village of Savoy adopted an update to its Comprehensive Plan in 2009. The update calls for a focus of development efforts in and around US 45 and within existing service areas. The plan addresses development along Curtis Road and stresses the importance of inter-governmental cooperation between Savoy and Champaign, and Savoy and the University of Illinois. The Village is interested in pursuing development proposals that enhance and add to existing developments within the current Village limits. Savoy is also promoting improvements to existing transportation infrastructure to enhance connectivity and mobility for existing and new development.

> *"These well-thought out actions will serve the needs of the citizens for years to come."*
> -Savoy Comprehensive Plan Update 2009

3.3 Growth Patterns 2004-2009

Champaign, Urbana and Savoy have continued to grow in both population and land area since the 2000 Census and since the last update of the LRTP in 2004. This section outlines some of the growth patterns and trends that have occurred in each municipality over the last five years.

Champaign

The City of Champaign experienced growth in a number of areas in the community. The area west of Interstate 57 saw a number of single family subdivisions approved and some construction taking place over the last five years. This area was the focus of two planning documents: the Curtis Road Interchange Master Plan and the Staley/Rising Corridor Study. The completion of the Curtis Road interchange at I-57 provided added development attraction and new mobility options for the community.

Land north of Interstate 74 along Prospect Avenue also experienced growth over the last five years, including growth in commercial and residential land uses. Additional big box stores and outlot developments have added to the commercial corridor along Prospect Avenue. Both single family and multi-family residential developments have located north of the commercial areas along Prospect Avenue and between Marketview Drive and Olympian Drive, providing housing options near shopping and employment centers.

Downtown Champaign saw continued reinvestment with the completion of the One Main building in 2003 and the scheduled completion of its counterpart, M2 on Neil, in late 2009. These two buildings provide ground floor retail and restaurant options as well as office and residential uses above. Additional rehabilitation has occurred on several older buildings in the downtown, creating new mixed-use developments with retail on the ground floor and residences or offices above.

Urbana

The City of Urbana also experienced growth in areas of its community. Significant residential development has taken place along the south side of Urbana in developments like Stone Creek, Prairie Winds, and The Ridge and in east Urbana at Savannah Green and Beringer Commons. The North Lincoln Avenue area saw an increase in multi-family development with the construction of projects like Capstone Quarters. New commercial development has occurred along the High Cross Road corridor with the new Wal-Mart and Aldi stores. A new neighborhood commercial center, The Pines, was constructed in 2008 at the southeast corner of Philo Road and Windsor Road providing retail, office and restaurant services.

Urbana has seen redevelopment occur in its downtown and along some of its core transportation corridors. The redevelopment along Philo Road between Florida Avenue and Windsor Road has brought significant investment to this older commercial corridor. Multi-family residential, fast food chains, grocery stores, and banks are just some of the businesses redeveloping both large and small parcels along the corridor. University Avenue also saw redevelopment take place at its intersection with Cunningham Avenue with the relocation of the O'Brien Autopark and subsequent redevelopment of retail shops at this intersection. Carle Clinic constructed the Mills Breast Cancer Institute along University Avenue as part of its medical campus. A mixed-use office over retail building was also constructed at the intersection of Lincoln and University Avenues.

Savoy

The Village of Savoy experienced significant residential growth in both single family and multi-family developments over the last five years. Most of the growth has occurred between Curtis Road and Airport Road and between First Street and Mattis Avenue. Both single family subdivisions and multi-family developments have located in Savoy to complement the existing commercial developments along US 45. Savoy also saw additional commercial development take place along US 45 at Savoy Plaza where a new Schnucks grocery store located along with other restaurants and retail stores.

University of Illinois Campus Areas

The U of I campus and immediate surrounding areas have seen redevelopment as well. The Burnham 310 and 309 E. Green Street mixed-use buildings, constructed in 2008 and 2009 along Green Street and Springfield Avenue, respectively brought additional commercial/retail options to Campustown as well as additional residential rental units. Gregory Place I, completed in 2004, and Gregory Place II, completed in 2008, are two more mixed-use developments placing residential above commercial/retail in the east campus area. The trend over the last five years has been to develop mixed-use buildings where student residences are placed above daily service needs like grocery stores, restaurants and clothing shops.

The South Research Park has also grown over the last five years and now includes a hotel and conference center, day care and research and development facilities for major national corporations.

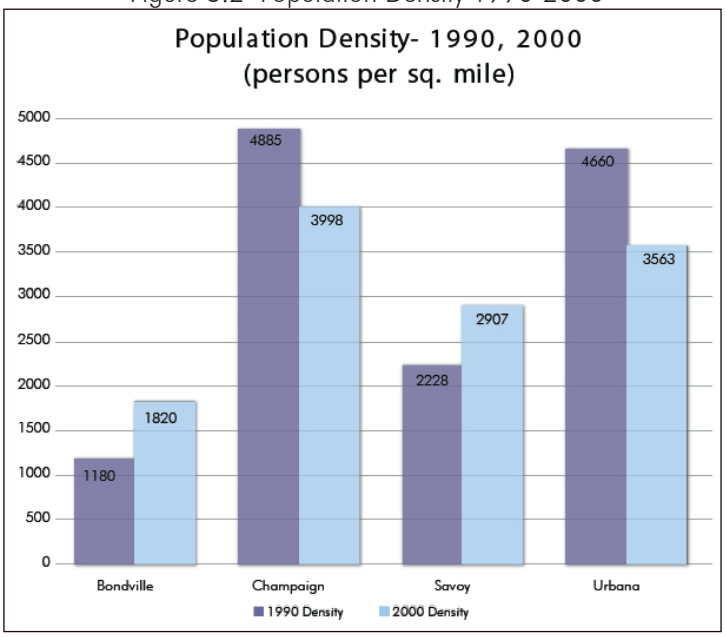
3.4 Tracking Changes in Land Use 2004-2009

As part of this update of the LRTP, Measures of Effectiveness or MOEs have been created to track progress toward the goals and objectives laid out in the LRTP. The MOEs act as performance measures which look at specific time periods to see how the urbanized area and/or metropolitan planning area responds to the goals and objectives stated in this plan. The MOEs selected to track land use change over time are gross population density at each Census period, municipal boundary growth every five years and change in total square miles per land use category every five years.

Gross Population Density 1990-2000

Gross population density was calculated for each municipality in the urbanized area by taking the total population and dividing it by the total land area for each municipality. This calculation provides a rough population density figure which can be compared over time. A municipality with density increases over time means a larger increase in population versus land expansion. A municipality that experiences a decrease in density could indicate the land area is expanding faster than the population or their population is shrinking and land area remains consistent. It is important to look at the population figures for each municipality to understand how that measurement is affecting overall density. In the case of Champaign and Urbana, the densities decreased over the ten year period due to annexations resulting in higher land areas in relation to the population increases. Some of these annexations were low density fringe development, where subdivisions were built on large tracts of land and accommodated less people than the traditional older residential developments found near the core of both communities. Figure 3.2 shows the change in population density from 1990-2000.

Figure 3.2 Population Density 1990-2000



Source: US Census 1990 and 2000

Table 3.2 Land Uses in the Metropolitan Planning Area*

2009 Land Use	Square Miles	% of Total
Agricultural	98.9	71.06%
Single Family	12.6	9.02%
Institutional	12.1	8.66%
Commercial	6.6	4.72%
Private Open Space	2.8	2.00%
Multi-Family	2.3	1.67%
Public Open Space	2.0	1.44%
Industrial	1.2	0.88%
Mobile Homes	0.5	0.37%
Utilities	0.3	0.18%
Total	139.2	100.0%

* Land use data was compiled for the metropolitan planning area using Champaign County Assessors land use classification data.

Total Land Developed 2009

The second MOE used for tracking land use and development over time is the total amount of land developed in each land use category. For this MOE, data from the Champaign County Assessors Office from 2009 was used to create a general land use map for the entire metropolitan planning area. CCRPC staff standardized the data in order to create a land use data set that is consistent throughout all municipalities in the metropolitan planning area and can be easily tracked over time. This MOE will show how much agricultural land is being converted for the development of non-agricultural uses in the metropolitan planning area. The data set will also show which land use categories are growing as new development and redevelopment of existing uses occur over time. Generalized land use data was not available in 2004; therefore, this data set will begin in 2009 and be tracked from here on out. Table 3.2 shows the 2009 land use categories and their corresponding land area in square miles.

4 Existing Conditions - Environment

In August of 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act - A Legacy for Users (SAFETEA-LU) transportation funding authorization bill was signed into law. With the passage of SAFETEA-LU came new criteria which were required to be added to all LRTP documents in the United States. In 2007, CUUATS developed an addendum to the 2004 LRTP which included additional information required by SAFETEA-LU pertaining to the environment, safety, security, and a public participation plan. This chapter is an update of the 2007 addendum but also builds upon that information to include MOEs related to environmental quality and natural features in the metropolitan planning area. This chapter will provide a complete environmental resource inventory, discuss possible mitigation measures for each resource and describe the MOE being used to track progress into the future where applicable. Not all environmental resources will have a MOE associated with it.

4.1 Air Quality

The Environmental Protection Act of the State of Illinois regulates the concentrations of six pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), particulate matter (PM), ozone (O_3), and sulfur dioxide (SO_2). Table 4.1 shows a summary of each pollutant and standards for the United States. Primary Standards refer to air quality levels required to protect public health with an adequate margin of safety. Secondary Standards, or welfare standards, refer to air quality levels required to safeguard visibility, comfort, animals, and property from the deleterious effects of poor air quality[1]. The US EPA lowered the ozone standards for the 8-hour averaging time in 2008 from 0.08 to 0.075.

Table 4.1 National Ambient Air Quality Standards (NAAQS) from 2008

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Time
Carbon Monoxide	9 ppm	8-hour	None	
	35 ppm	1-hour		
Lead	0.15 ug/m^3	3-Month Average	Same as Primary	
	1.5 ug/m^3	Quarterly Average	Same as Primary	
Nitrogen Dioxide	0.053 ppm	Annual	Same as Primary	
Particulate Matter (PM_{10})	150 ug/m^3	24-hour	Same as Primary	
Particulate Matter ($PM_{2.5}$)	15.0 ug/m^3	Annual	Same as Primary	
	35 ug/m^3	24-hour	Same as Primary	
Ozone	0.075 ppm	8-hour	Same as Primary	
	0.12 ppm	1-hour	Same as Primary	
Sulfur Dioxide	0.03 ppm	Annual	0.5 ppm	3-hour
	0.14 ppm	24-hour		

* Source: NAAQS, 2008. ppm = parts per million ug/m^3 = milligrams per cubic meter of air

Table 4.2 presents the Illinois Air Pollution Episode Levels. The primary standard and episode criteria represent the level of air quality which is necessary to protect the public health.

Major factors affecting air quality at a given location are the amounts and types of pollutants, meteorological conditions such as temperature, wind speed and direction, and topographic features of the region. Target air pollutants associated with transportation are carbon monoxide (CO), particulate matter (PM), nitrogen oxide (NOx), and Volatile Organic Materials (VOM) since transportation emissions are generated from combustion and evaporation of fuels of mobile sources such as motor vehicles, trains, and boats.

The C-U-S-B urbanized area is located in the level prairie farmlands of east central Illinois, in a temperate, humid and continental climate. The temperature ranges from an average daily minimum of 19.4 °F in winter, to an average daily

[1] IEPA Air Quality Report 2007

Table 4.2 Illinois Air Pollution Episode Level Standards (2007)

Pollutant	Advisory	Yellow Alert	Red Alert	Emergency
Carbon Monoxide (ppm)	2-hour	8-hour	8-hour	8-hour
	30	15	30	40
Nitrogen Dioxide (ppm)	2-hour	1-hour	1-hour	1-hour
	0.40	0.60	1.20	1.60
	OR			
		24-hour	24-hour	24-hour
		0.15	0.30	0.40
Particulate Matter (ppm)	2-hour	24-hour	24-hour	24-hour
	420	350	420	500
Ozone (ppm)	1-hour	1-hour	1-hour	1-hour
	0.12	0.20	0.30	0.50
Sulfur Dioxide	2-hour	4-hour	4-hour	4-hour
	0.30	0.30	0.35	0.40

* Source: IEPA, 2007. ppm = parts per million

maximum of 83.7 °F in summer. The annual precipitation is 39.7 inches; 60 percent of this amount falls in April through September. The prevailing wind is from the south. The average wind speed is highest, at 11 to 12 miles per hour, from November to April[2].

Overall, air quality for Champaign County meets the standards of an air quality attainment area. This means that ambient air quality standards are within acceptable parameters as set forth by the National Ambient Air Quality Standards from the US EPA. Two air monitoring stations for east central Illinois are located in Champaign County. They are currently monitoring Fine Particulate Matter ($PM_{2.5}$) and Ozone (O_3).

Figure 4.1 1-Hour Ozone Trends 1997-2007

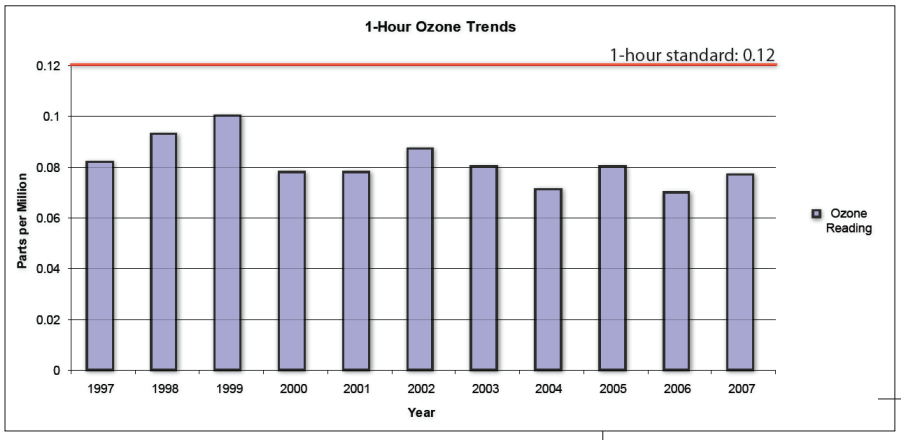
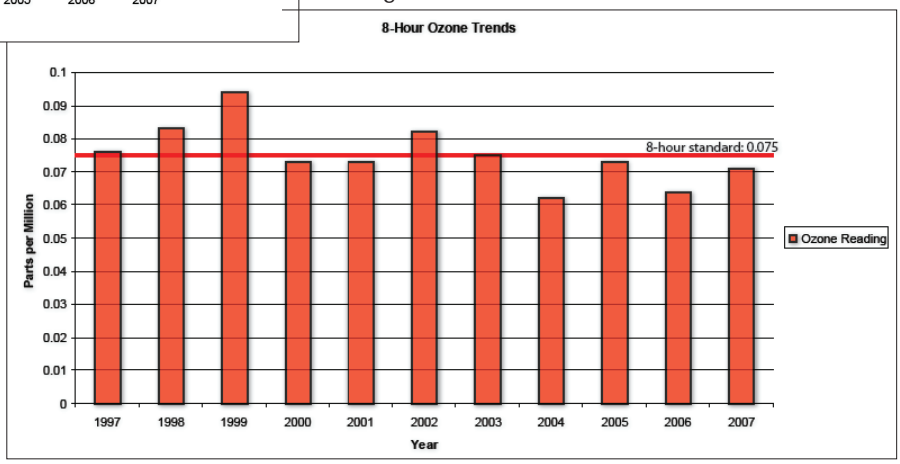
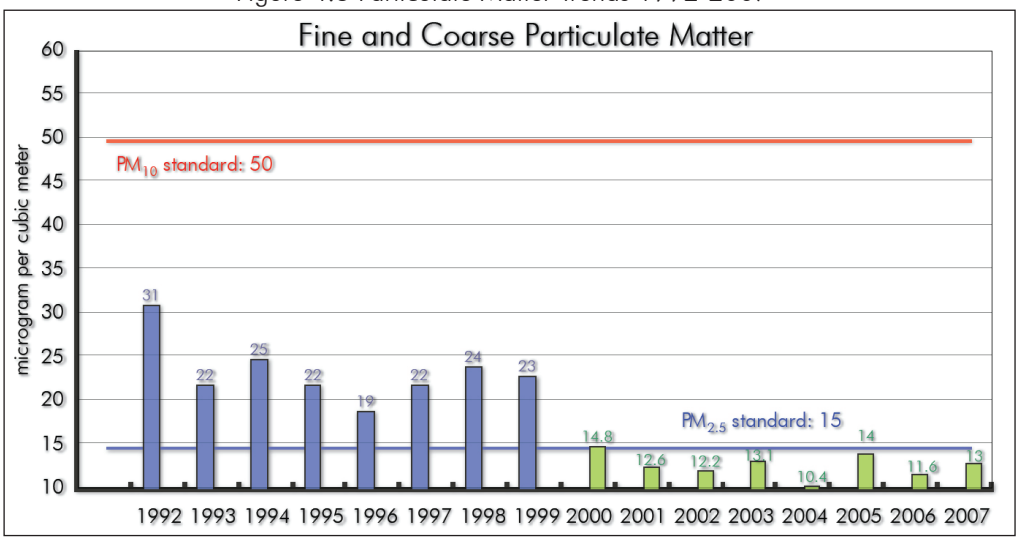


Figure 4.2 8-Hour Ozone Trends 1997-2007



[2]IDNR Natural Resources Conservation Service. Soil Survey of Champaign County, Illinois Part 1. 2001.

Figure 4.3 Particulate Matter Trends 1992-2007



Air quality trends monitored for the east central Illinois region are displayed in Figures 4.1, 4.2, and 4.3. These figures show the summary trends of the fourth highest annual reading for 1-hour and 8-hour ozone and the annual trends for PM_{10}, and $PM_{2.5}$ at relevant stations[3]. Attainment for ozone is figured by the fourth highest reading over a three year average. This is referred to as the design value. The level of air pollution for the C-U-S-B metropolitan planning area fluctuates slightly from year to year, but when averaged over the three year period, the urbanized area has remained an attainment area. While air quality is currently within the Illinois state standards, additional land development, employment opportunities, and population growth can bring more vehicles to the urbanized area, which in turn will add pollutants to the air. Impacts of air pollution have been studied for many years. Ground-level ozone can cause several types of health effects on humans and animals. These effects include irritation of the respiratory system, reduction of the lung function, or aggravation of asthma[4]. Plants and ecosystems can also be affected by ground-level ozone. These effects include the reduction of crop yields and forest growth, damage to the leaves of plants, and interference with the ability of sensitive plants to endure disease and insects.

Air Quality MOEs

The air quality measurements shown in graphs 4.1-4.3 should be used as performance measures to track the urbanized area's air quality over time.

Possible Mitigation Measures

Various programs aimed at reducing pollution have been implemented throughout the country. Voluntary programs are also in place to encourage communities to adopt practices such as carpooling to reduce harmful emissions. Possible mitigation measures for our region include the following:

- Voluntary ozone reduction program during summertime such as carpooling, refueling after 6 PM, or lawn mowing after 6 PM
- Convert current transit and school bus fleets to hybrid buses
- Increase number of students walking and biking to school
- Provide environmentally-informed choices in order to encourage purchasing fuel efficient vehicles
- Voluntary campaign for clean diesel engines and fuels
- Continue to implement bicycle and pedestrian plans to encourage the use of active transportation modes
- Promote park and ride locations and programs
- Promote the already established car sharing programs, such as Zipcar
- Encourage the use of modern roundabouts at appropriate locations to reduce idle times at signalized intersections
- Coordinate signal timing to reduce wait times and idle times at signalized intersections

[3]IEPA Air Quality Reports 1997 - 2007

[4]EPA. Smog: Who does it hurt? July 1999

4.2 Water Resources

As population continues to grow in the metropolitan planning area, water resources, particularly those used in household and business applications, will become more important to regulate and protect. The protection of water resources should not be limited to surface water bodies, but also include groundwater sources. The Mahomet Aquifer, which provides water to most of east central Illinois' residential, commercial and industrial developments, is one of the most important groundwater resources in the region. A study was completed in 2009 for the Mahomet Aquifer to make recommendations that will be implemented by stakeholders to improve planning and management of water supplies in East Central Illinois. The protection of water resources in the metropolitan planning area is a paramount effort that should be taken on by all parties in the region. Surface water bodies, such as streams and lakes, provide habitat to wildlife and plant life and need to be monitored and protected. Three watershed areas lie within the metropolitan planning boundary (Upper Kaskaskia River Watershed, Embarras River Watershed, and Vermilion River Watershed) and contain Crystal Lake and nine other stream segments which are being monitored under the Clean Water Act. Figure 4.4 shows the location of surface water bodies, streams and lakes that are currently monitored by the Illinois Environmental Protection Agency (IEPA) every two years.

The Illinois Pollution Control Board has established four primary sets of water quality standards[5] in order to protect and regulate the beneficial uses of Illinois surface waters. The four individual categories are: general use standards, public and food processing water supply standards, Lake Michigan basin water quality standards, and secondary contact and indigenous aquatic life standards, which are related to the United States Environmental Protection Agency (USEPA) designated use categories, such as aquatic life use, primary contact use (recreational use or swimming use), secondary contact use, fish consumption, and drinking water use. According to the IEPA 305(b) Report, each applicable designated use in each waterbody is assessed as Full Support ("good"), Partial Support ("fair"), or Non-Support ("poor"). Waters in which at least one applicable use is not fully supported are called "impaired."

The 2004, 2006 and 2008 IEPA use support designations for the Saline Branch, Boneyard Creek, Embarras River, and Kaskaskia River are shown in Tables 4.3-4.5. The IEPA lists the causes and sources for water impairment in monitored water bodies throughout the state. The major causes for impairment in the metropolitan planning area are municipal point sources, agriculture, and contaminated sediments for the Saline Branch, urban runoff and hydro-modification for the Boneyard Creek, non-irrigated crop production and intensive animal feeding operations for the Embarras River, and unknown sources from polychlorinated biphenyls (PCBs) for the Kaskaskia River. Between 2004 and 2008, water quality in the Saline, Embarras, and Kaskaskia Rivers declined from partial support of life to non-supporting. Point source pollution, surface runoff from roadways, and farming operations along rivers and tributaries all lead to the addition of harmful pollutants in our natural waterways.

Water Quality MOEs

The IEPA two year water quality reports should be used as the MOE performance measure to track water quality attributes over time. These two year assessments will provide the information necessary to track the metropolitan planning area's progress toward rehabilitation of the surface water system.

Possible Mitigation Measures

Mitigation measures that can help prevent additional negative impacts on the water resources in the metropolitan planning area include:

- Establish buffers, conservation easements or riparian corridors along water resources to protect against pollutant runoff
- Follow erosion and sediment control regulations adopted by municipalities in the urbanized area resulting from Phase II of the Clean Water Act
- Encourage the use of pervious pavement techniques for parking lots and driveways to aid in the reduction of stormwater runoff
- Utilize on and off-street rain gardens to ease pressure on current stormwater infrastructure systems
- Employ better salt management techniques to prevent highway salt runoff during rain or snow
- Create volunteer clean-up efforts for rivers, streams, and lakes
- Design roadways with wider planting and landscaping areas where wider right-of-ways are available
- Develop measures to require specific on-stie water retention/detention percentages for new development

[5] IEPA 305b Report 2004

Table 4.3 - 2004 IEPA 303(d) Streams and Lakes			
Name	**Segment ID**	**Designated Uses**	**Use Support**
Saline Branch	BPJC06	Aquatic Life Support	Partial Support
	BPJC08	Aquatic Life Support	Partial Support
Union Dr. Branch	BPJM01	Aquatic Life Support	Not Assessed
Boneyard Creek	BPJCA	Aquatic Life Support	Non Supporting
Embarras River	EB14	Aquatic Life Support	Partial Support
		Fish Consumption	Not Assessed
		Primary Contact	Non Supporting
Kaskaskia River	O35	Aquatic Life Support	Full Support
		Fish Consumption	Partial Support
	O37	Aquatic Life Support	Full Support
		Fish Consumption	Partial Support
Copper Slough	OZYA	Aquatic Life Support	Full Support
Phinney Branch	OZYB	Aquatic Life Support	Not Assessed
Crystal Lake	RBU	Overall Use Support	Not Assessed
*Source: Illinois Water Quality Report, 2004, Appendix B			

Table 4.4 - 2006 IEPA 303(d) Streams and Lakes			
Name	**Segment ID**	**Designated Uses**	**Use Support**
Saline Branch	IL_BPJC-06	Aquatic Life Support	Non Supporting
	IL_BPJC-08	Aquatic Life Support	Non Supporting
Union Dr. Branch	IL_BPJM-01	Aquatic Life Support	Not Assessed
Boneyard Creek	IL_BPJCA	Aquatic Life Support	Non Supporting
Embarras River	IL_BE-14	Aquatic Life Support	Non Supporting
		Primary Contact	Non Supporting
Kaskaskia River	IL_O-35	Aquatic Life Support	Fully Supporting
		Fish Consumption	Non Supporting
	IL_O-37	Aquatic Life Support	Fully Supporting
		Fish Consumption	Non Supporting
Copper Slough	IL_OZYA	Aquatic Life Support	Fully Supporting
Phinney Branch	IL_OZYB	Aquatic Life Support	Not Assessed
Crystal Lake	IL_RBU	Aquatic Life Support	Not Assessed
*Source: Illinois Water Quality Report and Section 303(d) List 2006, Appendix B-1, B-2			

Table 4.5 - 2008 IEPA 303(d) Streams and Lakes			
Name	**Segment ID**	**Designated Uses**	**Use Support**
Saline Branch	IL_BPJC-06	Aquatic Life Support	Non Supporting
	IL_BPJC-08	Aquatic Life Support	Non Supporting
Union Dr. Branch	IL_BPJM-01	Aquatic Life Support	Not Assessed
Boneyard Creek	IL_BPJCA	Aquatic Life Support	Non Supporting
Embarras River	IL_BE-14	Aquatic Life Support	Non Supporting
		Primary Contact	Non Supporting
Kaskaskia River	IL_O-35	Aquatic Life Support	Fully Supporting
		Fish Consumption	Non Supporting
	IL_O-37	Aquatic Life Support	Fully Supporting
		Fish Consumption	Non Supporting
Copper Slough	IL_OZYA	Aquatic Life Support	Fully Supporting
Phinney Branch	IL_OZYB	Aquatic Life Support	Not Assessed
Crystal Lake	IL_RBU	Aquatic Life Support	Not Assessed
*Source: Illinois Water Quality Report and Section 303(d) List- 2008, Appendix B-2, B-3			

Water Assessment 2008

Assessment categories for use are as follows:
Primary Contact - any recreational or other water use in which there is prolonged contact with the water.

Aquatic Life Support - water body is assessed to determine the feasibility of life support for aquatic species

Fish Consumption - assessment determines the health risks of consuming fish from water body

Overall Use Support - assesses water body for all uses and support for all aquatic systems

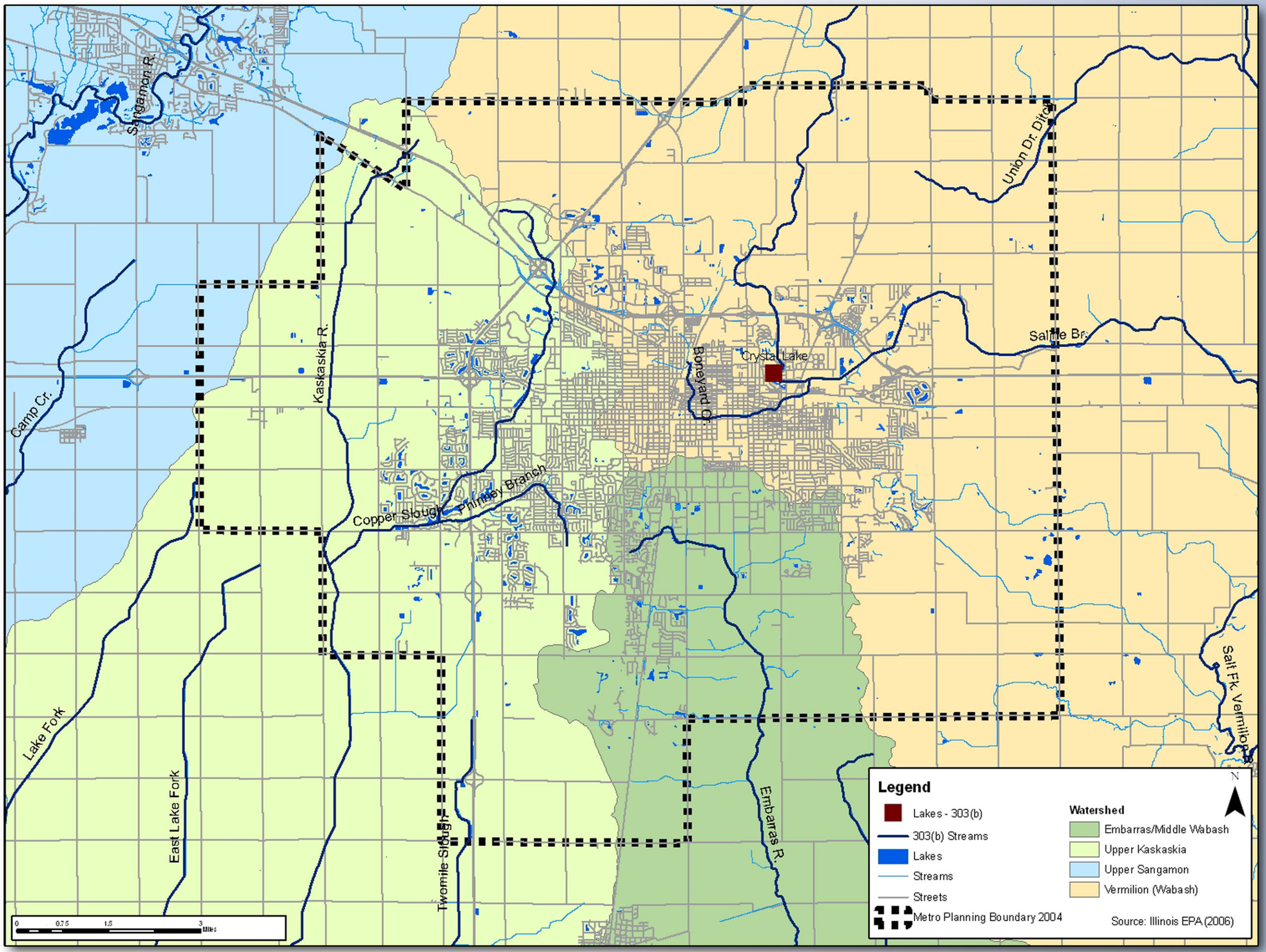
In 2008, the assessed water bodies which fell under the non-supporting use support category were impaired under a wide range of causes. These causes for impairment and non-support ranged from urban runoff to the presence of chemicals like DDT, Boron, Ammonia, and Methoxychlor.

The sources for these impairing causes ranged from animal feeding operations to crop production to municipal point source discharges.

With such a wide range of causes and sources, it may be difficult to point out specific solutions to curb the pollution of our water system. Best management practices for farming, industry, transportation system management, and municipal government can all help in bringing back the use support of the assessed water bodies in the urbanized area.

**Rows highlighted in Green identify a full support of uses, Yellow identifies partial support of uses, and Red identifies non-support for the listed uses.*

Figure 4.4 Water Resources Map



4.3 Wetlands

For the purposes of the Clean Water Act, wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." (33 CFR 328.3)

Current wetland information for the C-U-S-B metropolitan planning area is based on a map from the Illinois Natural Resources Geospatial Data Clearinghouse using the United States Fish and Wildlife Service (USFWS) National Wetland Inventory classification system. Figure 4.5 shows the location, size and type of wetlands. The map indicates that approximately 542 acres of wetlands or deepwater habitats exist within the C-U-S-B metropolitan planning area in 2009, up from 537 acres in 2004. The Urbana Park District created a wetland restoration project in Weaver Park, which was approximately five acres in size, adding to the existing 537 acres.

Wetland destruction can happen through the land development process and the construction of new transportation infrastructure. The most significantly adverse impact related to transportation on wetlands is wetland loss due to the widening or construction of new roadways. In addition, any fills within wetland areas, highway stormwater runoff to the wetlands or removal of vegetation may affect valuable wetland functions such as reducing flooding, controlling erosion, and providing aquatic and migratory bird habitat. State, county and municipal regulations must to identify and protect wetlands during the due diligence process of project development. Appropriate mitigation measures to avoid, minimize, and compensate for impacts need to be considered in all planning, design, construction, and maintenance processes of transportation improvement projects.

Wetland MOE

In order to track wetland construction and/or destruction over time, a MOE was created to track the preservation of wetland areas in the metropolitan planning area. Every five years during the LRTP, the acreage of wetland areas should be mapped to track wetland preservation efforts. Table 4.6 shows the total acreage of wetlands present in the metropolitan planning area in 2004 and 2009.

Table 4.6 Acres of Wetlands

Year	Acres of Wetlands
2004	537
2009	542

Possible Mitigation Measures

The mitigation measures that can help avoid negative impacts are as follows:

- Where possible, avoid building/widening new roadways crossing wetlands
- Retain or restore open spaces, vegetated natural buffers and riparian areas around wetlands
- Preserve natural vegetation around wetlands
- Prevent stormwater runoff that negatively impacts wetland areas
- Employ low-impact development and construction practices where wetlands are present
- Promote compensation practices for the disturbance or loss of wetland habitats as a result of new development or transportation infrastructure

4.4 Floodplains

Floodplains are generally flat lands adjacent to river or stream channels. These areas are prone to flooding, thereby posing a risk to any structure built within its boundaries. Floodplains provide storage for water in excess of the stream channel's capacity. Floodplains act as a "pressure release valve" for inundated waterways and can help settle out suspended silts from fast moving water leaving behind fertile soils that make up prime agricultural land[6]. Floodplains also provide areas for vegetated riparian corridors, which give habitat to many species of plants and animals. These corridors also buffer the built environment from waterways and act as natural filters for sediment and pollutants before entering the water system.

The Federal Emergency Management Agency (FEMA) defines a "100-year flood zone" or a "100-year floodplain" as an area of inundation that has a frequency of occurring, on average, once every 100 years. This equates to a flood having a 1% chance of occurring in any given year. The floodplain is land that is subject to a 1% or greater chance of flooding in any given year, and may be designated as zones A, AO, AH, A1-30, AE, or A99 on the National Flood Insurance Program (FIRM) map.

Floodplain areas for the Champaign-Urbana-Savoy-Bondville urbanized area are presented in Figure 4.6. This information was provided by the Illinois Natural Resources Geospatial Data Clearinghouse as depicted on the National Flood Insurance Program (FIRM) maps and Flood Hazard Boundary maps. Most of the flood prone areas are located in west Champaign along the Kaskaskia River and northeast Urbana along the Saline Branch. Over the last five years, development pressures in the west Champaign area near the Kaskaskia floodplain have increased. While filling in the floodplain to accommodate development is possible in specific cases, development should strive to protect and preserve floodplain areas as to not adversely affect land downstream or existing natural habitat corridors.

Transportation infrastructure projects can also affect floodplain areas. Constructing facilities in the floodplain can result in flooding of said infrastructure during large rain events which can cause damage to the infrastructure and traveling vehicles. When a portion of the transportation network is flooded, changes in the characteristics of traffic flow will occur. They include traffic congestion, increased travel time, decreased travel speed, and/or the closure of a road. Damage to transportation infrastructure, such as roads and bridges, may weaken the structure and it may not be able to endure the normal weights of cars when submerged by flood water. In addition, vehicles may be damaged by the flooding or moving through flood water.

FIRM maps for Champaign County have not been updated by FEMA since 1986, thereby making it difficult to track changes to floodplains over time. Changes are expected to happen in some of the municipalities within the urbanized area, particularly in and around the Boneyard Creek area. If FEMA switches to a more timely updating process in the future, an MOE should be added to track floodplain acreage over time.

Possible Mitigation Measures

The mitigation measures that can help avoid negative impacts are as follows:

- Where possible, avoid new roadway construction in flood prone areas
- Keep the floodplain as natural open space if possible
- Establish floodplain buffers for new development
- Promote cluster development on parcels that fall within a floodplain to preserve natural areas
- Maintain clean streets in order to prevent debris clogging storm grates during a flood

[6] USEPA. Wetlands and Watersheds.

Figure 4.5 Wetland Location Map

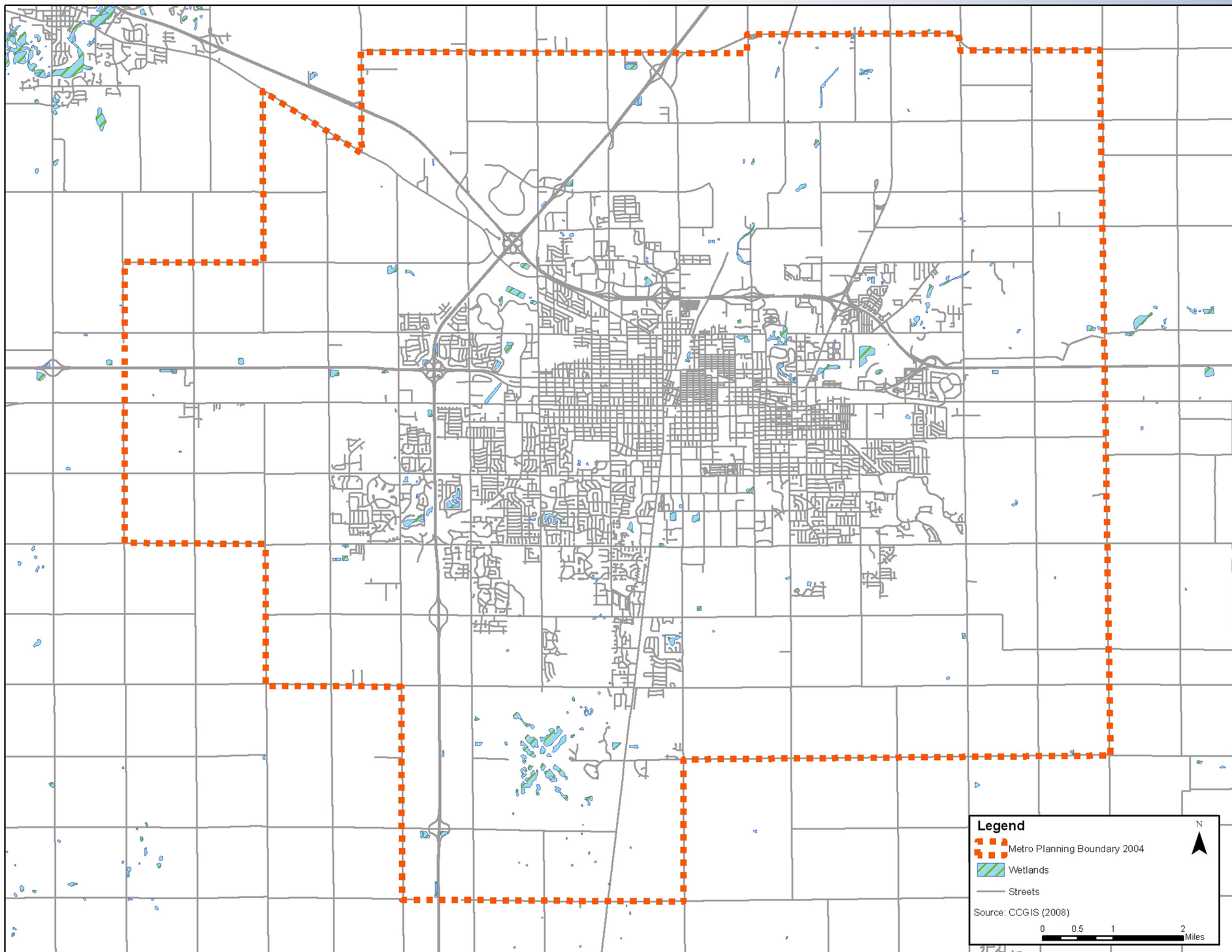
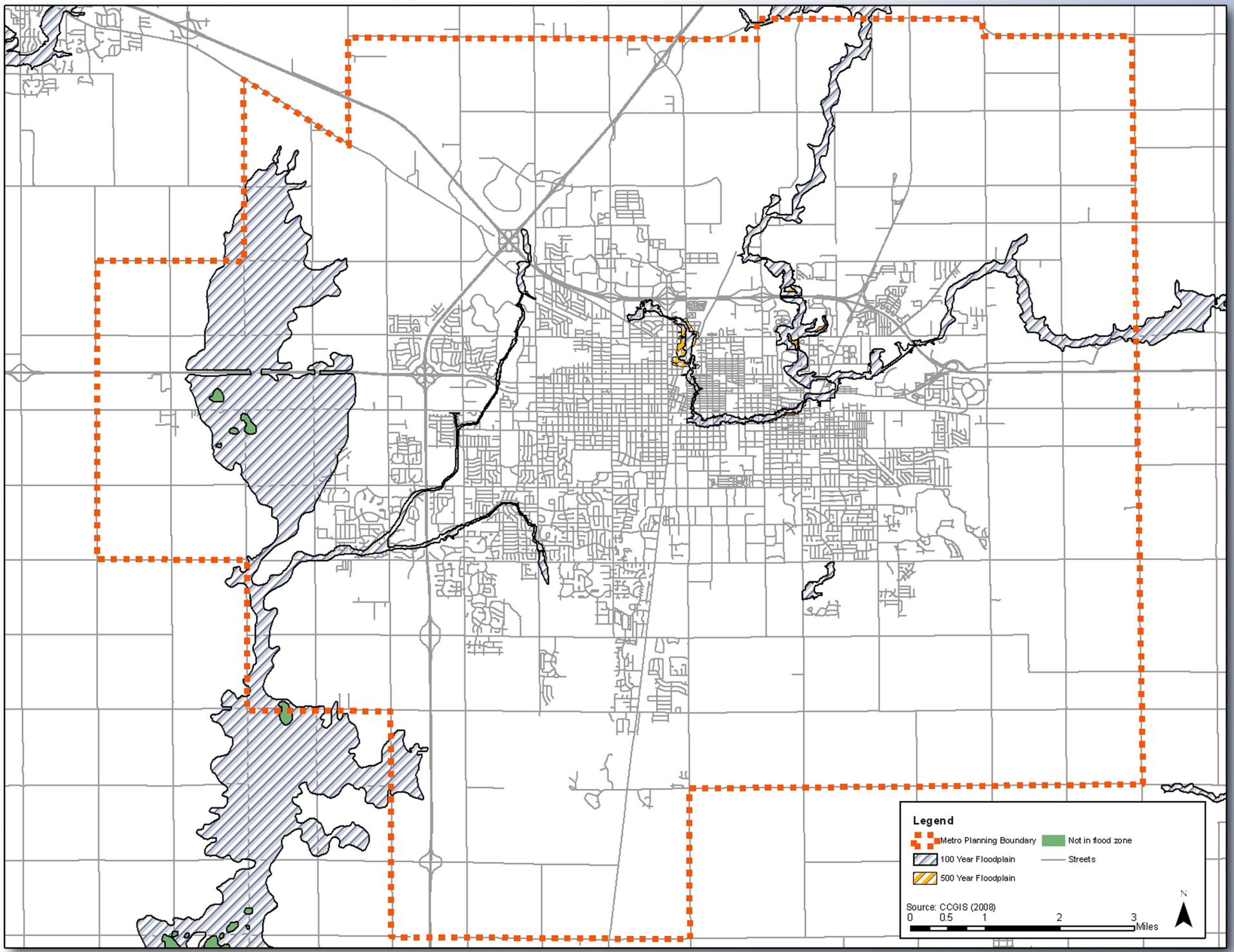


Figure 4.6 Floodplain Location Map



4.5 Wildlife and Habitat Resources

Champaign County lies in a prairie area with flat landscape, deep loess soil, and poor natural drainage resulting in wet conditions during part of the year. Big Bluestem and Indian grasses are dominant along with a large number of other species of grasses and forbs[7]. Currently, the Illinois Plant Information Network (IPIN) records 1,190 plant species in Champaign County. Over 100 breeding bird species are found in Champaign County forest preserves.

Based on the Land Cover of Illinois Statistical Summary 1999-2000, Champaign County consists primarily of over 91% agricultural areas, 6% urban development, 1.2% wetland, 1% forest, and 0.1% other. Although about 75% of the metropolitan planning area is composed of agricultural lands and open space, considerable portions have been developed as urban land, comprising about 25% of the land in the metropolitan planning area. Forested land, which is predominantly covered with trees and woody vegetation, makes up about 2% of the open space area.

Another major resource for identifying significant wildlife habitat areas is the Illinois Natural Areas Inventory (INAI), which has built an inventory of high-quality natural areas in Illinois since the 1970s. Brownfield Woods and Trelease Woods are currently listed under the INAI. In addition to two INAI sites, Barnhart Prairie is enrolled in the Illinois Natural Preserves Commission (INPC) Land Protection Program. Figure 4.7 shows the location of natural areas, nature preserves, land and water reserves, and natural heritage landmarks, and is extended beyond the C-U-S-B planning boundary to cover other sensitive natural resources in the vicinity.

Most potential areas for wildlife habitats in the metropolitan planning area are floodplain forests and upland forests around the Saline Branch, Crystal Lake, Brownfield Woods, and Trelease Woods. These natural habitats serve as breeding habitat, important migration corridors for wildlife, shelter in winter, and critical resting and refueling stopover habitats for migratory birds. These areas also provide many benefits to immediate and downstream aquatic habitats.

Protected Species

The US Fish and Wildlife Service (USFWS) defines the "endangered" species as one that it is in danger of extinction throughout all or a significant portion of its range. A "threatened" species is one that is likely to become endangered in the foreseeable future.

As of May 2009, 27 animal species and 10 plant species are listed as federal endangered species by US Fish and Wildlife in Illinois. Although there is no species unique to Champaign County, several statewide listed species may potentially be found in Champaign County. These species include the Indiana bat, eastern prairie fringed orchid, and the prairie bush clover. Municipalities should continue to require and enforce the use of the Illinois Department of Natural Resources endangered species permitting process to ensure development, whether public or private, is not negatively impacting the habitat of any endangered species.

Impacts on Wildlife and Habitat by Development and Transportation

Newly constructed developments and transportation infrastructure can lead to the destruction of native plant communities and homogenize the landscape with non-native species. Wildlife habitats are also affected by development, roadways and vehicles, which can cause direct habitat loss and degradation of adjacent habitats leading to animal mortality. New construction or widening roads converts natural land into streets, parking areas, driveways, and adjacent right-of-way resulting in the loss of natural habitat. Construction impacts, noise, decreased air quality, and light pollution may decrease habitat quality[8].

Habitat fragmentation is another concern for impacts on wildlife and vegetation due to the presence of development and transportation systems. According to the NCHRP 305 report, roads and development fragment habitats into smaller and smaller pieces that can disrupt wildlife movement. Such separation can result in the inability of individuals to find each other for reproduction, especially for the species that show reluctance to cross roads. Habitat fragmentation can lead to changes in water patterns and nutrient movement which may adversely affect food supplies for species in the area.

[7] Robe Kenneth. The Tallgrass Prairie in Illinois. http://www.inhs.uiuc.edu/~kenr/prairiewhatis.html.

[8] Evink, Gary E. 2002. *Interaction Between Roadways and Wildlife Ecology.* Transportation Research Board. Washington D.C.

One of the most visible impacts of habitat fragmentation is animal mortality. Transportation infrastructure which fragments existing species habitat can lead to factors affecting mortality, including vehicular traffic bisecting the habitat, air and water pollutants from effluent and runoff, changes in species behavior, and changes in food sources due to new fragmentation.

The construction and operation/maintenance of roadways can also have effects on wildlife, vegetation and their habitat. Erosion, maintenance chemicals, salts, and oil can destroy aquatic habitat due to the degradation of water quality. Highway noise stresses wildlife animals and can create an avoidance factor for the habitat around roadways.

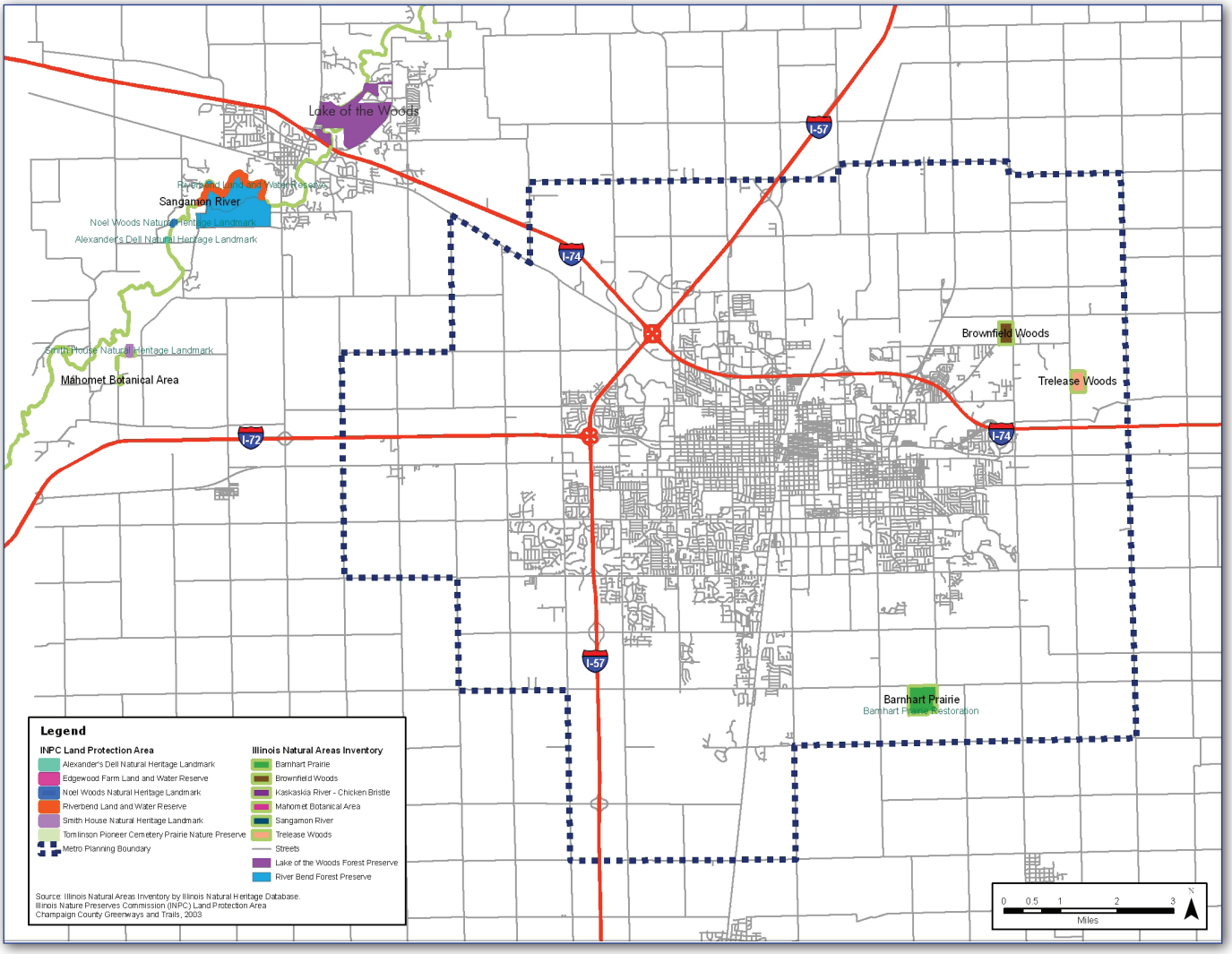
The construction of new development and transportation infrastructure must be done with care for the existing environment and wildlife habitats that exist in the metropolitan planning area. Some of our most critical habitats occur in the floodplain areas and limited forested areas. As development continues in fringe areas in close proximity to critical habitat, best management practices should be used to minimize the adverse effects to these wildlife habitats.

Possible Mitigation Measures

The mitigation measures that can help avoid negative impacts are as follows:

- Encourage clustered development to buffer development from critical habitats
- Keep roadways free of trash and pollutants that could enter habitat areas
- Use highway fencing to prevent animals from crossing interstates
- Signs alerting drivers to possible presence of wildlife
- Include design features such as bridges and/or large-size culverts that still allow natural migratory patterns
- Maintaining natural lighting to the extent possible along the roadway
- Utilize buffer strips along streams, rivers, and riparian corridors

Figure 4.7 Natural Areas Location Map



4.6 Cultural, Historic, and Archeological Resources

Cultural, historical, and archeological resources in this section include buildings, sites, districts, structures, and objects that are important to the history, architecture, archaeology, culture, or science at the national, regional, and/or local levels. Such resources for the C-U-S-B metropolitan planning area were identified and inventoried through information obtained from four sources:

1. National Register of Landmarks and National Register of Historic Places
2. Historic Architectural and Archaeology Resources Geographic Information System (HAARGIS) by Illinois Historic Preservation Agency (IHPA)
3. Illinois Historic Bridge Survey by Illinois Department of Transportation
4. Illinois Natural Resources Geospatial Information Clearinghouse

Figure 4.8 displays the locations and types of cultural, historical and archeological resources such as important landmarks, sites, bridges, and several buildings. Most historic sites are located on or near the University of Illinois campus, downtown Champaign, and downtown Urbana. All historic bridges listed in the Illinois Historic Bridge Survey for Champaign County are outside of the C-U-S-B metropolitan planning area.

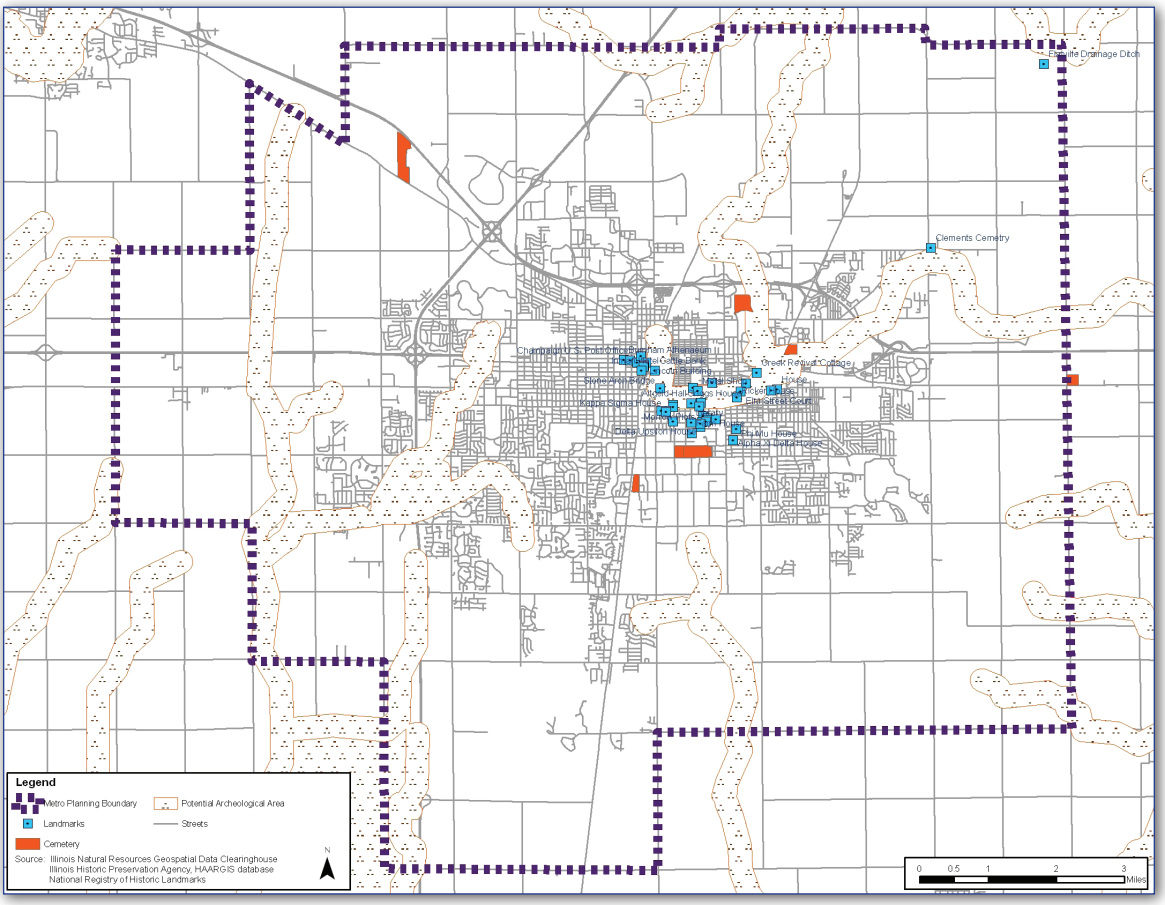
Adverse impacts associated with development and transportation are the damage, destruction, or removal of objects or structures on historic and cultural sites. In addition, transportation related activities could destroy or degrade the setting of structures when the setting is a significant element of the property.

Possible Mitigation Measures

Mitigation measures to help avoid the adverse impacts on archeological and historic resources include:

- Utilize historic preservation practices to preserve culturally and historically significant resources
- Continue to enforce IHPA permitting for all public and private projects
- Rehabilitate and enhance current cultural and historic resources
- Avoid construction of development or transportation infrastructure that will have adverse effects on historical sites

Figure 4.8 Archeological and Historical Sites



4.7 Review of Conservation Plans

In order to comply with SAFETEA-LU, other conservation plans and related resources were reviewed, used and incorporated into the LRTP. Although those plans have different scopes and purposes, the planning efforts conserving valuable natural resources were incorporated into this update of the LRTP. Pertinent plans and policies were reviewed and summarized as follows:

Illinois Comprehensive Wildlife Conservation Action Plan & Strategy

The Illinois Comprehensive Wildlife Conservation Plan & Strategy was developed and implemented by the Illinois Department of Natural Resources in cooperation and collaboration with other agencies, organizations and individuals. As a tool to manage Illinois wildlife and to guide future conservation efforts, the Plan & Strategy not only addresses a detailed and science-based inventory of wildlife species and habitat condition, but also involves future actions and strategies that contribute to natural resource goals.

Champaign County Environmental Issues from Champaign County Blue Ribbon Environmental Panel (2004)

The Blue Ribbon Panel, appointed by the Champaign County Board, developed environmental topics, consulted with resident specialists and prepared the final report to help develop and achieve long-term goals to sustain and improve the quality of life and environment for Champaign County. The final report addresses environmental concerns and recommendations, and presents five scenarios.

Big. Small. All. Champaign County

Big. Small. All. Champaign County provided a vision for Champaign County and was designed to engage public agencies, organizations and public citizens to help build a vision for the future growth of Champaign County. Preserving natural resources is an important component of the visioning plan.

Champaign County Soil and Water Conservation District Long Range Plan 2005-2010

The Champaign County Soil and Water Conservation District (CCSWCD) is a local unit of government which was given the responsibility of developing and administering a comprehensive natural resource conservation plan. The CCSWCD provides leadership and coordinates programs to help people conserve, improve and sustain our natural resources and environment.

The CCSWCD Long Range Plan guides the agency following priorities based on changes in land use, urban expansion, and social, economic, and environmental conditions. New priorities listed in the plan are water quality, soil erosion control, prime farmland protection, water management, wildlife habitat, and education and participation.

A Plan to Improve the Planning and Management of Water Supplies in East Central Illinois (2009)

This plan was completed in June 2009 by the East Central Illinois Water Supply Planning Committee who was charged with writing a plan to look at the protection of the Mahomet Aquifer and the water supply in East Central Illinois. This plan represents a regional framework for action and a series of action items. The plan explores the interconnections between economic, social and environmental factors.

5 Existing Conditions - Transportation

The Long Range Transportation Plan's main purpose is to analyze and assess the existing and future transportation infrastructure for the urbanized area. Without an efficient and user-friendly transportation system, congestion, delay and additional crashes would result. The metropolitan planning area's transportation system can be characterized by a grid pattern of major corridors spaced at roughly one mile intervals over its 140 square mile area.

- Interstates 57, 72, and 74 provide eleven interchanges on the west and north sides of the urbanized area.
- Local transit service, provided by the Champaign-Urbana Mass Transit District, serves the majority of urbanized area residents within a short distance from their homes and places of employment.
- Numerous bicycle and pedestrian facilities connect activity centers and neighborhoods in the urbanized area.
- Three rail lines crisscross north of the downtown Champaign area, providing freight and Amtrak passenger service.
- Willard Airport, located on the southern edge of Savoy, offers daily flights to Chicago, Dallas/Fort Worth and Detroit.

Figure 5.1 shows the current urbanized area transportation network including streets, signalized intersections, bus routes, and rail lines. A map detailing the existing bicycle facilities can be found in the Bicycle and Pedestrian Chapter.

5.1 Personal Vehicles

Since the end of World War II, the development of land and transportation networks revolved around separating land uses that are considered "incompatible" and providing roadway connections to all uses virtually assuring that travelers will utilize their automobiles to get from one place to another. This development approach has led us down the road of reliance on a non-renewable source of energy which powers the vast majority of vehicles. The roadway network in the urbanized area, while still geared toward the movement of automobiles, is being retrofitted to include right-of-way for other modes of transportation like buses, bicycles and pedestrians. The Illinois Department of Transportation recently adopted a "Complete Streets" policy, followed shortly by the City of Champaign. The City Council for Urbana has a council goal related to Complete Streets as well. This policy adoption by these agencies is an important first step in providing additional right-of-way on or off street for other modes of transportation besides the automobile.

> "Complete streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street. "
> -CompleteStreets.org

For traveling to work, going shopping, making social calls, and even going to exercise, the car is the predominant transportation mode in the urbanized area. According to the 2000 Census, the 123,938 residents in the urban area had 49,692 vehicles available for use, or one vehicle per 2.49 persons. At the time of the Census, 75% of working residents aged 16 or older in the urban area traveled by car; 86% of those traveled alone. With so many travelers using personal vehicles on the metropolitan planning area's transportation network, it is important that the network not only be efficient, but also safe. This Census data should be tracked to understand how commuting patterns and mode shift change over time.

Roadway Functional Classification

IDOT classifies the roadways throughout the state to help describe levels of mobility and accessibility within each roadway category. The roadway classes listed in Table 5.1 have an inverse relationship of mobility and accessibility. **Interstates** are roadways that have the highest level of mobility and the lowest level of accessibility. **Interstates and other principal arterials** serve trips through urban areas and long distance trips between traffic generators within an urban area. **Minor arterials** serve shorter trips between traffic generators within urban areas; they have more access but a lower level of mobility than interstates and other principal arterials. **Collectors** provide both mobility and access by gathering trips from localized areas and feeding them onto the arterial network. **Local roads** are lower volume roadways that provide direct land access but are not designed to serve through-traffic needs. The majority of traffic movement occurs on the interstates and other principal arterials, which have higher speed limits due to less accessibility and conflict points with cross streets and driveways. Table 5.1 shows the functional classification of the roadways in the urban area and the total mileage of the roadway network in 2009.

Figure 5.1 Movement and Access

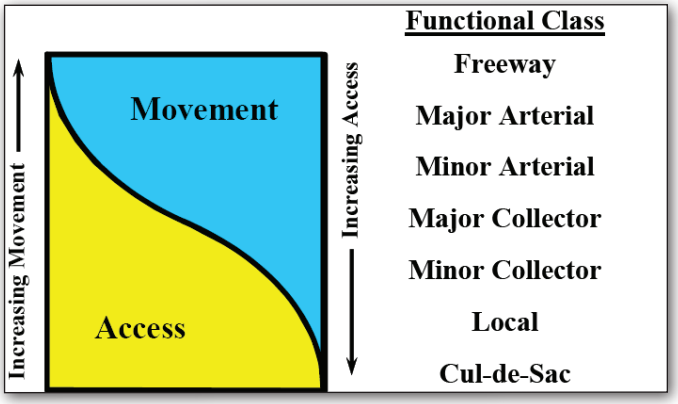


Table 5.1 Urban Area Functional Classification Mileage

Functional Classification	2004 Miles	2009 Miles
Other Principal Arterial	N/A by Category	64.18
Minor Arterial		81.96
Urban Collector		82.84
Local Streets		660.02
Total	788.0	889.0

Roadway Average Daily Traffic (ADT)

IDOT provides average daily traffic data for interstates and selected major arterials and collectors in the metropolitan planning area. Figure 5.4 shows the 2006 ADT ranges for the selected roadways in the metro area. The most heavily traveled roadway segments and critical travel paths in the metro area were chosen. As expected, the interstates have the highest ADT followed by major arterials like Neil Street, University Avenue, Mattis Avenue, and Cunningham Avenue. Smaller segments of Springfield Avenue, Bradley Avenue and Prospect Avenue also have high ADT volumes.

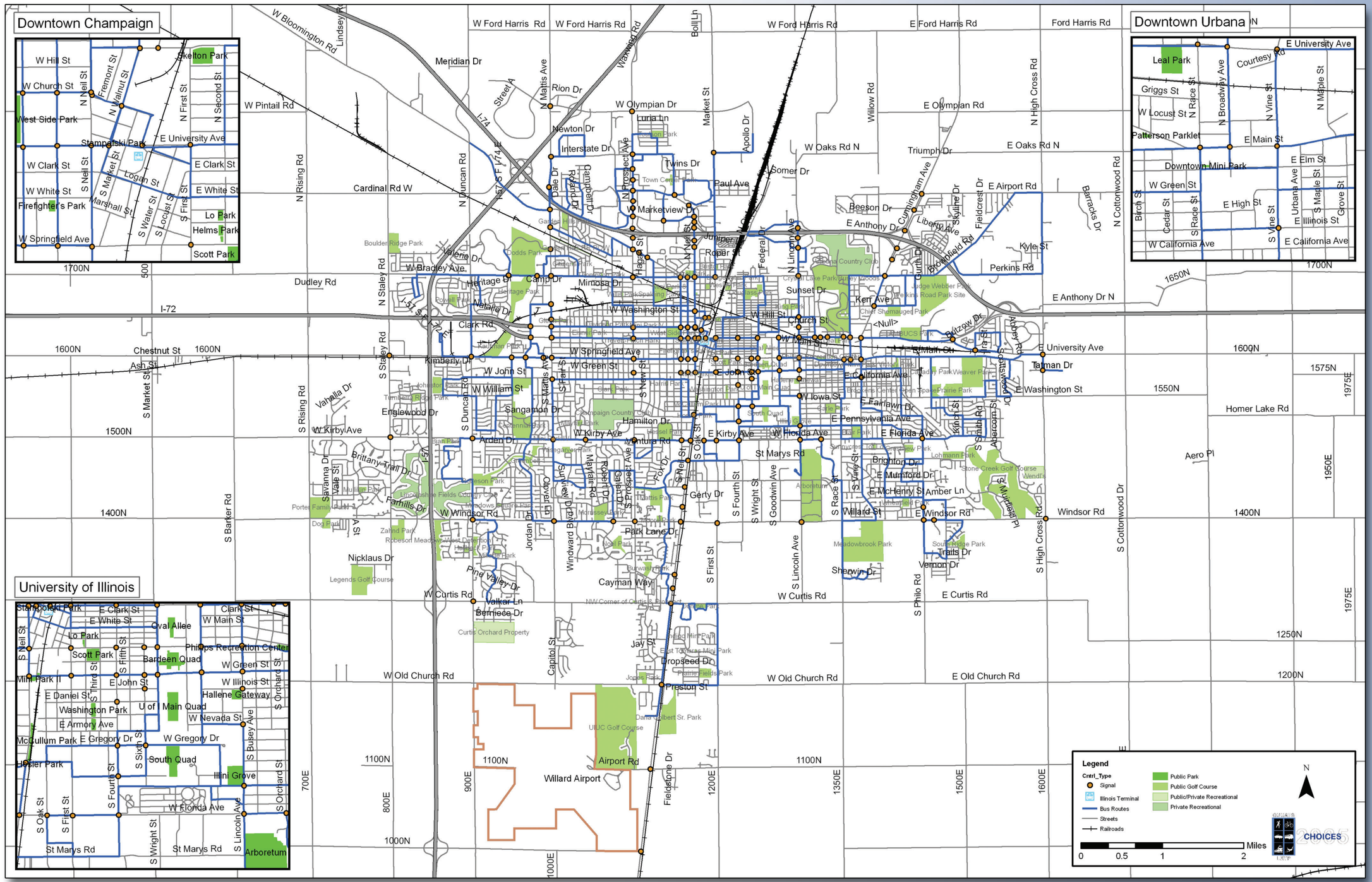
Intersection Average Daily Traffic

Within the metropolitan planning area there are many busy intersections. Data provided by the City of Champaign, City of Urbana and CUUATS were analyzed, and the top ten busiest intersections are shown in Table 5.2. Many of these intersections act as key passageways and gateways in and out of our community, lead to interstate access points or serve key commercial corridors.

Table 5.2 Top 10 Busiest Intersections (2007)

Municipality	Intersection	Daily Entering Traffic
Urbana	Lincoln Ave/University Ave	41,612
Champaign	Mattis Ave/Springfield Ave	39,693
Urbana	Cunningham Ave/University Ave	39,453
Champaign	Prospect Ave/Bloomington Rd	38,986
Champaign	Neil St/Kirby Ave	38,734
Champaign	Prospect Ave/Bradley Ave	38,734
Champaign	Mattis Ave/Bradley Ave	38,128
Champaign	Prospect Ave/Marketview Dr	37,471
Champaign	Neil St/Springfield Ave	36,250
Champaign	Neil St/Windsor Rd	35,653

Figure 5.2 Existing Transportation System



Vehicle Registration

The Illinois Secretary of State's Office tracks vehicle registration by county on an annual basis. Champaign County's total vehicle registrations, including trucks and motorcycles, increased by 11% between 2004 and 2008. Personal passenger vehicles increased by 4%, and motorcycle registrations increased by 23% over the four year period. The personal passenger vehicle category combines all vehicles registered for personal travel use, this includes cars, trucks and SUVs. It is not possible to break out the data by category under personal vehicles. One interesting trend seen between 2004 and 2008, is the increase in motorcycle registrations. The increase seen is likely due to the rise in fuel costs. This increase is not without concern. Safety issues surrounding motorcycles are of particular concern because crashes involving these vehicles tend to be more severe than those involving other personal vehicles. The State of Illinois does not require motorcycle riders to wear helmets, which adds to the safety concerns surrounding additional motorcycle registrations. An overall increase in the number of vehicles registered in Champaign County can be seen as a good or a bad thing. More vehicles on the roadways means additional fees from registration, as well as generating more Motor Fuel Tax revenues from the purchase of fuel. Increases in vehicle registration, particularly in the personal vehicle category, can also mean additional vehicular congestion in the urbanized area and more wear and tear on the roadway network.

Travel Time Study

Travel time studies were completed for selected major corridors in the metropolitan area using a car equipped with a Global Positioning System unit which tracked travel time and distance along selected arterials during the PM peak hour. Travel speeds along many of the major corridors in the metropolitan area were consistent with posted speeds or expected travel speeds. Areas with lower travel speeds than posted speeds included roadway segments around Downtown Champaign, Downtown Urbana and the University of Illinois campus. Lower travel speeds on these roadways are desirable considering the high volumes of pedestrians and bicyclists in these areas of the community. Figure 5.5 shows the travel speed on selected roadways which can be used to determine travel times.

Roadway Segment Level of Service (LOS)

Based on the roadway segment ADT volumes and travel time studies performed on selected roadways in the metropolitan planning area, a Level of Service analysis was completed for the selected roadways. Level of Service is a qualitative measure describing operation conditions of a roadway or intersection. LOS is described using letters A through F, "A" representing free flow travel and "F" representing fully congested conditions. Table 5.3 shows the top ten worst roadway segments of those that were analyzed as part of this plan. Most of the failing roadway segments are located in and around the two downtowns and the U of I campus area. Again, in these areas, slower speeds can make for a safer walking and biking environment. There are some roadway segments at LOS E and F in the North Prospect commercial corridor and around the intersection of Kirby Avenue and Neil Street. These areas experience heavy traffic volumes and are also listed in Table 5.3 as busy intersections. The ranking for each segment was based on the travel time studies completed on selected roadways during the peak hour.

Table 5.3 LOS for 10 Worst Segments (2009)

Municipality	Roadway	From	To	Level of Service
Champaign	Kirby Avenue	State Street	Neil Street	F
Urbana	Springfield Avenue	Goodwin Avenue	Lincoln Avenue	F
Champaign	Prospect Avenue	Town Center Boulevard	Baytowne Drive	F
Champaign	Neil Street	Washington Street	Columbia Avenue	F
Champaign	First Street	Springfield Avenue	University Avenue	F
Urbana	Vine Street	Illinois Street	Washington Street	F
Champaign	Kirby Avenue	Oak Street	Neil Street	F
Champaign	University Avenue	Chestnut Street	Walnut Street	F
Champaign	Neil Street	Anthony Drive	I-74	F
Urbana	Florida Avenue	Orchard Street	Lincoln Avenue	F

Pavement Conditions

Pavement conditions data for selected roadway segments was provided by the City of Champaign and City of Urbana Public Works Departments. The Pavement Condition Index (PCI) values were used to obtain a weighted average for roadway segments between intersections. The weighted average, based on the PCI values, was mapped for most major arterials in the urbanized area and included 76 roadway segments. Approximately 18% of the segments were rated Excellent, 26% were rated Good, 25% were rated Fair, and another 26% were rated Poor. Only 4% of the roadway segments were rated Very Poor. Some of the roadway segments rated as "Poor" are in older sections of the community. Some of the "Poor" segments are slated to be resurfaced within the next two years, such as University Avenue west of Wright Street, Kirby Avenue between Prospect and Mattis Avenues, and Windsor Road east of Philo Road. Figure 5.6 shows the pavement conditions for selected major roadways in the urbanized area.

Figure 5.3 Functional Classification of Urban Area Roadways

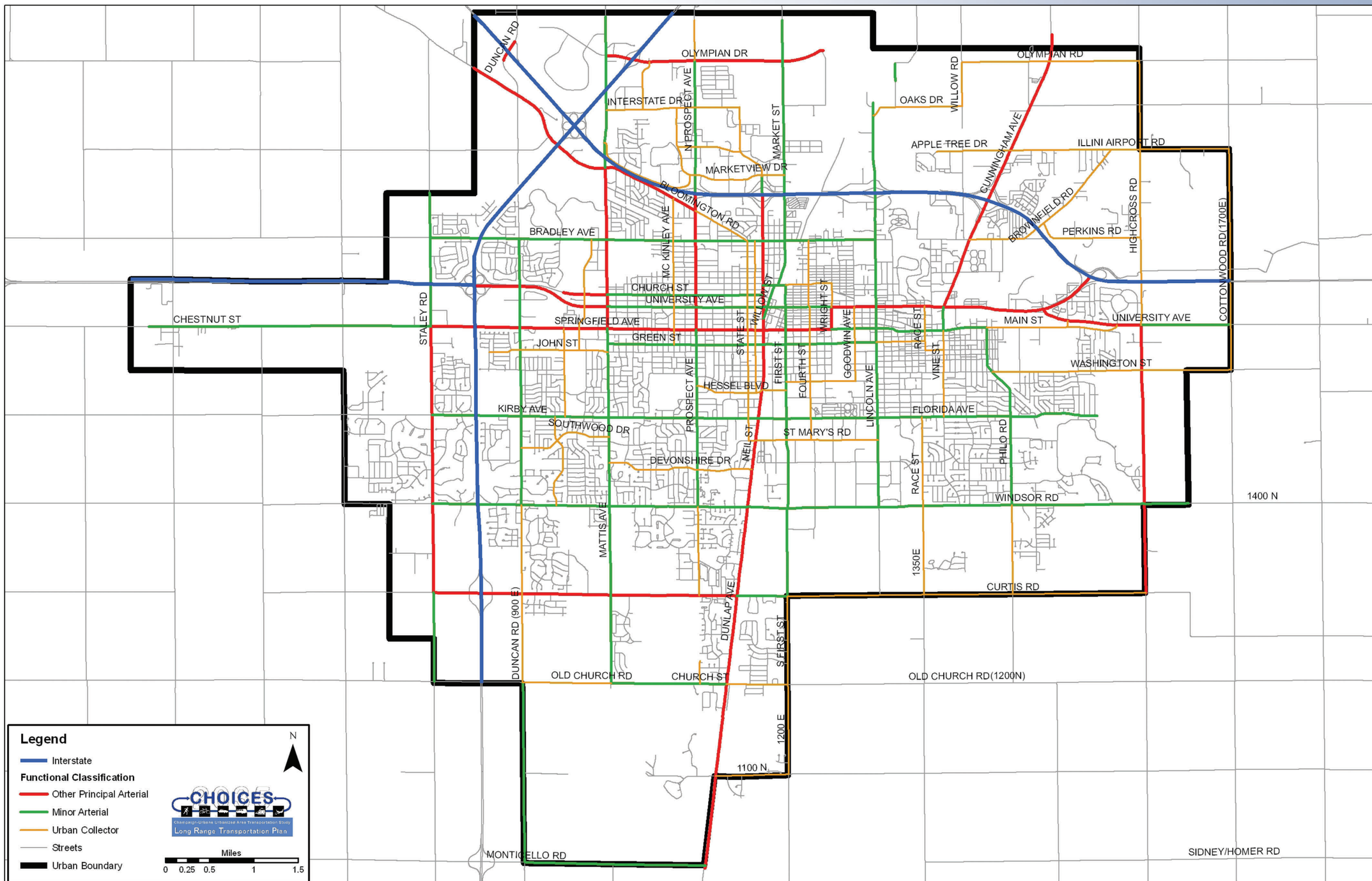


Figure 5.4 2006 Average Daily Traffic for Selected Roadways

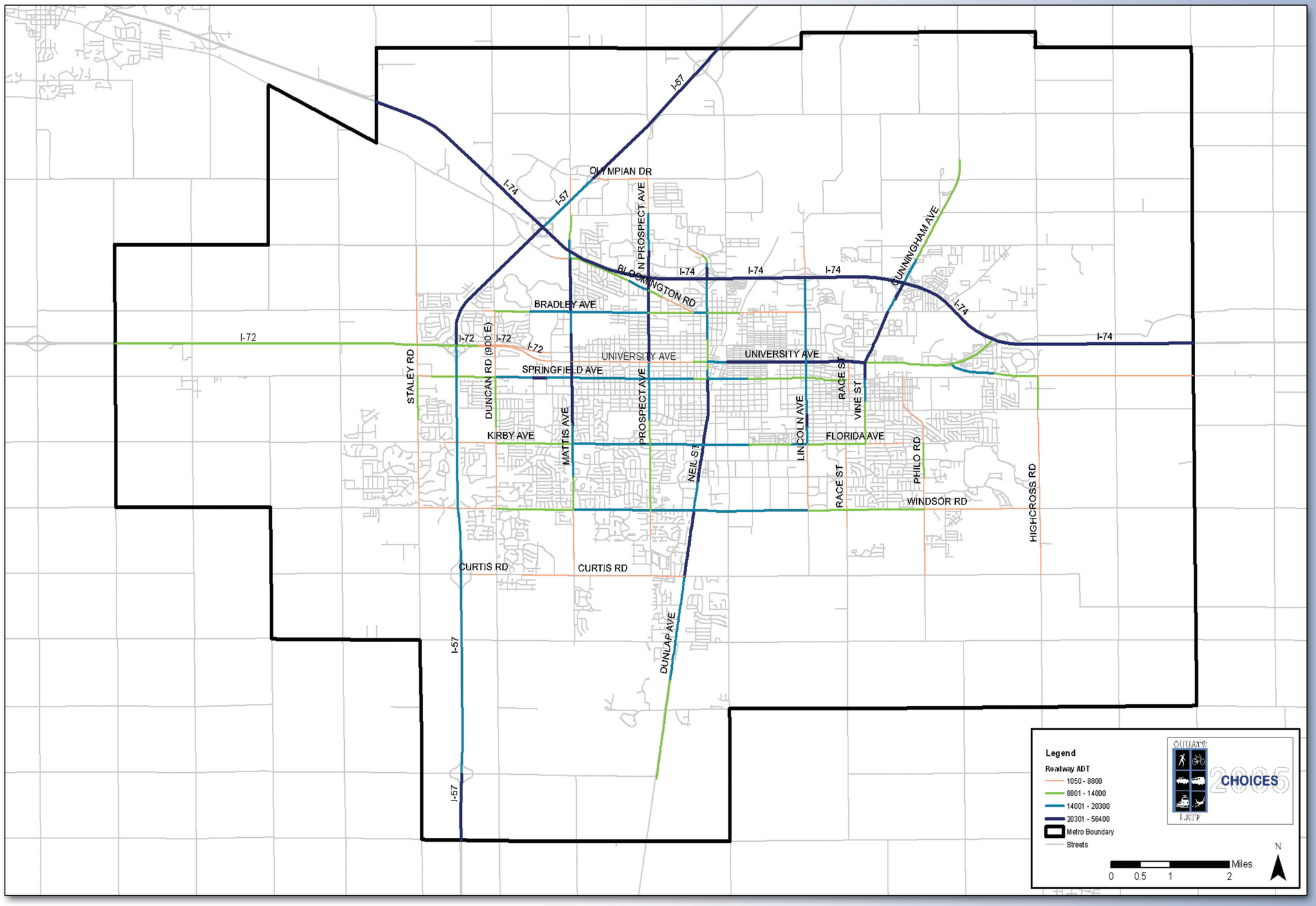


Figure 5.5 Travel Speeds on Selected Roadways

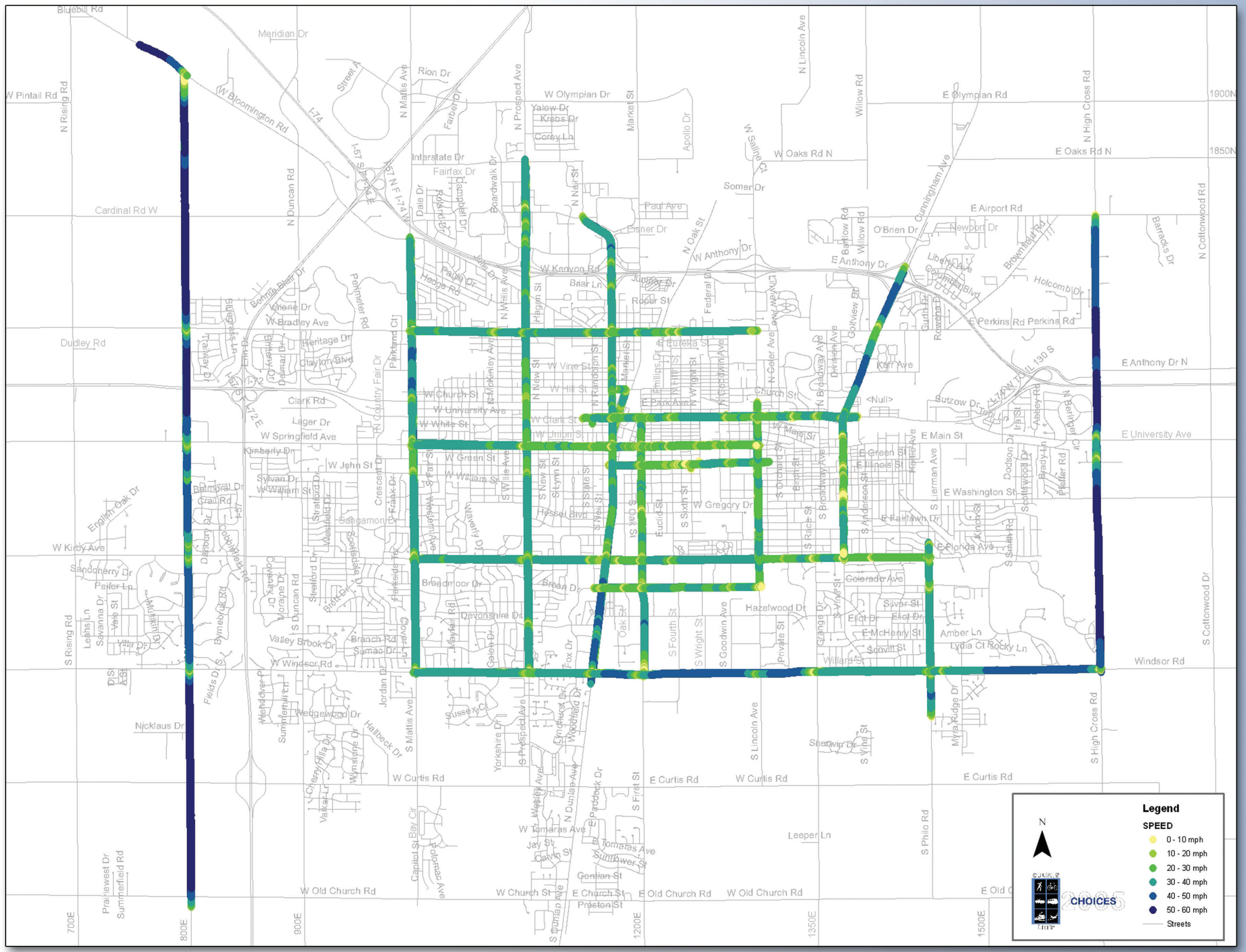
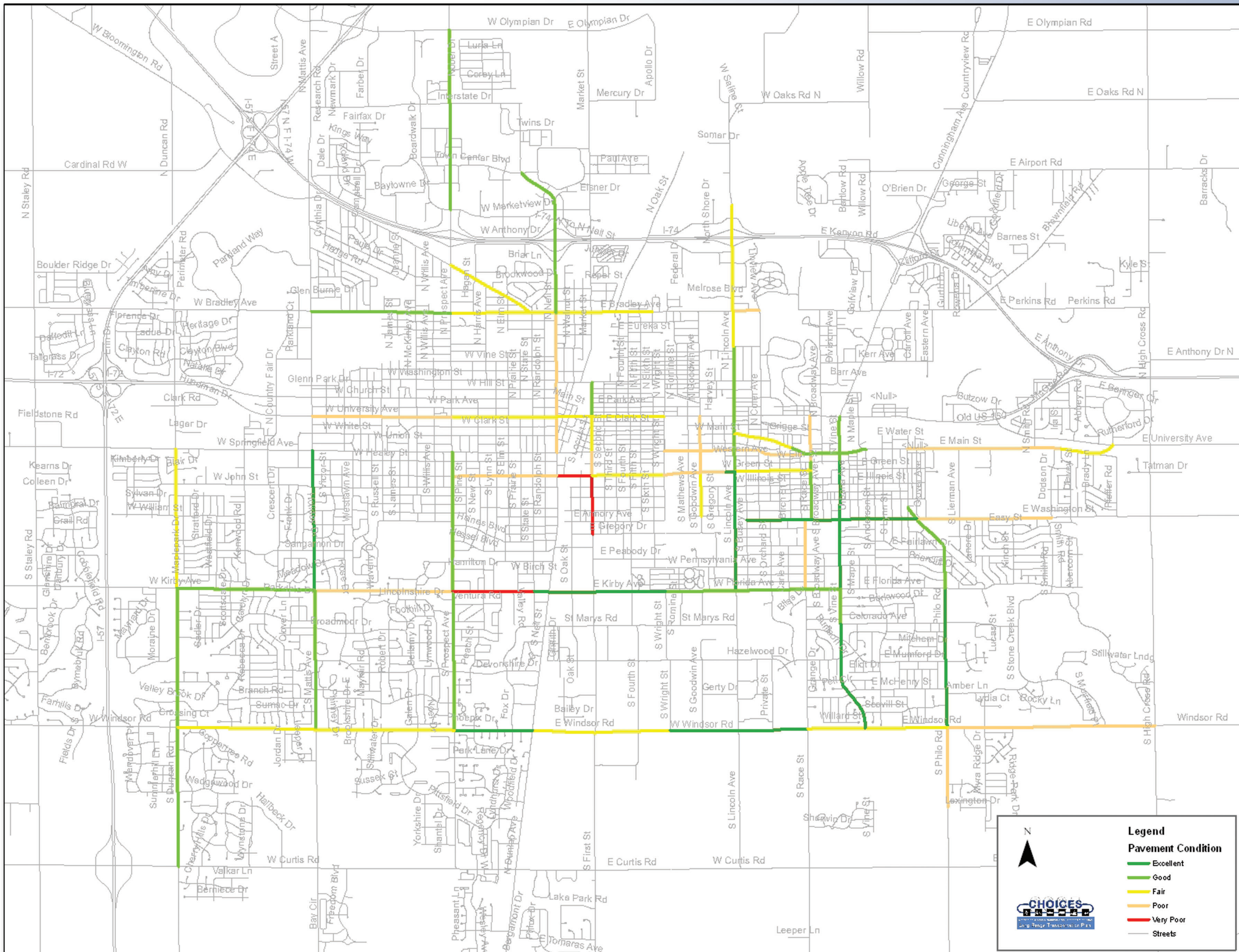


Figure 5.6 Pavement Analysis on Selected Roadways



Roadway Safety

Every two years CUUATS staff analyzes data provided by IDOT for crashes occurring within the corporate limits of Champaign and Urbana over a five year period and updates the Selected Crash Intersection Location (SCIL) report. This report details five year crash data for automobiles, bicyclists and pedestrians and shows the corresponding crash statistics including, but not limited to: total crashes, crash rates, fatalities, and injury rates. The report also has a listing of the most dangerous signalized and unsignalized intersections in the Champaign-Urbana area. The most recent SCIL report was completed in May 2009 and analyzed crashes that occurred between 2003-2007. The following information details crash statistics and trends for the Champaign-Urbana area.

Total Crashes

Figure 5.7 shows the total crashes for all modes of transportation that occurred in Champaign, Urbana and in both cities combined. Overall, the total number of crashes for each of the three trend lines remained fairly consistent with two bumps over the ten year period. A low in total crashes occurred between 2000-2001 and a high occurred between 2004-2005. Since 2005, crashes have dropped by over 300 in 2006 and 200 in 2007. Even though the population and number of vehicles on the roadways of Champaign-Urbana increased between 1997 and 2007, the total number of crashes stayed fairly consistent.

Total Injuries

Figure 5.8 shows the total number of injuries that resulted from the crashes occurring each year from 1997-2007. The number of injuries has been steadily declining since 1997 with a slight increase in 2004 and 2005. The decline in injuries can be attributed to many different factors. The overall safety of motorized vehicles continues to improve, thereby preventing injuries during crash events. The safety improvements can be seen by comparing the total crash figure to the total injuries figure from 1997-1999 versus 2003-2005. During the period between 1997-1999, crashes totaled just above 3,000 per year, yet total injuries resulting from those crashes were all above 1,000. During the period between 2003-2005, total crashes were closer to 3,500 per year, but total injuries were closer to 800 per year. While safer cars help to prevent serious injury, they have a negative side effect. When drivers feel safer, some tend to take more risks, which can result in higher crash totals. Increased seat belt usage and IDOT's educational campaign on wearing seat belts have also contributed to lower injuries per year.

Figure 5.7 Total Crashes 1997-2007

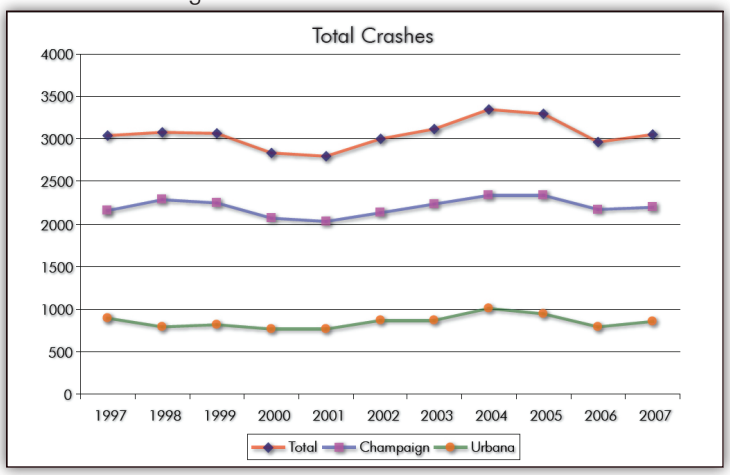
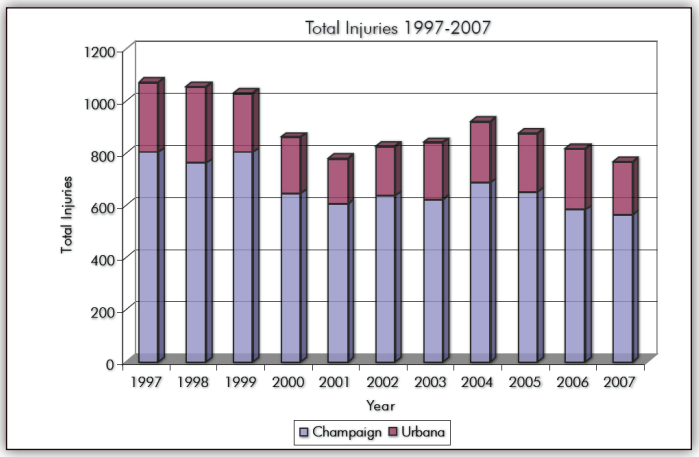


Figure 5.8 Total Injuries 1997-2007

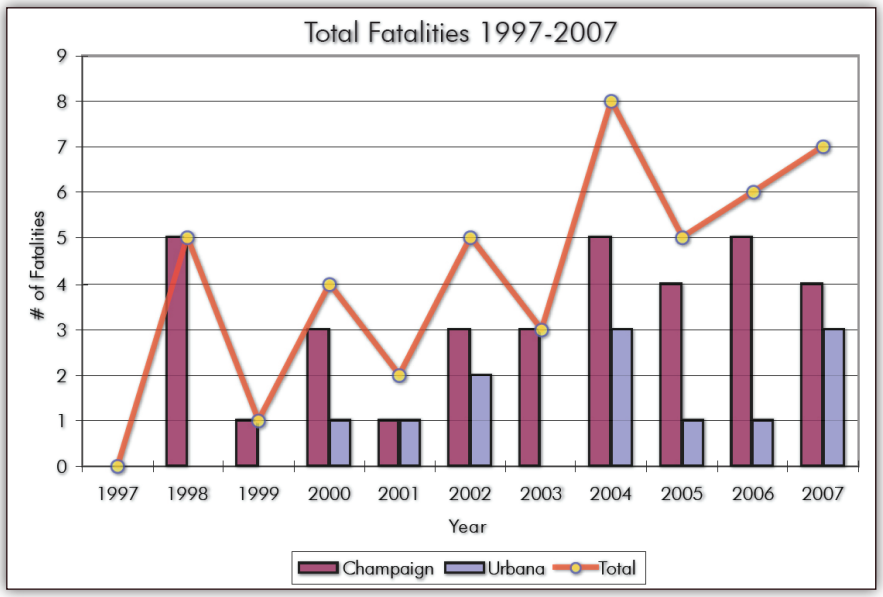


Total Fatalities

Figure 5.9 shows the number of automobile, bicycle and pedestrian fatalities that have occurred from 1997-2007 in Champaign, Urbana and Champaign-Urbana combined. Since 1997, fatalities have been steadily increasing with a ten year high occurring in 2004. On average, 30% of fatal crashes between 1999-2007 involved bicyclists and pedestrians. While more crashes occurring in the Champaign-Urbana are vehicle to vehicle crash types, crashes involving vehicles and pedestrians/bicyclists result in more severe injuries or fatalities.

As mentioned above, as vehicles become safer, driver mentality can shift to thinking that driving more aggressively will result in less severe injuries in the instance of a crash. This change in driver mentality can lead to a higher occurrence of crashes and a higher occurrence of severe injuries and fatalities.

Figure 5.9 Total Fatalities 1997-2007



Crashes and Fatalities in Relation to Vehicle Miles Traveled

Another way to look at how the safety of the urbanized area is evolving over time is to examine the number of crashes in relation to the total vehicle miles traveled (VMT) on the transportation network. Figures 5.10 and 5.11 show the number of crashes per 100 million vehicle miles traveled and the number of fatalities per 100 million vehicle miles traveled. The number of fatalities correlates to the total for only Champaign and Urbana while the VMT estimates are for the entire urbanized area. Since Champaign and Urbana account for a large amount of the VMT and crashes in the urbanized area, the statistics presented are close estimates for the entire urbanized area.

Crashes per 100 million VMT have been steadily declining since 2004. This is mainly due to VMT increasing slightly while total crashes per year have declined since 2004. Unfortunately, as VMT has increased, so have the total number of fatalities and the number of fatalities per 100 million VMT.

Figure 5.10 Crashes per 100 Million VMT

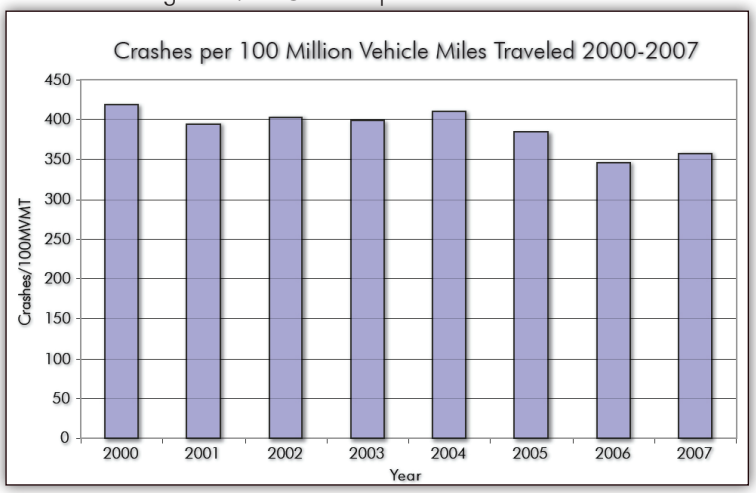
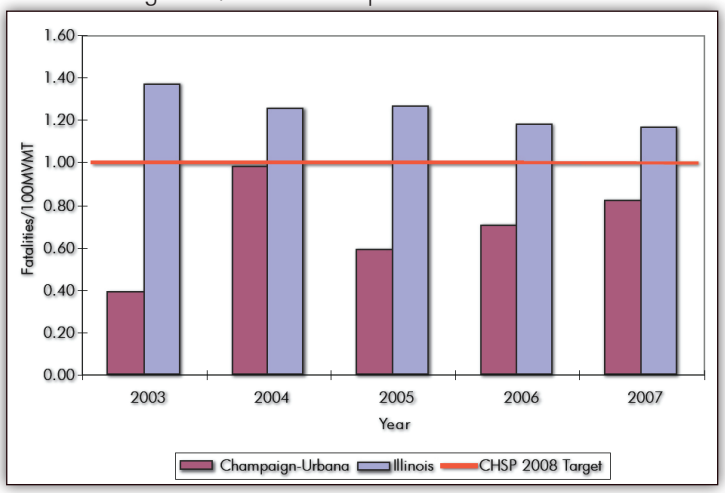


Figure 5.11 Fatalities per 100 Million VMT



Severity of Injury in Non-Fatal Crashes

The final set of safety measurements for personal vehicles pertains to the severity of injury during a non-fatal crash event. The IDOT's Division of Traffic Safety categorizes injury severity levels as: "A" (most severe), "B" (moderate severity) and "C" (least severe). IDOT began ranking injury types in 2004. Figures 5.12 and 5.13 show the total number of injuries in each category and the number of "A" injury crashes per 100 million VMT. The state of Illinois set a statewide target of 16.4 "A" injury crashes per 100 million VMT in 2004. This target has not yet been achieved in the Champaign-Urbana area, but in 2007, the number reached a four year low at 16.78. Since 2004, all injury types are down, mostly resulting from a decline in total crashes.

Figure 5.12 Total Injuries per Category

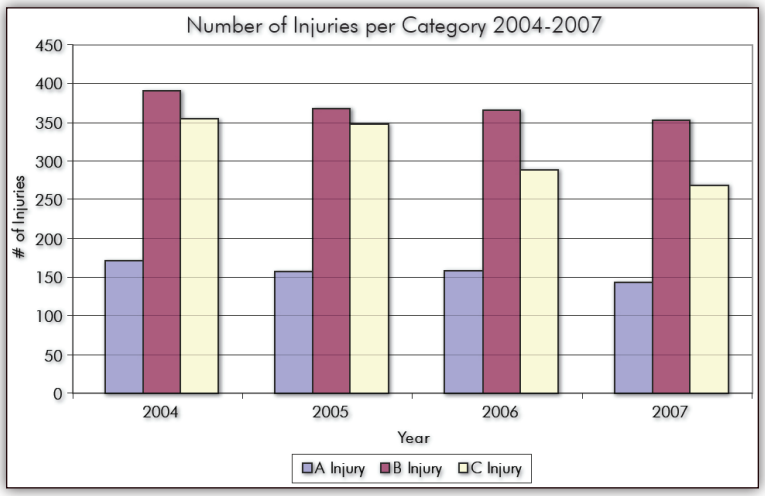
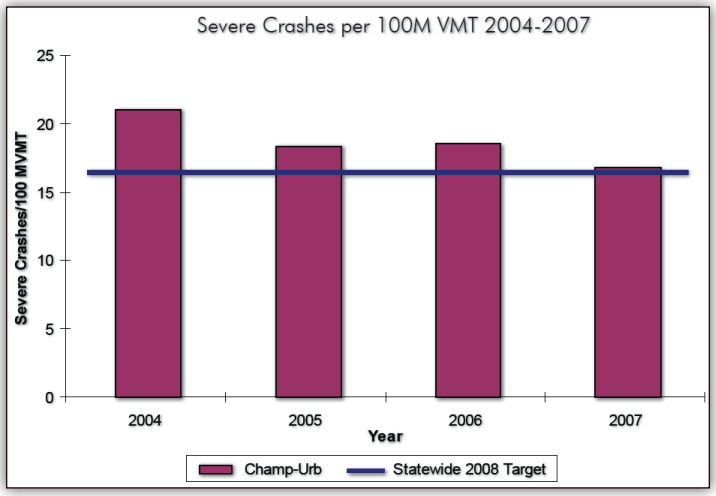


Figure 5.13 "A" Injuries per 100M VMT



Selected Crash Intersection Locations (SCIL)

As mentioned earlier in this chapter, the SCIL report identifies high risk intersections in Champaign and Urbana for future improvement consideration. The most recent SCIL report, completed in 2009, analyzed crash reports from 2003-2007 and identified 29 critical intersections that met crash rate by volume class requirements as well as total crash number requirements. Intersections are also ranked by priority number 1-3, Priority 1 being the most critical intersections and Priority 3 being the least critical intersections. Priorities are based on the crash frequency, crash rate and crash severity. Tables 5.4 and 5.5 show the signalized and unsignalized intersections identified as critical in the SCIL report. Figure 5.14 shows the locations of those intersections in the Champaign-Urbana area.

Table 5.4 Signalized Selected Crash Intersection Locations Intersections 2003-2007

Priority Level	City	Intersection	Volume Class	Average Crash Frequency	Average Crash Rate (per million entering vehicles)	Average EPDO
Priority 1	None					
Priority 2	None					
Priority 3	Champaign	Mattis/Bradley	A	17.0	1.2	9.0
	Champaign	Mattis/Springfield	A	17.6	1.2	5.6
	Champaign	Prospect/Bloomington	A	21.2	1.4	4.4
	Champaign	Country Fair/Church	B	6.2	1.0	15.0
	Champaign	Neil/Columbia	B	7.2	1.1	4.2
	Champaign	Randolph/Church	B	7.4	1.6	6.5
	Urbana	Race/Main	B	6.4	1.2	7.4

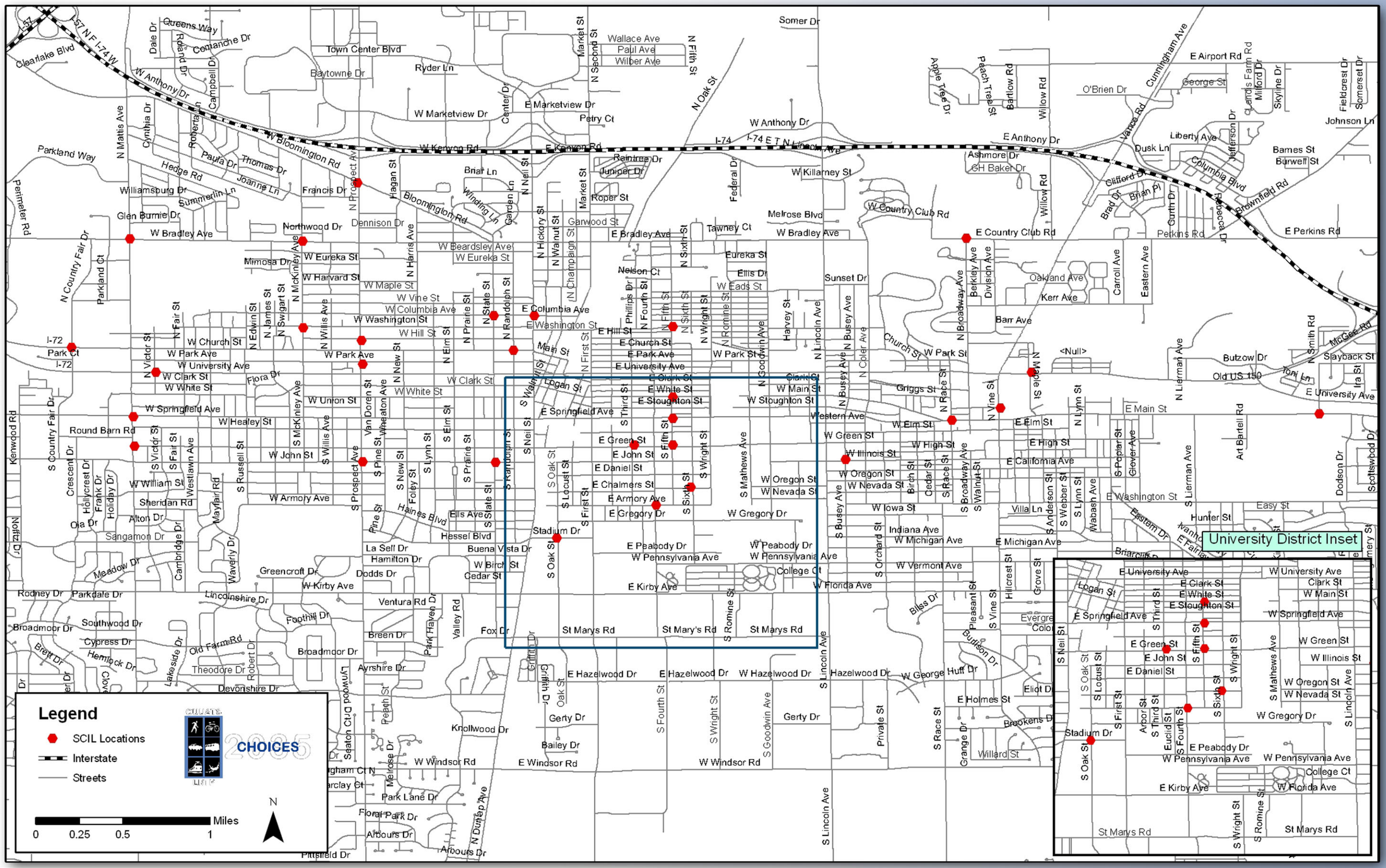
EPDO = Equivalent Property Damage Only

Table 5.5 Unsignalized Selected Crash Intersection Locations Intersections 2003-2007

Priority Level	City	Intersection	Volume Class	Average Crash Frequency	Average Crash Rate (per million entering vehicles)	Average EPDO
Priority 1	Champaign	5th/Washington	C	3.4	1.7	12.9
	Urbana	Smith/Main	C	3.0	0.9	7.3
Priority 2	None					
Priority 3	Champaign	Mattis/Green	A	5.0	0.6	3.4
	Champaign	McKinley/Bradley	A	8.4	1.1	6.4
	Champaign	Prospect/Hill	A	3.6	0.4	4.7
	Champaign	Prospect/Park	A	3.6	0.4	4.7
	Urbana	Vine/Water	A	4.0	0.5	5.3
	Champaign	3rd/Green	B	6.2	1.1	3.2
	Champaign	4th/Armory	B	3.2	0.8	9.3
	Champaign	5th/Green	B	4.6	0.7	3.2
	Champaign	5th/Springfield	B	6.0	0.9	4.8
	Champaign	Prospect/John	B	9.2	1.3	4.1
	Urbana	Maple/University	B	5.2	1.3	7.0
	Champaign	6th/Chalmers	C	2.6	1.1	4.1
	Champaign	Oak/Stadium	C	2.0	0.8	2.8
	Champaign	State/Columbia	C	2.4	0.8	5.8
	Champaign	State/John	C	3.2	1	3
	Champaign	Victor/University	C	2.2	0.8	10.3
	Urbana	Broadway/Country Club	C	1.8	0.9	13.3
	Champaign	5th/White	D	1.2	9	1.3
	Champaign	McKinley/Washington	D	1.6	1.3	1.3
	Urbana	Busey/Illinois	D	2.0	1.2	1.4

EPDO = Equivalent Property Damage Only

Figure 5.14 2003 - 2007 SCIL Map



Personal Vehicle MOEs

In order to understand how the transportation network is evolving, particularly dependency on the automobile as the predominant way of travel, a set of MOEs was established to track automobile use and the roadway infrastructure system. These MOEs track vehicle use, number of vehicles, roadway mileage, and crash statistics. They will be updated every five years during the LRTP update process to better visualize the urbanized area's progress toward the goals and objectives in this document.

Table 5.6 lists the MOEs that will be used to review historical trends and analyze the progress of the urbanized area since the last LRTP update.

Table 5.6 Personal Vehicle MOEs

Measure of Effectiveness	Data Source	Reference Page
Miles of new roadways constructed	CCGIS/IDOT Data	54
Arterial pavement condition	Municipal PCI Data	58
Number of automobiles registered in Champaign County	State Vehicle Registration Database	57
Total crashes per 100 Million Vehicle Miles Traveled	CUUATS SCIL Report	64
Total fatalities per 100 Million Vehicle Miles Traveled	CUUATS SCIL Report	64

5.2 Bicycles and Pedestrians

As fuel prices continue to increase and people shift to more sustainable modes of transportation, walking and bicycling in the urbanized area will become a more attractive option for those currently using personal vehicles to get around. The need for additional bicycle and pedestrian facilities will only increase as we progress toward the year 2035. The Champaign-Urbana-Savoy-Bondville urbanized area, which includes the University of Illinois, has approximately 60 miles of bicycle paths, on-street bicycle lanes and shared-use paths (accommodating pedestrians and bicyclists). These facilities connect major activity centers, neighborhoods, parks, and the individual municipalities. Table 5.7 shows the type of bicycle facility and associated mileage for the urbanized area in 2004 and 2009. In five years, nearly 20 miles of new bicycle facilities have been constructed. This data set should be used as an MOE for bicycling to monitor construction progress of bicycle facilities.

Table 5.7 Bicycle Facilities by Type 2004 & 2009

Path Type	2004 Mileage	2009 Mileage	% Change
Shared-Use Path (sidepath, off-street)	28.0	42.8	52.9%
Divided Shared-Use Path	3.2	4.6	43.7%
Bike Path (includes UIUC Bike Path)	7.7	7.9	2.6%
Bike Lanes (on-street)	2.5	4.7	88.0%
Total	**41.4**	**60.0**	**44.9%**

In 2008, the City of Urbana adopted a Bicycle Master Plan which proposed a network of bicycle facilities that provides efficient connectivity to all areas of the city. The plan sets a vision, implementation strategy and standards for the construction of bicycle facilities. The City of Champaign completed its 2008 Transportation Master Plan which included a vision for constructing various types of bicycle facilities throughout the city. Champaign's plan also included recommendations for implementation, design standards and bike parking. Both Champaign and Urbana have adopted bicycle parking requirements as part of their zoning ordinances. Finally, in June 2009, the Champaign County Regional Planning Commission completed an update to the Champaign County Greenways & Trails Map. This map shows the locations of all bicycle facilities and trails in Champaign County, including those in parks and forest preserves. This update process included the completion of design guidelines and created signage standards which will mark the various greenways and trails throughout Champaign County. The Greenways & Trails map is shown in Figure 5.17.

Whether traveling on roadways or making use of the greenways and trails system, bicyclists and pedestrians must often cross busy streets, intersections and driveways. Conflict can and will occur between non-motorized and motorized vehicle users in these areas, especially in the University District, which has the highest volumes of pedestrians and bicyclists. Reducing conflict points, making street crossings safer and educating all roadway users to be aware of their surroundings are all important steps in keeping bicyclists and pedestrians safer on and off the street. Unfortunately, crashes between motorists and bicyclists/pedestrians do occur. Figures 5.15 and 5.16 show the number of pedestrian and bicycle crashes from 2004 to 2007. Figure 5.15 also shows the number of pedestrian fatalities as a result of the crashes occurring in Champaign-Urbana. There were no fatalities from 2004-2007 as a result of bicycle crashes.

Figure 5.15 Pedestrian Crashes 2004-2007

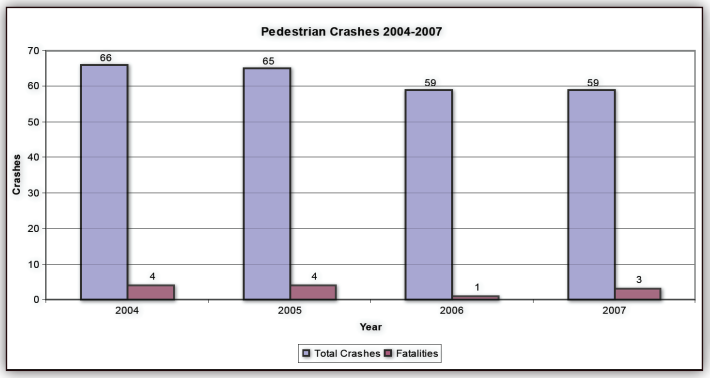
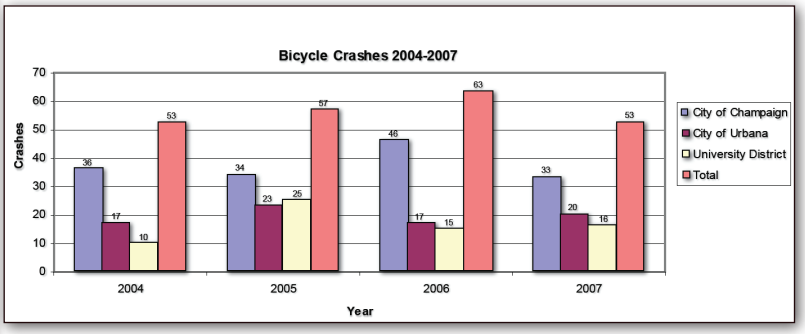
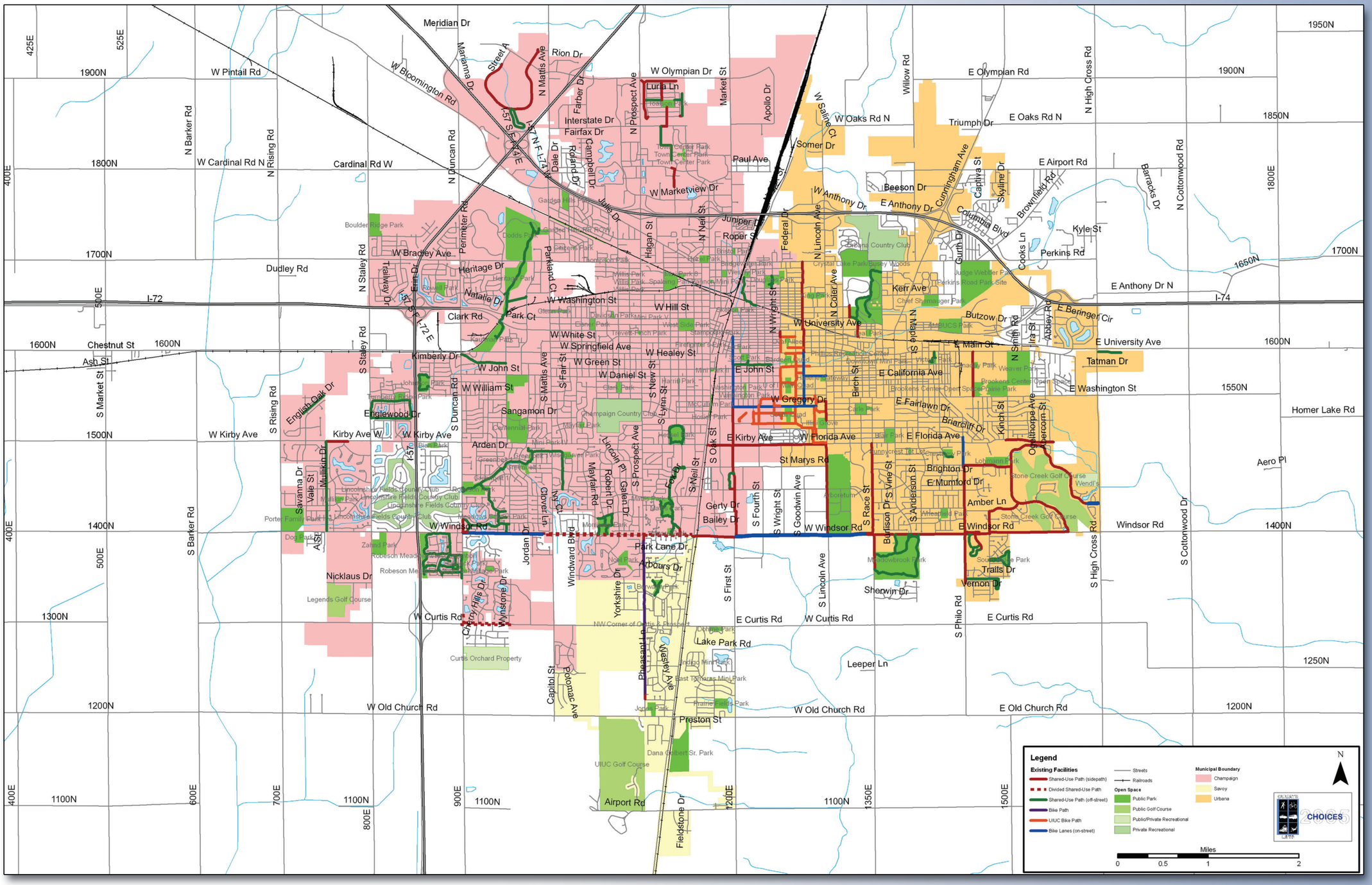


Figure 5.16 Bicycle Crashes 2004-2007



*Crashes in the University District are included in the Champaign and Urbana totals.

Figure 5.17
2009 Greenways & Trails Map



Recently, measures have been taken to improve accessibility for visually impaired persons and other pedestrians in the urbanized area at intersection crossings. Accessible Pedestrian Signals (APS) have been installed at several locations in Champaign and Urbana, many of which can be found on the University of Illinois campus. According to the 2007 updated MUTCD standards, a signal is considered accessible only if it "communicates information about pedestrian timing in nonvisual format such as audible tones, verbal messages, and/or vibrating surfaces." The APS system can also include pedestrian countdown heads and/or ADA accessible push buttons to actuate the crossing signal.

Municipalities and the University are also upgrading crosswalk ramps to include ADA truncated domes; upgrading specific crosswalks to have higher visibility, specifically in school zones and on the University campus; and are upgrading existing sidewalks or making sure new development includes sidewalks. Table 5.8 shows the number of accessible signals that can be found in the urbanized area.

Table 5.8 Accessible Pedestrian Signals (2009)

Jurisdiction	Accessible Signals
Champaign	7
Urbana	10
Savoy	0
University of Illinois	0
Total	**17**

Bicycle and Pedestrian MOEs

The following MOEs will be used to track the progression of the urbanized area in the construction of new facilities, additional APS devices, and in monitoring the safety of bicyclists and pedestrians.

Table 5.9 Bicycle and Pedestrian MOEs

Method of Evaluation	Data Source	Reference Page
Miles of bicycle facilities	CUUATS Database	70
Pedestrian Crashes and Fatalities	CUUATS Database/SCIL	70
Bicycle Crashes and Fatalities	CUUATS Database/SCIL	70
Number of APS Systems	CUUATS Database	73

5.3 Local Public Transit

The Champaign-Urbana-Savoy area has traditionally been served by one transit district, the Champaign-Urbana Mass Transit District (CU-MTD). In 2006, a second transit district was created called the Champaign Southwest Mass Transit District (CSWMTD). Prior to this, the City of Champaign and the CU-MTD entered into an intergovernmental agreement to coordinate annexation activities so that when land is annexed into the City of Champaign, notice would be given to the CU-MTD and it could pursue annexation of the land into the transit district. The intent of this agreement was to ensure that urban land could be served with transit via a unified transit service. The agreement was consistent with the goals and objectives of the 2004 CUUATS Long Range Transportation Plan, which also recommended unified transit service as areas become urban. As of 2009, the CSWMTD has not provided fixed transit service, and the question of jurisdiction among the two transit districts is being disputed in court. The current boundaries for CU-MTD and CSWMTD can be seen in Figure 5.18.

CU-MTD currently operates 48 total transit routes in the urbanized area, which include routes during the weekday, weeknight and weekend. As of July 1, 2009, the price for a regular annual bus pass was $60.00, down from $235.00 the previous year; one-way rides with one free transfer were $1.00; and DASH passes for senior citizens and individuals with disabilities remained free, as well as for children under 46 inches in height. University of Illinois students, faculty and staff have unlimited access to the bus system using their University ID cards. University students are assessed a mandatory fee each semester on their tuition bill for this unlimited access. CU-MTD also operates deviated fixed-route and demand-responsive services. These services pick up passengers both at designated locations and by reservation within a specified service area. SafeRides is a night van service serving various parts of the University upon request. CU-MTD also operates ADA paratransit service in compliance with the Americans with Disabilities Act.

In February 2007, CU-MTD switched from drivers manually counting ridership to a computer based system located in each bus. For the purposes of tracking ridership over time, this LRTP update will use ridership data starting in February 2007, because the computer counting method is more accurate than the manual counting method. The recent rise in gas prices has produced significantly higher ridership numbers for CU-MTD in 2008 and 2009. While historically MTD's numbers have been on the increase, it is apparent that the rise in gas prices has had a positive effect on transit ridership. Comparing 2007 to 2008, nine out of twelve months had higher ridership in 2008 than in 2007. Figure 5.19 shows the monthly ridership totals beginning in February 2007 when the new computerized counters were put in place.

Along with analyzing ridership, CUUATS staff also looked at the acreage of residential parcels within 1/4 mile of any CU-MTD weekday bus route to better understand how comprehensive the transit coverage is within CU-MTD's current service area. Staff analyzed coverage within the transit service area boundary because the boundary is constantly updated as new annexations are made into the CU-MTD service area, making it easier to track coverage over time. The 2009 transit service area boundary and Fall 2009 MTD bus routes were used in the analysis. Table 5.10 shows the acreage within 1/4 mile of a weekday bus route, total residential acreage within the transit service area, and the percentage of residential areas within 1/4 mile of a weekday transit route.

Table 5.10 CU-MTD Residential Coverage

Category	Acreage within 1/4 Mile	Total Acreage in Service Area	Percent of Total
Single Family Residential	5,492.5	6,339.7	86.6%
Duplexes	192.6	196.3	98.1%
Apartments	714.8	739.7	96.6%
Group Home - Fraternity - Sorority	38.7	38.7	100.0%
Mobile Homes	137.9	167.3	82.4%
Condominiums	58.8	64.6	91.0%
Total Coverage	6,635.2	7,546.5	87.9%

In 2009, CU-MTD introduced nine new hybrid buses to their fleet to begin replacing the older gas powered buses with more fuel efficient buses. These new buses will not only improve fuel efficiency, but will help with the reduction of greenhouse gases in the urbanized area.

The CU-MTD, as of January 2009, had 57 bus shelters located throughout Champaign, Urbana and Savoy. These shelters vary in size and design, but all provide a dry place for riders to wait during rain and snow events, as well as a shaded retreat during the warmer months. The comfort of riders can be an important factor in retaining those riders who have a choice of either driving or taking mass transit. Providing shelters at busier stops along bus routes can add a certain level of comfort for riders waiting to catch a bus.

Local Public Transit MOEs

The following MOEs will be used to track the progress of the local public transit agency between each LRTP update. The MOEs will track ridership, number of transit routes, metro area coverage, number of bus shelters, and number of hybrid buses. Table 5.11 summarizes the MOEs for transit.

Table 5.11 Transit MOEs

Method of Evaluation	Data Source	Reference Page
CU-MTD Ridership	CU-MTD Database	75
Number of Transit Routes	CU-MTD Database	73
Route Coverage of Residential Parcels	CUUATS Database	74
Number of Bus Shelters	CU-MTD Database	74
Number of Hybrid Buses	CU-MTD Database	74

Figure 5.18 Transit Boundary Map (2008)

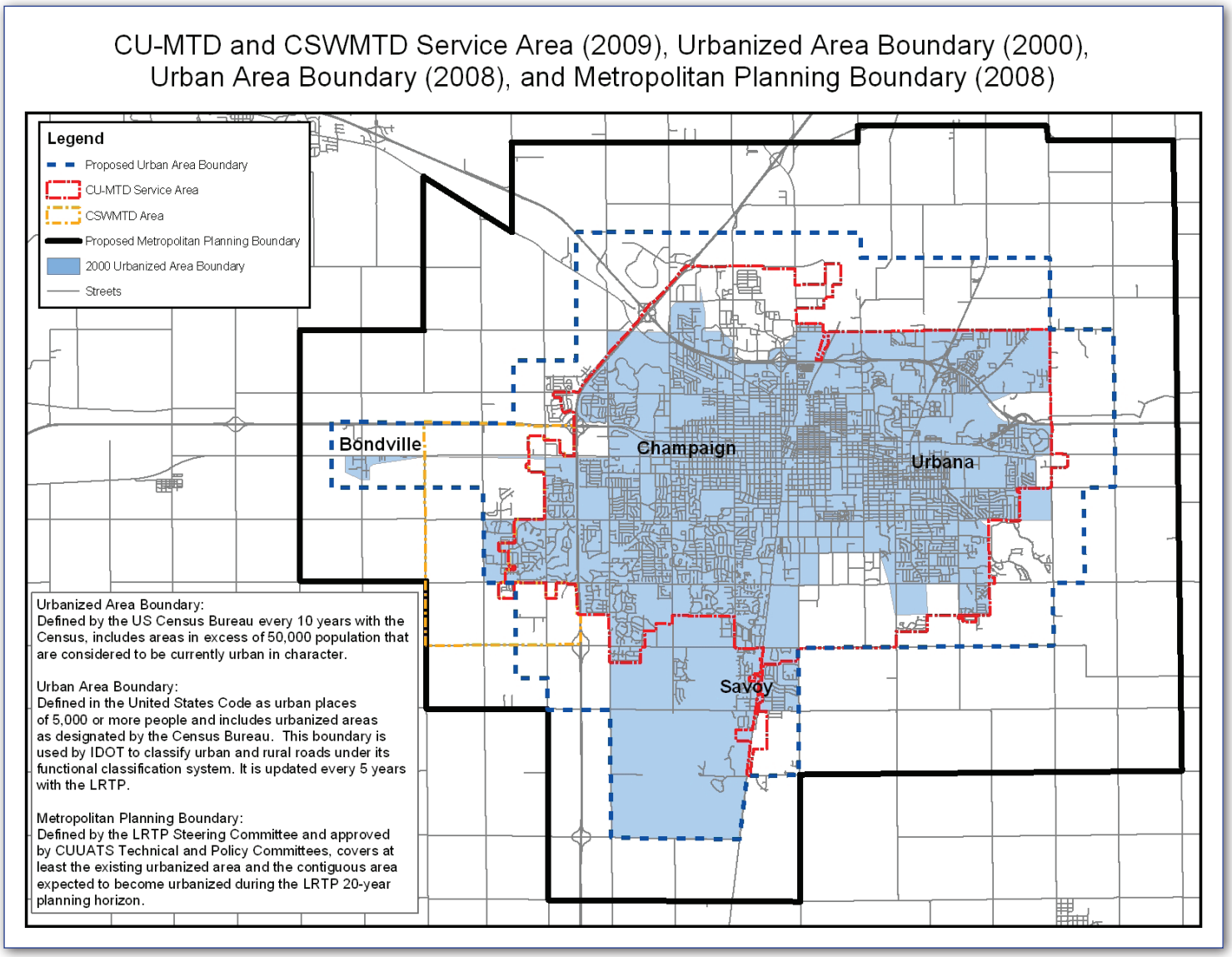
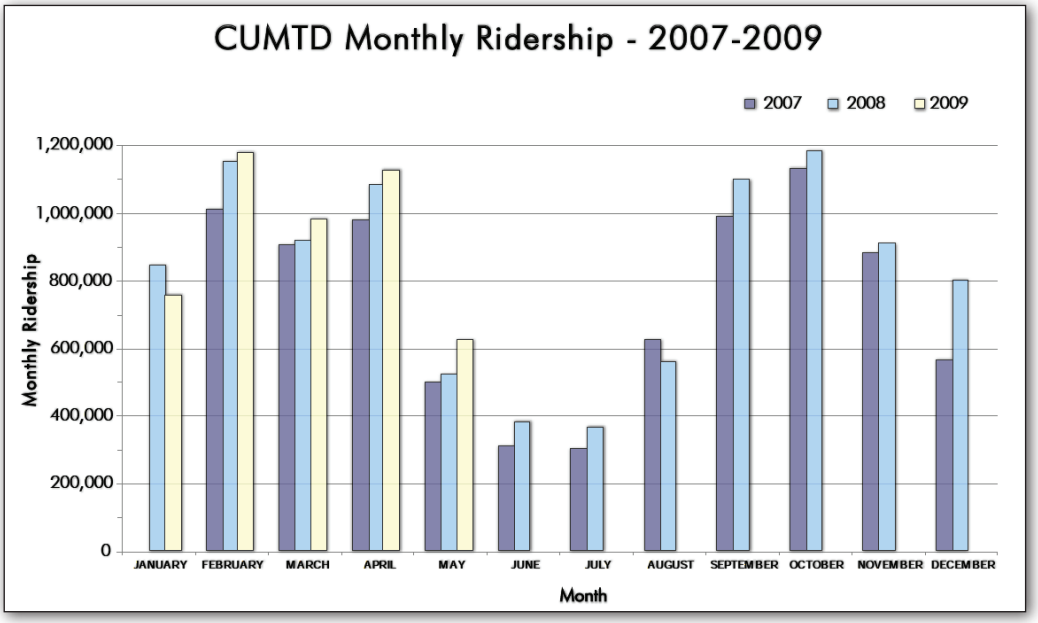


Figure 5.19 CU-MTD Ridership Data



5.4 Intercity Bus System

There are a variety of intercity bus services available, ranging from charter service to weekend service for University of Illinois students. Outgoing schedules are provided for those services that have Champaign as a point of origin. As can be seen in Tables 5.12 and 5.13, buses provide more opportunities for intercity travel compared to air and passenger rail.

Table 5.12 Destinations in Illinois

Destination	Intercity Buses	Willard Airport	Amtrak
Bloomington, IL	X		
Bolingbrook, IL	X		
Carbondale, IL			X
Centralia, IL			X
Chicago, IL	X	X	X
Danville, IL	X		
De Kalb, IL	X		
Decatur, IL	X		
Dixon, IL	X		
Du Quoin, IL			X
Effingham, IL	X		X
Elgin, IL	X		
Freeport, IL	X		
Galena, IL	X		
Galesburg, IL	X		
Gilman, IL			X
Homewood, IL			X
Joliet, IL	X		
Kankakee, IL	X		X
La Salle, IL	X		
Marion, IL	X		
Markham, IL	X		
Mattoon, IL	X		X
Moline, IL	X		
Monmouth, IL	X		
Mt. Vernon, IL	X		
Naperville, IL	X		
Ottawa, IL	X		
Peoria, IL	X		
Quincy, IL	X		
Rantoul, IL			X
Rockford, IL	X		
Skokie, IL	X		
Springfield, IL	X		
Vienna, IL	X		
Waukegan, IL	X		

Data from Willard Airport, Amtrak, Greyhound, Burlington Trailways, Suburban Express, Lincolnland Express, and Megabus

Table 5.13 Out of State Destinations

Destination	Intercity Transit	Willard Airport	Amtrak
Atlantic, IA	X		
Brookhaven, MS			X
Brush, CO	X		
Burlington, IA	X		
Cedar Rapids, IA	X		
Council Bluffs, IA	X		
Dallas/Fort Worth, TX		X	
Davenport, IA	X		
Denver, CO	X		
Des Moines, IA	X		
Detroit, MI		X	
Fairfield, IA	X		
Fort Morgan, CO	X		
Fulton, KY			X
Grand Island, NE	X		
Greenwood, MS			X
Grinnell, IA	X		
Hammond, LA			X
Hazlehurst, MS			X
Indianapolis, IN	X		
Iowa City, IA	X		
Jackson, MS			X
Julesburg, CO	X		
Kearney, NE	X		
Knoxville, IA	X		
Lexington, NE	X		
Lincoln, NE	X		
McComb, MS			X
Memphis, TN	X		X
Mt. Pleasant, IA	X		
Muscatine, IA	X		
Newbern, TN			X
New Orleans, LA			X
North Platte, NE	X		
Ogallala, NE	X		
Omaha, NE	X		
Oskaloosa, IA	X		
Ottumwa, IA	X		
Sterling, CO	X		
Yazoo City, MS			X

5.5 Commercial Trucks

Given that three interstates and several state and national routes intersect in the urbanized area, it follows that commercial trucks contribute to local traffic. The urbanized area is home to numerous industries and firms that ship and receive freight at local, regional and national levels. Some firms may have as little as one delivery per day, while others may have dozens. The distribution of goods via commercial truck service is a large part of most local economies. Regardless of delivery frequency, roads must be able to carry these trucks and local engineers must design roads and infrastructure to accommodate their size, weight and vertical clearance requirements.

Currently, there is no truck route system in place for the urbanized area. Trucks can essentially travel on any road, which can increase wear and tear on roads that were not necessarily constructed to handle commercial truck traffic. In addition, there are no time limits on when trucks can make deliveries in the urbanized area. Trucks generally deliver during business hours, which can exacerbate local traffic conditions for other transportation modes. Many commercial truck destinations are not equipped for deliveries, forcing trucks of all sizes to block roads when loading and unloading.

Figure 5.22 illustrates average daily truck traffic on major roadways in the urbanized area as counted by IDOT. Generally, the heaviest truck traffic occurs on major corridors, with less traffic occurring on those routes that are in the core of the urbanized area. Commercial trucks tend to travel on the major roads as identified on the map rather than on the local roads.

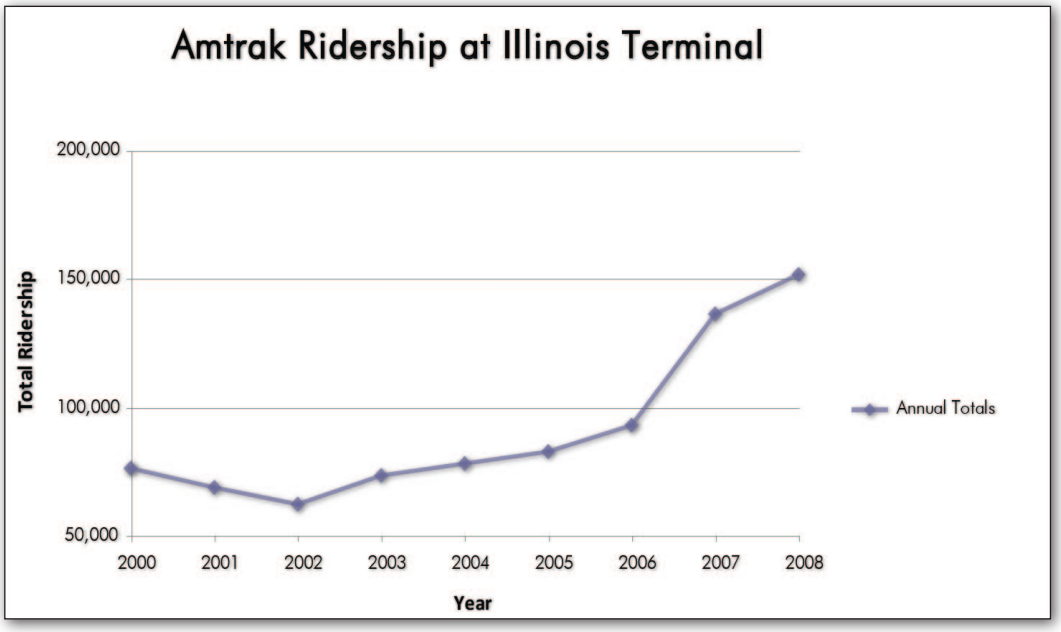
5.6 Rail

Three rail companies own tracks within the CUUATS metropolitan planning area. Canadian National (CN) operates a north-south line that runs parallel to Neil Street/US 45; this track leads to stops in Chicago and New Orleans, among other locations. CN also operates an east-west line that runs through Champaign west to Bondville and Seymour; this line connects to the CN north-south line near downtown Champaign. Norfolk Southern operates a line running roughly parallel to US Route 150 from west of Champaign through the urbanized area to Smith Road in Urbana. CSX now owns the portion of the same rail corridor between Smith Road and Danville. The CN line west of Seymour and the CSX corridor between Urbana and Danville are both being pursued as future Rails-to-Trails projects.

Passenger Rail

Amtrak passenger rail service uses the Illinois Terminal building in downtown Champaign as its service hub for the urbanized area. Currently, there are three passenger rail routes that stop in Champaign: the Saluki and the Illini Service run daily from Chicago to Carbondale, and the City of New Orleans route runs daily between Chicago and New Orleans. All three routes run through Illinois Terminal once daily in each direction. Figure 5.20 shows the annual ridership from Illinois Terminal. Ridership has been increasing since 2002, with a sharp increase from 2006 to 2008. This is most likely the result of a round trip being added between Chicago and Carbondale.

Figure 5.20 Annual Amtrak Ridership



Passenger Rail MOEs

Annual Amtrak ridership provides a MOE for tracking the number of passengers using Illinois Terminal.

5.7 Air Travel

The University of Illinois Willard Airport provides direct flights daily to Chicago, Dallas/Fort Worth and Detroit. The number of arriving and departing flights during different days of the week are shown in Table 5.14. Willard Airport has only two carriers: Delta and American Airlines. The number of flights have been reduced since the last LRTP update in 2004, when sixteen flights were received Monday - Friday, twelve flights were received Saturday, and fifteen on Sunday. Frasca Field, located about one mile north of Urbana, is a private airport open for public use.

Table 5.14 Willard Airport Flights (2009)

Days of Flight	Total Departures	Total Arrivals
Daily	5	6
Monday - Friday	1	N/A
Monday - Saturday	2	1
Sunday - Friday	1	2
Sunday Only	2	N/A

Enplanements

In air service, the term "enplanements" is used to identify the number of persons that board a plane. Figure 5.21 illustrates annual enplanements at Willard Airport from 2000 to 2008. Also included are enplanements from three other regional airports in central Illinois: Peoria, Bloomington and Springfield. While Peoria, Bloomington and Springfield have higher populations compared to the Champaign-Urbana-Savoy-Bondville urbanized area, these airports are important to evaluate here because they draw passengers from the C-U-S-B urbanized area that would otherwise use Willard Airport. Peoria and Bloomington also support more carriers than Willard at five and four, respectively. These additional carriers result in approximately 50% more flights taking off per year at Peoria and Bloomington than at Willard. Both Willard and Springfield have lost carriers, flights and enplanements since 2004. Figure 5.21 shows total enplanements per year from 2000-2008 for each of the three airports. In 2005, Willard Airport hit an eight year high with 129,900 enplanements, but has been declining ever since, with only 95,000 enplanements in 2008.

Air Travel MOEs

Annual enplanement data and the number of flights per day are good MOEs for tracking the growth or decline of air travel at Willard Airport. These two data sets need to be analyzed together to understand why the number of enplanements are increasing or decreasing.

Figure 5.21 Annual Airport Enplanements 2000 - 2008

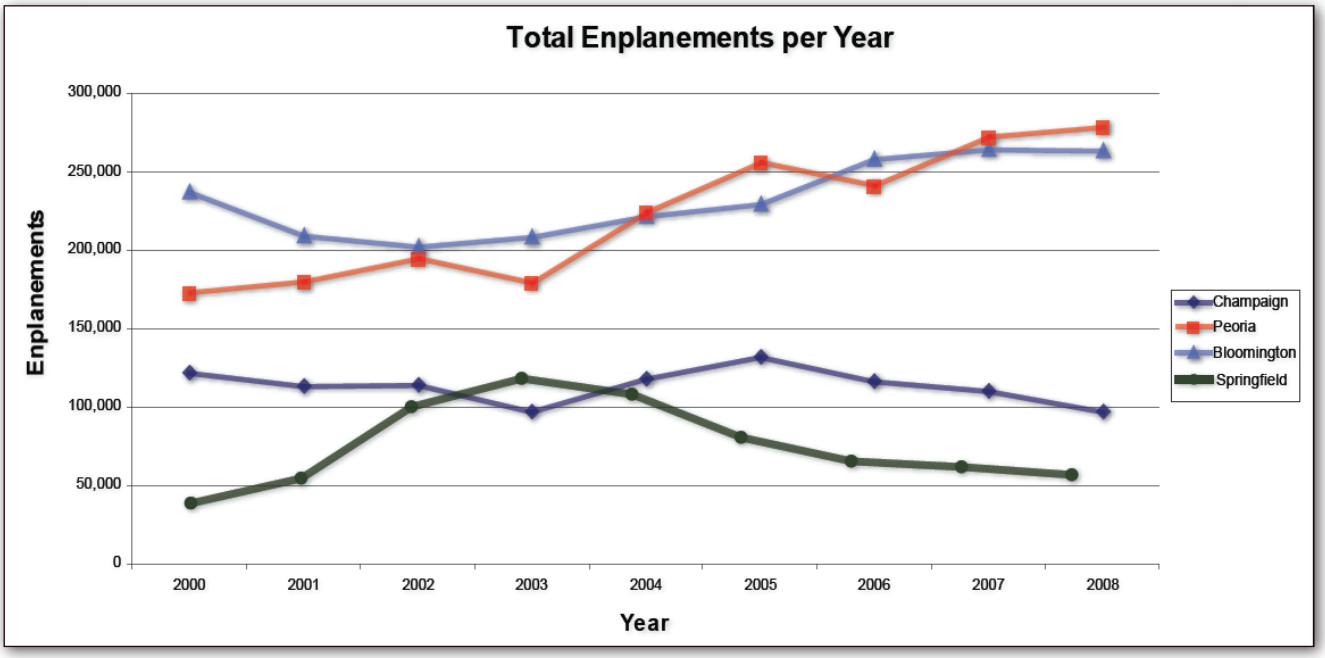
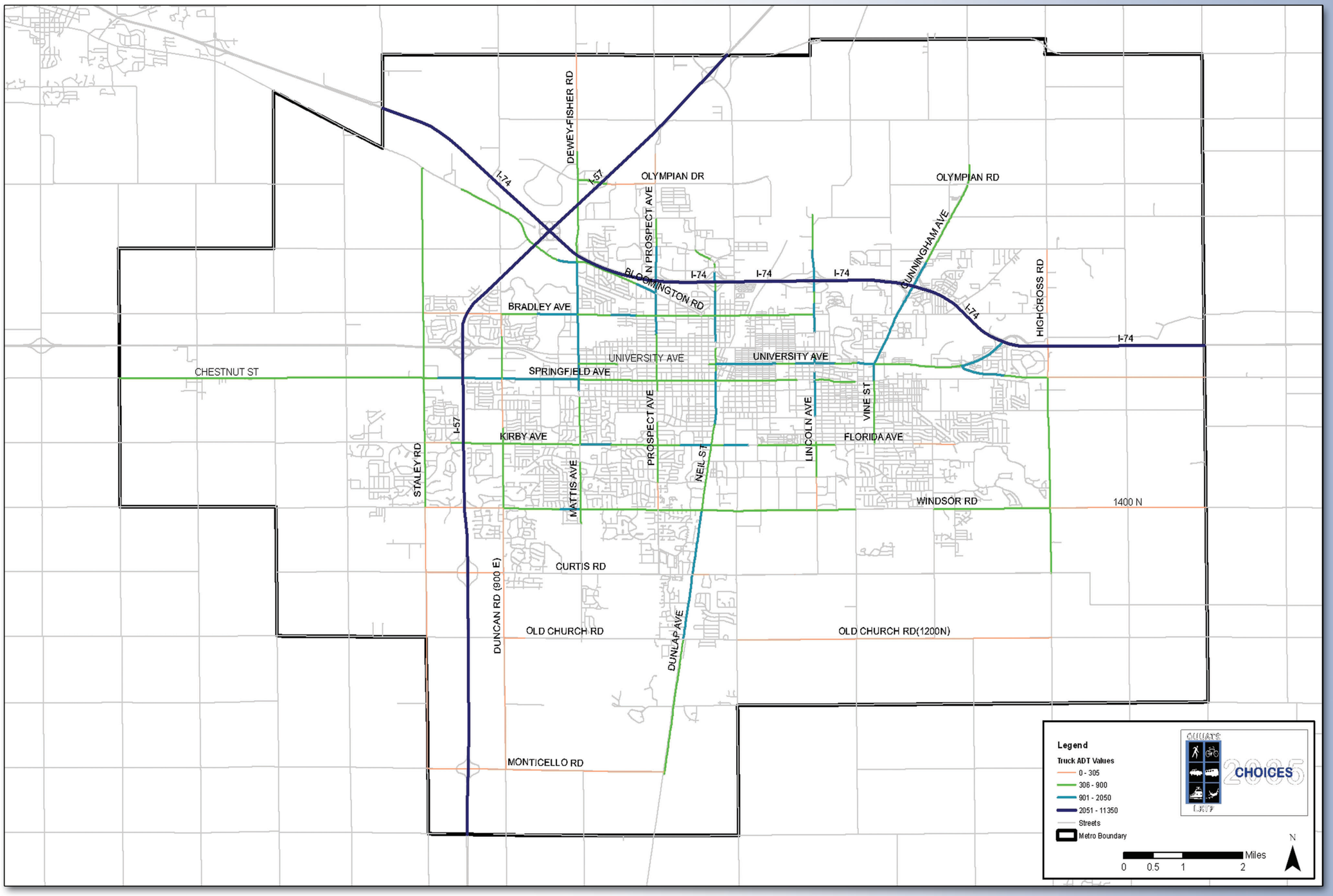


Figure 5.22 Average Daily Traffic for Trucks on Selected Roadways



5.8 Human Services Transportation Plan (HSTP)

CUUATS, in cooperation with IDOT, completed a Human Services Transportation Plan (HSTP) in 2007 for the C-U-S-B urbanized area. The HSTP follows guidelines set up by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) federal transportation legislation. Projects under the Elderly Individuals and Individuals with Disabilities (Section 5310), Job Access and Reverse Commute (JARC) (Section 5316), and New Freedom Initiative (Section 5317) grant programs must be part of a "locally developed coordinated public transit-human services transportation plan."

The HSTP acts as the framework for prioritizing projects to receive funding under the previously mentioned programs. As such, it expands the Rural Transportation Needs Assessment prepared for the Champaign County Regional Planning Commission Social Services Division to include other agencies, local and regional travel, and urban travel planning. The development of the HSTP brings together service providers, transportation funders, riders, and the community at-large to improve the efficiency and equity of transportation throughout the urbanized area and eliminate barriers for people with special needs.

The Champaign-Urbana HSTP is designed to outline:

- A comprehensive review of existing public transportation and human services coordination
- A context for continuing and broadening communication between human service agencies and transportation providers
- A platform to enhance transportation access for older adults, people with disabilities, and those with low-incomes through identification of unmet needs and strategies to address them
- A tool for human service agencies and transportation providers to identify coordination opportunities
- An educational tool for human service agencies and transportation providers to identify coordination opportunities

The Champaign-Urbana HSTP has three major components:

- Background on special needs transportation coordination in the urbanized area and a demographic profile of each community inside the urbanized area.
- A view of regional mobility today, analyzing transportation resources, regional origins and destinations, existing transportation services, needs, gaps, and what is currently happening to coordinate services.
- A vision of mobility in the future, examining anticipated demand for service, and laying out strategic goals and objectives for the next five years.

The HSTP for the urbanized area put forth two sets of recommendations for increasing the availability and efficiency of transit services. These recommendations were broken down into two time periods for implementation: twelve months or less and more than twelve months.

12 Months or Less

1. Create a Human Services Transportation Committee to coordinate the implementation of the recommendations of the Champaign-Urbana Urbanized Area Human Services Transportation Plan.
2. Develop a regional directory providing information on transportation services available in the area.
3. Provide transportation users with a simple, easily understood routes map, available electronically and/or in paper format.
4. Provide vouchers, tickets, etc. to agencies serving the elderly, disabled, and individuals with low incomes.
5. Extend time of service for commute routes and/or provide other means of transportation, other than public transit to low-income workers.
6. Introduce transit service to major trip generators at key times from outside current service areas.
7. Accelerate reimbursement of Medicaid through a perpetual short-term loan to cover lag period.
8. Recruit more volunteer drivers.
9. Combine driver training sessions in the region.
10. Utilize the Regional Maintenance Centers for non-routine service.

12 Months or More

1. Connect rural underserved areas via rural transit services to local transit service routes at connection points.
2. Merge scheduling functions under one entity.
3. Expand the service area and the route frequencies as much as possible for pick-ups and drop-offs and/or add destinations.
4. Make use of smart technology that leverages existing taxpayer investments, such as smart cards.
5. Contract with common providers to co-mingle trips.
6. Joint purchasing to achieve greater cost efficiency and eliminate redundant activities.
7. Share resources such as vehicles, vehicle maintenance functions, storage and support functions.
8. Standardize policies (so transit providers can pick up insurance from a state or federal agency to enable better transit coordination).

5.9 Transportation System Security

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. In a survey among MPOs, the following focus areas have been identified with respect to transportation security[1]:

- Traffic modeling for evacuation plans
- Airport facility planning
- Emergency preparedness
- Statewide assessments of critical assets and vulnerable facilities
- Coordination with E911 services

The National Cooperative Highway Research Program (NCHRP) Report 525, Surface Transportation Security, Volume 3, Incorporating Security into the Transportation Planning Process makes the following distinction between safety and security:

Safety – protection of persons or property from unintentional damage or destruction caused by accidental or natural events.

Security – protection of persons or property from intentional damage or destruction caused by vandalism, criminal activity, or terrorist events

The NCHRP Report 525 suggests the following provisions to incorporate security into the transportation planning process:

- Make security a distinct factor from safety in the transportation planning process.
- Provide resources for transportation-related homeland security projects that would be identified through the regular transportation planning process, including those aimed at prevention, mitigation, response and recovery.
- Provide resources to improve international freight security in and around key freight gateways and hubs, including intermodal and Strategic Highway Network (STRAHNET) connectors.
- Provide resources to expedite urgent highway and public transportation security projects to address an imminent damage or to repair damage caused by a terrorist attack against the United States, including structural hardening, relocation of roads from underneath critical structures, property acquisition to create secure zones, or repairing or replacing a bridge or tunnel that has been damaged or destroyed by a terrorist attack.
- Encourage use of monitoring systems (such as Intelligent Transportation Systems) to check the status or condition of key surface transportation (highway and transit) facilities.

The report emphasizes the inclusion of security-related stakeholders such as local law enforcement agencies, fire departments and rescue squads, federal response agencies, and the Department of Homeland Security into the planning process.

This section addresses the transportation security elements in the Champaign-Urbana urbanized area and security planning processes.

[1] NCHRP Report 525 – Surface Transportation Security, Volume 3: Incorporating Security into the Transportation Planning Process, Daniel L. Dornan and M.Patricia Maier, Transportation Research Board, Washington D.C., 2005.

Security in the Champaign-Urbana Urbanized Area

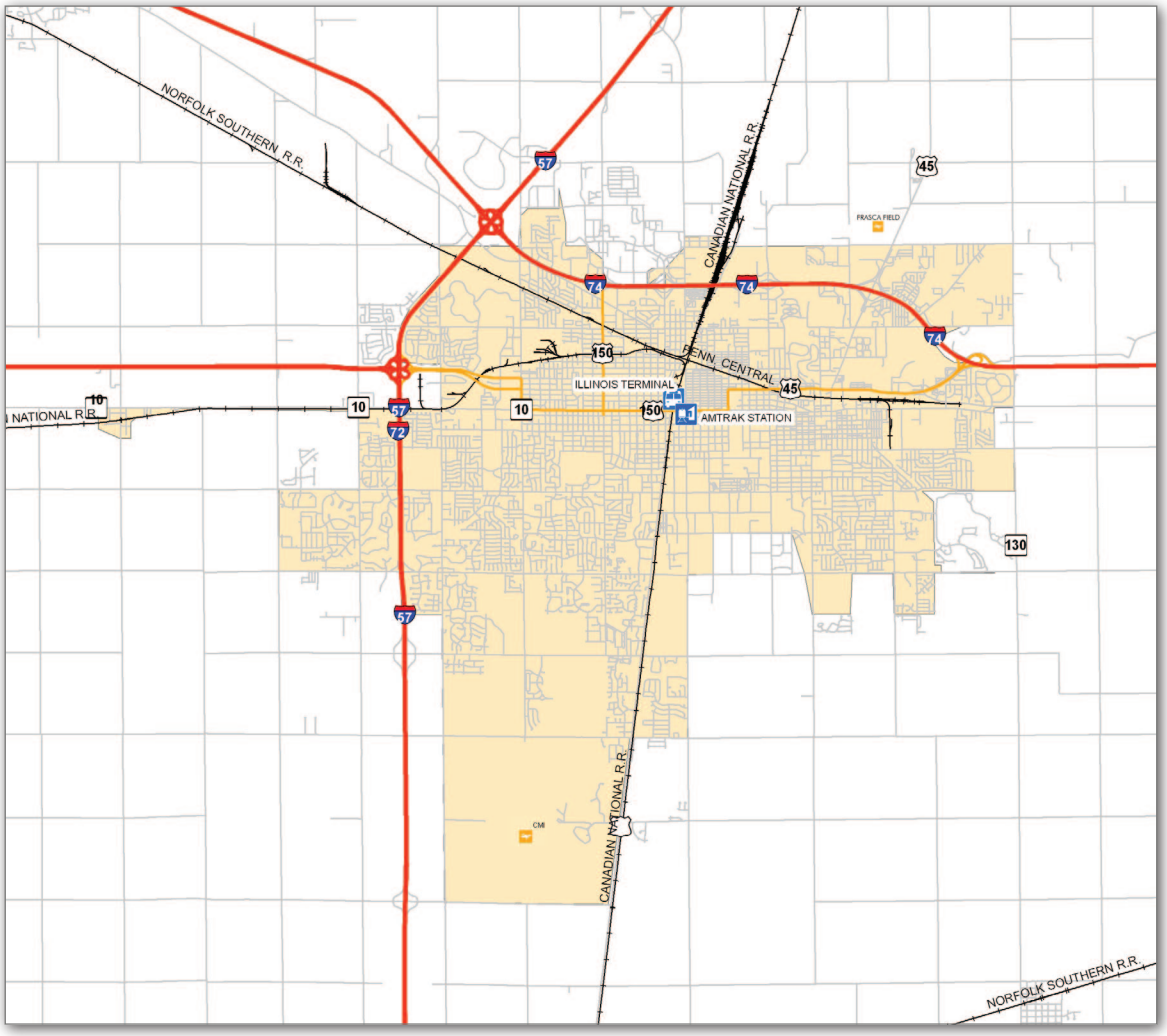
The following sections focus on three of the gaps identified regarding the security of the transportation system in the urbanized area:

- Incorporate the transit system security Program Plan (required for rail systems) into statewide and metropolitan transportation plans
- Define the role of the public transportation operators/MPO/State in promoting security (e.g., review State/local legislation for roles and responsibilities)
- Identify critical facilities and transportation system elements (e.g., transit system, rails, ports, interstate system, National Highway System routes, and STRAHNET routes)

Critical Transportation Infrastructure Facilities

Figure 5.22 below shows the location of critical transportation infrastructure locations in the Champaign-Urbana urbanized area. The list includes the Strategic Highway Network (STRAHNET), major strategic highway network connectors, intermodal connectors, transit stations, railroads, and airports.

Figure 5.22 Critical Transportation Infrastructure Locations in the Urbanized Area



In April 2005, the Champaign-Urbana-Savoy Regional Intelligent Transportation Systems (ITS) Architecture Plan was adopted by the CUUATS Technical and Policy Committees. This planning process included a large number of stakeholders, including several security related agencies. As part of this plan, several surveys and interviews were conducted with stakeholders to collect information about inventories of existing, planned and future infrastructure, services, and projects. Information about coordination and communications between various agencies during emergency situations was also collected.

This plan provides good documentation of the existing transportation security elements and a framework for the development of a region wide transportation security program. The following are existing or future "wish list" services related to transportation security:

Existing Services

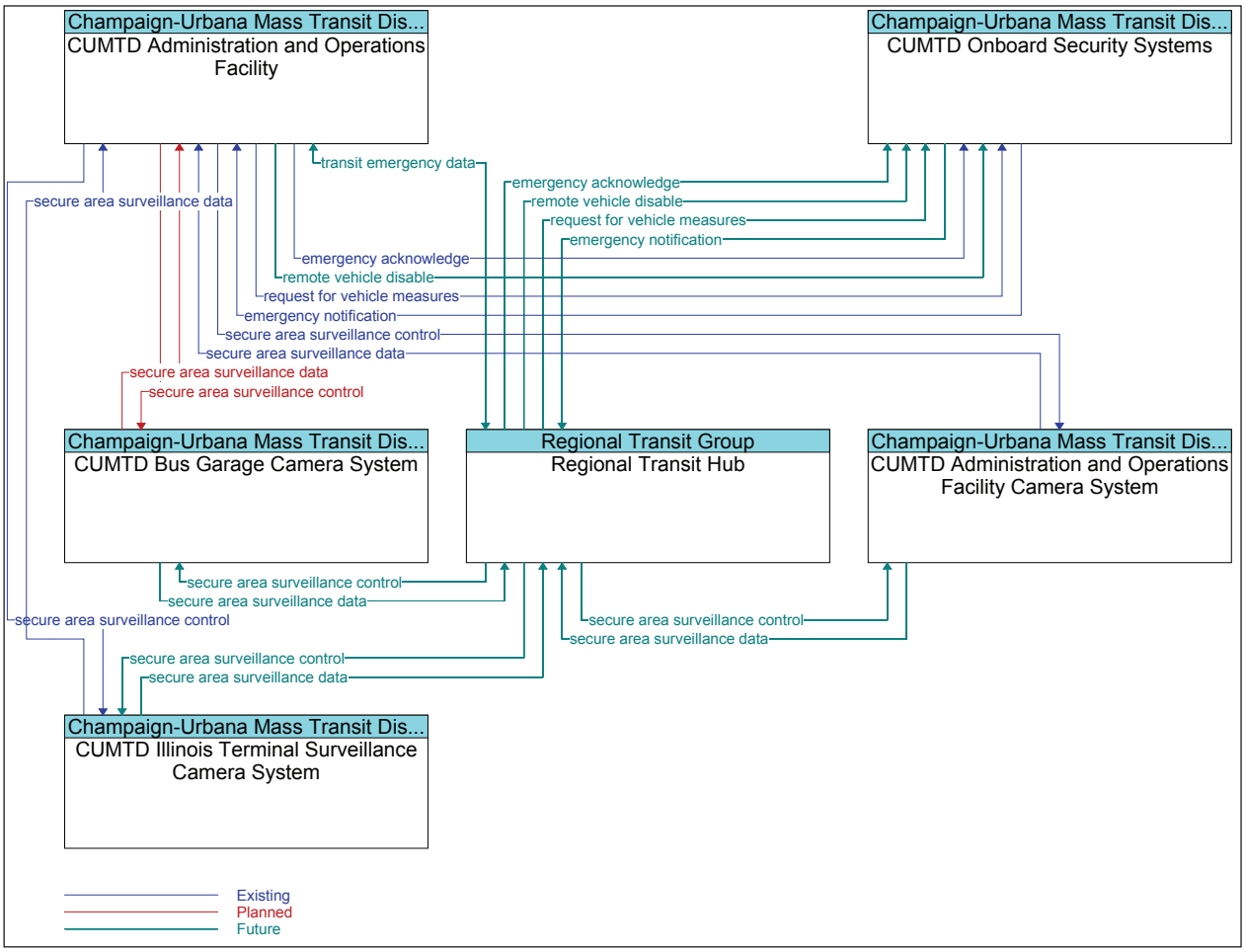
- IDOT Traffic Information Dissemination
- Champaign Traffic Incident Management System
- Urbana Traffic Incident Management System
- Transit Vehicle Tracking
- CU-MTD Transit Security
- Willard Transit Security
- Transit Traveler Information
- Savoy Broadcast Traveler Information
- Arrow Emergency Call-Taking and Dispatch
- Illinois State Police Emergency Call-Taking and Dispatch
- METCAD Emergency Call-Taking and Dispatch
- Pro Emergency Call-Taking and Dispatch
- Arrow Emergency Routing
- Illinois State Police Emergency Routing
- METCAD Emergency Routing
- Pro Emergency Routing

Future Services

- Champaign County Network Surveillance
- Champaign Network Surveillance
- IDOT Network Surveillance
- Savoy Network Surveillance
- University of Illinois Network Surveillance
- Urbana Network Surveillance
- Champaign County Surface Street Control
- Champaign Surface Street Control
- IDOT Surface Street Control
- Savoy Surface Street Control
- University of Illinois Surface Street Control
- Urbana Surface Street Control
- Champaign Traffic Information Dissemination
- Urbana Traffic Information Dissemination
- CCRPC Broadcast Traveler Information
- Champaign Broadcast Traveler Information
- IDOT Broadcast Traveler Information
- University of Illinois Broadcast Traveler Information
- Urbana Broadcast Traveler Information
- Champaign Interactive Traveler Information
- IDOT Interactive Traveler Information
- Savoy Interactive Traveler Information
- Urbana Interactive Traveler Information
- Roadway Service Patrols
- Transportation Infrastructure Protection
- Wide-Area Alert
- Disaster Response and Recovery
- Evacuation and Re-entry Management

The plan assigns roles and responsibilities for each of the stakeholders, functions required and how information flows between security elements to provide the above services. The information flows are documented as charts in the plan which provides a quick reference. Figure 5.23 gives an example of the chart for CU-MTD transit security:

Figure 5.23 Example Flow Chart from CUUATS ITS Architecture



Champaign-Urbana Mass Transit District Security

Following September 11, 2001, the importance of additional transit security increased. The Federal Transit Administration (FTA) requires a transit agency to certify that at least one percent of the Urbanized Area Formula Grant (UAFG) Program funds it receives annually are used for transit security projects or that such expenditures are not necessary. As the regional transit agency for the Champaign-Urbana area, Champaign Urbana Mass Transit District (CU-MTD) incorporates a number of security elements to protect the safety and security of passengers. The following list of security elements have been identified:

1. Administration and Operations facility Closed Circuit Television (CCTV) system
2. Bus garage CCTV system
3. Illinois Terminal CCTV system
4. Transit buses Automated Vehicle Location (AVL) system based on GPS technology
5. Onboard security systems include operator activated silent alarms in conjunction with Computer Aided Dispatch-Automated Vehicle Location system and digital audio/video recording system
6. Onboard audio and visual next stop announcing system
7. Onboard vehicle system sensors providing vehicle conditions
8. Real time next bus information displays at key locations
9. Voice and data radios for communication between operator and the operations facility
10. Schedule information to passengers through website, System Management Servers and desktop applications

CU-MTD is also planning to implement onboard signal priority for certain routes. The CU-MTD administration and operations facility, the two maintenance facilities and the Illinois Terminal facilities are equipped with an Employee Prox-Card door security system. Employees are issued a Prox-Card which opens specified doors to the facility. This system is controlled by CU-MTD security management, which limits access to certain high security areas such as the control dispatch center and administration and operations facility.

The CU-MTD system safety program plan contains procedures and guidelines to regulate and maintain the system so as to provide optimum safety considerations for their passengers[2]. The CU-MTD Emergency Response and Disaster Plan, updated annually, is coordinated with other state and local emergency response organizations such as law, fire, public health, Emergency Management System (EMS) and Emergency Service Disaster Agency (ESDA). The Director of Safety & Training is responsible for the coordination and update of the plan. Familiarization meetings and emergency drills with other agencies are conducted regularly to address security concerns and to practice skills and procedures taught in training. CU-MTD employees are trained on the standard operating procedures of the security plan. In addition, transit operators are equipped with two way radios and are trained in self-defense techniques. Operations supervisors, staff and Illinois Terminal security personnel have been certified in a self-defense techniques course. CU-MTD is actively engaged in Metro Area Emergency and Disaster Drills with local agencies.

Champaign County GIS Consortium

The Champaign County GIS Consortium is a program of the Champaign County Regional Planning Commission. The current members of this consortium are Champaign County, City of Champaign, City of Urbana, Village of Savoy, Village of Rantoul, Village of Mahomet and the University of Illinois. Spatial data available with the GIS Consortium can be used for several applications such as emergency vehicle routing, transit vehicle routing, computer aided dispatch and evacuation planning. The GIS Consortium is working with Champaign County METCAD to implement the GIS planimetric road centerlines in their new 911 dispatch system. This will allow the 911 dispatcher to locate where a call is coming from by typing the address from the phone database into the geocoded centerline data. The GIS Consortium is also working with the Champaign Fire Department to implement centerline data in their system. The CU-MTD and the Champaign Urbana Public Health District are also planning to use the GIS Consortium data in their applications.

Carle Hospital/CU-MTD Memorandum of Understanding

In March 2007, a memorandum of understanding was signed between CU-MTD and Carle Hospital which will provide for patients to be transported to CU-MTD's main warehouse and garage in Urbana for temporary care in the event of a large scale local disaster. Patients would be provided temporary care at these locations until they are discharged or moved to Carle or other hospitals in the state.

Champaign County Emergency Management Agency (EMA)

The Champaign County Emergency Management Agency is the local Emergency Services and Disaster Agency (ESDA) for the county. The agency is located at 1905 E. Main Street in Urbana. This facility also houses the Emergency Operations Center (EOC) and the METCAD 9-1-1 center. One of the primary functions of Champaign County EMA is to provide severe weather event coordination. It has an established network of storm spotters spread out over the entire county providing advance warnings of severe weather. Also, local communities' EMAs have their own spotters who report severe weather conditions in and around their communities. These spotters are in constant communication with the EOC. The EOC is the center of all EMA operations providing monitoring and communications. The EOC monitors weather conditions and relays information to other public agencies during severe weather. The Champaign County EMA also provides emergency field communications. Field communications are provided through the mobile command post E1, which is a mobile communications and command center with capabilities to communicate on any public safety frequency in Champaign County.

Illinois Emergency Management Agency (IEMA)

Illinois Emergency Management Agency (IEMA) is responsible for coordination, mitigation, preparation, response, and recovery operations during disasters in the State of Illinois. IEMA has its central office in Springfield, IL and eight regional offices. Through these regional coordinators, IEMA assists local county and municipal ESDAs, public officials and other organizations in managing disaster events. Champaign County is located in IEMA region 7.

[2] Champaign-Urbana Mass Transit District System Safety Program Plan, Champaign-Urbana Mass Transit District, February 2006.

Illinois Homeland Security

Located in Springfield, Illinois, Homeland Security is the statewide wing of the Department of Homeland Security. The mission of this organization is for a better prepared state of Illinois in homeland security. This agency coordinates with other federal and state agencies such as Illinois Terrorism Task Force (ITTF), Illinois Department of Public Health (IDPH), etc., in dealing with security related incidents in the state. The ITTF has divided the state into twelve regions based on six criteria: population; existing state and regional response divisions; existing technical and specialist local, regional, and state response teams; critical infrastructure; minimum response times and in-depth overlapping/secondary/tertiary regional and statewide coverage.

Champaign County is in Region 12, along with Iroquois, Ford and Vermilion counties. This agency also provides training for emergency responders and public officials in cooperation with other agencies. Some of the training workshops are highlighted below:

- Unified Command Workshops – the goal of these workshops is to provide emergency and non-emergency responders a basic understanding of incident command, unified command and the new National Incident Management System (NIMS). The target audience for these workshops includes public works and highway department officials.

- Response Guide for Incidents, Disasters and Emergencies (RGIDE) – this training provided by Illinois Department of Transportation (IDOT) is for transportation field personnel to be aware of biological, nuclear, incendiary, chemical explosives, bridge failure and natural disasters.

- Public Works: Preparing for and Responding to Terrorism/Weapons of Mass Destruction – this workshop provided by the Illinois Municipal League focuses on challenges facing public works and emergency responders when dealing with security related incidents as an integrated effort in their communities.

Illinois Homeland Security Research Center (IHSRC)

The Illinois Homeland Security Research Center was established in January 2004 by the University of Illinois at Urbana-Champaign. The center's focus is on fostering interdisciplinary collaboration in homeland security research and technology. The center also provides training classes for emergency responders. The center's missions are:

- Defining and addressing critical challenges
- Supporting first responders
- Providing authoritative and unbiased review of emerging technologies
- Conducting action-oriented, applied research as well as long-term fundamental research to support homeland security and the War on Terror
- Creating and transferring knowledge to other researchers, first responders and policy makers
- Aiding in transition of technologies from the laboratory to the private sector

The center covers a wide array of security related focus areas:

- Public and policy engagement
- Information technology and cyber security
- Food security
- Water security
- Incident command
- Risk management
- Transportation
- Physical Infrastructure
- Chemical/Biological/Radiological/Nuclear Explosive (CBRNE)
- First responder support
- Human factors

Security MOE

The number of projects completed from the urbanized area ITS report will be used as the MOE to track the evolution of the area's security system. The major security projects identified in the report are listed below by agency. Each project is also labeled with a status marker identifying whether the project has been completed, is currently in progress, or has not yet begun. Project status is reported as of 2009.

Champaign County Highway Department

- Champaign County Pavement Management System - *Completed*
- Champaign County Roadway Signs Inventory - *Completed*
- Champaign County Traffic Counters and Speed Study Equipment - *Completed*

Champaign County Regional Planning Commission

- CCRPC - CUUATS FTP Site - *Not Yet Begun*

Champaign-Urbana Mass Transit District

- CU-MTD Bus Garage Camera System - *In Progress*
- CU-MTD Onboard Signal Priority - *In Progress*

City of Champaign Public Works

- Champaign Maintenance and Construction Vehicle (MCV) Global Positioning System (GPS) - *Not Yet Begun*
- Champaign North Prospect Closed Circuit Television (CCTV) Cameras - *Not Yet Begun*
- Champaign Variable Message Signs (VMS) - *Not Yet Begun*

City of Urbana Public Works

- Urbana Cunningham Ave Corridor CCTV Cameras - *Not Yet Begun*
- Urbana Downtown Wireless Network - *Completed*
- Urbana New Radio System - *Completed*
- Urbana VMS - *Not Yet Begun*

Illinois Department of Transportation

- IDOT Permanent VMS - *Not Yet Begun*

Regional Transit Group

- Regional Transit Hub - *In Progress*

University of Illinois

- University of Illinois VMS - *Not Yet Begun*

Urbana Fire Department

- Urbana FD Wireless Laptops - *Completed*

Village of Savoy Public Works

- Savoy Chemical Sensors - *Not Yet Begun*
- Savoy Public Works Activity Database - *Not Yet Begun*

5.10 Measures of Effectiveness - Summary

Table 5.15 summarizes the different MOEs discussed in the Land Use, Environment and Transportation chapters of the existing conditions report. The table includes the overall category, desired outcome, indicator, and measure of effectiveness. For additional information on each MOE, refer back to the page listed under the "reference page" column.

Table 5.15 LRTP 2035 MOEs for 2009

Category		Desired Outcome	Measures of Effectiveness	Data Source	Reference Page
Land Use		Have a compact development pattern to maximize transportation options for residents	Population density at each decennial census	Decennial Census	37
			Land area of each municipality and the urbanized area	Decennial Census/CCGIS Boundary Data	22
			Total acreage per land use category in the metropolitan planning area	CCGIS Land Use Data	31
Environment		Minimize negative impacts of air and water pollutants on the natural environment	Retain attainment status, reduction in current levels of monitored elements	IEPA Air Quality Reports	39-40
			Regain or retain support of aquatic life	IEPA Water Quality Reports	42
		Minimize negative impacts of development and transportation infrastructure on the natural environment	Acres of wetlands in the metropolitan planning area	USFWS National Wetland Inventory	45
Transportation	Personal Vehicles/ Trucks	An accessible yet efficient transportation system	Miles of new roadway constructed	CCGIS/IDOT Functional Classification Data	54
			Existing pavement condition on major arterials	Pavement Condition Index	58
			Number of automobiles registered in Champaign County	State Vehicle Registration Database	57
			Truck traffic counts on major corridors	IDOT Database	79
	Safety	Safe interaction between pedestrians, bicyclists and motorists	Total crashes per 100 Million Vehicle Miles Traveled	Annual SCIL Report	64
			Total fatalities per 100 Million Vehicle Miles Traveled compared to State CHSP benchmark	Annual SCIL Report/State CHSP	64
			Total pedestrian related crashes	Annual SCIL Report	70
			Total bicycle related crashes	Annual SCIL Report	70
			Number of accessible pedestrian signals installed	CUUATS Database of Signals	73
	Security	Create a more secure transportation system	Implementation of Intelligent Transportation Systems (ITS) Architecture projects	CUUATS Database of ITS implemented projects	88
	Alternative (Active) Modes	Increase mode share among walking, biking and transit ridership	Total mileage of bicycle facilities in the urbanized area	CUUATS Greenways & Trails Database	70
			Total number of CU-MTD bus routes in the urbanized area	CU-MTD Bus Route Inventory	73
			Percentage of residential parcels within 1/4 mile of a bus route	CU-MTD Bus Route Inventory/CCGIS Parcel Data	74
			CU-MTD Annual Ridership	CU-MTD Ridership Data	75
		Replace current CU-MTD bus fleet with hybrid buses	Number of hybrid buses	CU-MTD Inventory	74
		Expand car sharing program	Zipcar Utilization	Zipcar Database	N/A
	Rail	Maximize use of Amtrak routes	Amtrak ridership at Illinois Terminal	IDOT/Amtrak Ridership Data	77
	Air	Capture a larger share of the region's air travelers	Annual enplanements	Bureau of Transportation Statistics Database	78
			Weekly number of flights	Willard Airport Data	78

5.11 Tracking Progress Through MOEs

This section describes the progress the urbanized area has made toward reaching the desired outcomes listed in Table 5.15 since the last LRTP update in 2004. Data collection for some MOEs started in 2009, therefore, these MOEs will be listed as having made neutral progress since there is no data to create a comparison from. MOEs containing comparable data will be given a good, neutral or poor rating depending on the trend noted below by a thumbs up, left pointed thumb or thumbs down.

LAND USE MOEs

Population Density

Population density was compared for all municipalities in the urbanized area using 1990 and 2000 census data. Densities in Champaign and Urbana shrank while Savoy and Bondville increased between the 1990 and 2000 census. Champaign and Urbana, making up a majority of the urbanized area's population, experienced a greater increase in land area than in population, thereby reducing their population densities in 2000. The increase in land area in some cases, Urbana in particular, was the result of annexations of previously unincorporated land developed at lower densities in prior decades. The decrease in density is not consistent with Goal 1 of the 2004 LRTP of promoting compact development.

Land Area of Each Municipality

In order to more accurately describe the changes in population density, it is important to look at land area growth for each municipality. It is possible that population density can increase and decrease without changing land area. In-migration and out-migration of population can affect population density the same way as changes in land area can. Champaign, Urbana and Savoy all expanded in land area by 30% or more between 1990 and 2000. Some portions of the urbanized area saw low-density development in growth areas, contributing to a sprawl pattern not indicative of compact growth.

Acreage per Land Use Category

To further compare growth patterns in the four municipalities, land area growth will be broken down by land use category. This will provide detailed data showing what types of development are taking place in the metropolitan planning area and where it is taking place. This data will also indicate the amount of agricultural land being developed every five years. This data set was developed in 2009 and does not have comparison data, therefore the progress is ranked as neutral.

ENVIRONMENTAL MOEs

Air Quality

The urbanized area has kept its attainment area status and is below the State of Illinois' air quality thresholds. Attainment status can benefit the health of urbanized area residents. Remaining an attainment area for air quality is a goal that should resonate with all urbanized area residents.

Water Quality

Between 2004 and 2008, five stream and river segments were moved from the "partial support" to the "no support" category in the IEPA water quality reports for aquatic life support. Point source and non-point source pollution problems are negatively impacting the metropolitan area's waterways.

Wetlands

Wetlands provide habitat for specific types of vegetation and animal species not found in other environments. Transportation and development projects can destroy wetland habitats if proper due diligence procedures are not followed. The metropolitan area gained 6 acres of wetlands between 2004 and 2009.

TRANSPORTATION MOEs

New Roadways

The expansion of our current roadway network can be viewed as a positive or a negative. New roadways can open up previously inaccessible fringe areas to development, or can serve as more efficient connection points to core areas of a community. The metropolitan planning area saw approximately 100 miles of new roads constructed between 2004 and 2009. Since new roadways can be seen as both a positive and a negative, this MOE will receive a neutral rating.

Pavement Condition

Pavement condition studies were completed for Champaign and Urbana in 2009, and resulted in a pavement conditions data set for many of the major arterials and collector streets. Approximately 44% of the streets surveyed were in excellent or good condition, 25% were rated as fair, and 30% were rated poor or very poor. This data set is new to the LRTP and will receive a neutral rating until future data sets are obtained for the next LRTP update.

Total Crashes

The total number of crashes in Champaign-Urbana per 100 million VMT decreased between 2004 and 2007.

Total Fatalities

The total number of fatalities resulting from crashes in Champaign-Urbana per 100 million VMT decreased between 2004 and 2007.

Total Pedestrian Crashes

The total number of pedestrian crashes in Champaign-Urbana decreased slightly between 2004 and 2007.

Total Bicycle Crashes

The total number of bicycle crashes in Champaign-Urbana increased slightly between 2004 and 2006 but declined in 2007. With the increase of vehicles and bicyclists using the transportation network, a decline in crashes indicates safer conditions for bicyclists.

Accessible Pedestrian Signals

Accessible Pedestrian Signals (APS) make crossing roadways easier for transportation network users who are visually impaired. Both Champaign and Urbana have been installing APS technology at key pedestrian crossings. The C-U-S-B urbanized area had almost no APS systems in place in 2004. In 2009, we have 17.

ITS Infrastructure

Since the adoption of the CUUATS ITS Architecture document, 6 projects have been completed and 3 projects are currently in progress. Only 10 projects remain incomplete.

Automobile Registration

The total number of personal vehicles registered in Champaign County has increased 11% between 2004 and 2008. Following the goals of the 2004 LRTP, additional automobiles on roadways can lead to more congestion and additional greenhouse gas emissions and is viewed as a negative. Additional vehicles can also lead to increased fees collected at the state level and increased Motor Fuel Tax revenues from the purchase of fuel.

Bicycle Facilities

The total mileage of bicycle facilities in the urbanized area has increased significantly, over 40%, between 2004 and 2009. This measure shows the urbanized area's continued investment in facilities for active modes of transportation.

Number of Bus Routes and Annual Ridership

The total number of CU-MTD bus routes has increased 78% between 2004 and 2009. This large increase provides additional routes and service hours to riders throughout the urbanized area. Annual ridership has also increased since 2007.

Parcels Near Bus Routes

Understanding how many residential parcels and developments are within 1/4 mile of a bus route is important when analyzing the amount of population served by transit. As of 2009, approximately 88% of all residential development is within a five minute walk of a transit route. Comparison data in future years is needed to give this measure a rating.

Hybrid Buses

CU-MTD added nine hybrid buses to their fleet in 2009 to replace older buses running solely on fossil fuels. As the urbanized area looks at reducing greenhouse gases and carbon footprints, alternative energy vehicles will play a significant role in achieving this goal.

Car Sharing

In late 2008, the urbanized area signed its first car sharing contract with Zipcar. Ten Zipcars were delivered and placed on campus, in downtown Urbana and in downtown Champaign. Utilization totals will be tracked annually to analyze the success of the program over time.

Amtrak Ridership

Traveling between Champaign-Urbana and Chicago became easier between 2004 and 2009 with the addition of another daily passenger train line. Amtrak ridership increased greatly with the addition of this line. This measurement will be tracked annually to analyze the fluctuations in ridership.

Willard Airport

Willard Airport has been losing carriers, flights and enplanements to other regional airports like Bloomington and Peoria. To decrease the number of area residents traveling to other airports, Willard Airport must become more competitive over time. Tracking both total flights per week and annual number of enplanements will show if Willard is becoming more competitive on the regional scale.

6 Goals & Objectives

6.1 Purpose

The formulation of goals and objectives determines what direction planning efforts should take, independent of time frame and individual projects.

A goal is defined as an end state that will be brought about by implementing the LRTP. Objectives are sub-goals that help organize the implementation of the plan into measurable and manageable parts. This LRTP update includes specific strategies which will help agencies reach the stated goals and objectives, and also includes specific measurables (MOEs) to track progress toward the completion of each goal and objective over time.

Goals: End state brought about by the implementation of the LRTP. → Objectives: Sub-goals that help organize the implementation into management parts. → Strategies: Specific action items to achieve objectives. → Measures of Effectiveness: Data used to evaluate progress toward goals and objectives.

6.2 Methodology

CUUATS staff, in conjunction with the LRTP Steering Committee, developed twelve principal goals that will lead local agencies in the implementation of the plan. These goals are grouped according to the eight SAFETEA-LU planning factors outlined by the federal government for transportation projects:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- Increase the safety of the transportation system for motorized and non-motorized users;
- Increase the security of the transportation system for motorized and non-motorized users;
- Increase the accessibility and mobility of people and freight;
- Protect the environment, promote energy conservation, improve quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operation; and
- Emphasize the preservation of the existing transportation system.

The goals and objectives were formulated based on a combination of the SAFETEA-LU factors, local knowledge, current local planning efforts, and input received during the initial LRTP public workshop. Additionally, some of the goals and objectives included in this update were revised from those listed in the LRTP from 2004. Agencies are listed under each set of strategies to delineate jurisdiction and/or responsibilities. The goals, objectives, and strategies generally represent concepts by which projects should be identified, designed, and constructed.

Finally, specific Measures of Effectiveness were developed to help local agencies track the progress of each objective during the five year period between LRTP updates. Each MOE is listed underneath its specific objective in the proceeding tables. Each table shows the goals, objectives, MOEs, strategies, and the parties responsible for implementation.

SAFETEA-LU Planning Factor #1

Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency

Planning Process Level	Description		
Goal	1. Non-single occupancy vehicle travel will be a principal consideration of the transportation planning process to make the urbanized area more sustainable, efficient, and provide a higher quality of life for residents		
Objectives	Increase the miles of dedicated bicycle facilities and signed bike routes in the metropolitan planning area by 15% by 2014	Provide transit service within a 1/4 mile for 90% of residential development (new or existing) within the CU-MTD transit service area by 2014	By 2014, ensure that 100% of new development within the municipal boundaries or land annexed into a municipality provides sidewalks along roadway frontages through construction or a reservation of land and funds for construction, unless an acceptable alternative pathway is provided. Sidewalk connectivity must be analyzed with each new development proposal.
Measures of Effectiveness	Miles of Dedicated Bike Facilities	1/4 Mile Coverage Analysis	Miles of New Sidewalk Constructed
	Miles of Signed Bike Routes	Number of Transit Routes	
Strategies	Construct new and maintain existing bicycle facilities, sign bike routes and make provisions for future connectivity	Encourage new residential development to locate within 1/4 mile of a transit line	Continue enforcing zoning and subdivision ordinances requiring new development to construct pedestrian facilities
	Implement recommendations for bicycle facilities found in the Urbana Bicycle Master Plan and Champaign Transportation Master Plan	Continue the expansion of the transit service area to be coterminous with the urbanized area boundary	Encourage redevelopment and infill within the existing municipal boundaries where pedestrian facilities already exist
	Revisit plan recommendations every five years to ensure recommendations are consistent with current transportation network conditions	Encourage redevelopment and infill development within the existing municipal boundaries	
Responsible Parties	Cities and Villages, Developers, CUUATS Staff	Cities and Villages, CU-MTD	Cities and Villages, Developers

SAFETEA-LU Planning Factor #1 (cont.)

Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency

Planning Process Level	Description	
Goal	2. Compact development and mixed-use forms should be principal considerations for new development and redevelopment in the urbanized area to create a more walkable, sustainable, and efficient development pattern	
Objectives	Increase gross densities in urban residential areas by 2025	Increase the number of mixed-use projects in the urbanized area by 2014
Measures of Effectiveness	Changes in Land Use	Database of Mixed-Use Buildings
	Change in Gross Density	
Strategies	Develop new zoning and subdivision standards which encourage compact development	Work with municipalities to provide standards for identifying mixed-use projects and other measures to encourage increased density
	Encourage new development to achieve higher gross densities	Track the number of existing and new mixed-use buildings in the urbanized area
	Encourage redevelopment and infill development within the existing municipal boundaries	Encourage new development and redevelopment to pursue mixed-use options where appropriate
Responsible Parties	Cities and Villages, Developers	CUUATS Staff, Cities and Villages

SAFETEA-LU Planning Factor #2

Increase the safety of the transportation system for motorized and non-motorized users

Planning Process Level	Description		
Goal	3. Transportation modes and facilities in the urbanized area will be safe for all users		
Objectives	Reduce the total number of crashes in Champaign-Urbana by 5% by 2014	Reduce the total number of fatalities and severe injuries in Champaign-Urbana by 25% between 2009 and 2014	Reduce the total number of crashes involving bicyclists and pedestrians in Champaign-Urbana by 15% by 2014
Measures of Effectiveness	Total Crashes per 100M VMT	Total Fatalities per 100M VMT Total Severe Injuries per 100M VMT	Total Pedestrian Crashes Total Bicycle Crashes
Strategies	CUUATS will produce the Selected Crash Intersection Locations (SCIL) report every two years	CUUATS will produce the Selected Crash Intersection Locations (SCIL) report every two years	Close gaps in sidewalk and bicycle networks along roadways and in existing neighborhoods
	Evaluate intersections that have problematic or crash-inducing patterns and identify solutions	Evaluate intersections that have problematic or crash-inducing patterns and identify solutions	Continue to enforce codes requiring new development to provide sidewalks along roadway frontages and safe crossings at intersections
	Improve visibility for all roadway users through improved lighting, striping, signage, visibility triangles, and access control	Improve visibility for all roadway users through improved lighting, striping, signage, visibility triangles, and access control	Retrofit existing ramps and crosswalk entrances to meet ADA standards
	Continue educational programs for CUUATS member agencies as well as law enforcement officers about safety issues in the urbanized area	Continue educational programs for CUUATS member agencies as well as law enforcement officers about safety issues in the urbanized area	Install APS systems at intersections with high traffic volumes and/or high pedestrian crossing volumes
	Continue educational programs for grades K-12 including driver's education and safety programs such as Operation Cool	Continue educational programs for grades K-12 including driver's education and safety programs such as Operation Cool	Revise, complete and distribute Safe Walking Route Maps for public elementary and middle schools in Champaign-Urbana every two years and continue the Safe Routes to School program.
	Continue educational safety programs for the community including drivers, bicyclists and pedestrians	Continue educational safety programs for the community including drivers, bicyclists and pedestrians	Utilize Complete Streets concept to provide safe and adequate facilities for all modes of transportation within the roadway right-of-way
Responsible Parties	CUUATS Staff, Cities and Villages, Law Enforcement, CU-MTD, CU-SRTS	CUUATS Staff, Cities and Villages, Law Enforcement, CU-MTD, CU-SRTS	CUUATS Staff, Cities and Villages, Developers, CU-SRTS

SAFETEA-LU Planning Factor #3

Increase the security of the transportation system for motorized and non-motorized users

Planning Process Level	Description		
Goal	4. The urbanized area transportation system will be secure from human and natural hazards		
Objectives	Implement at least two projects listed in the ITS Architecture Plan which benefit the security of the people, buildings, and infrastructure in the urbanized area by 2014	Create a plan detailing evacuation and emergency routes in the event of a human-made or natural disaster by 2014	Create a plan for the urbanized area that details transport routes for hazardous materials by 2019
Measures of Effectiveness	Number of ITS Projects Implemented	Creation of an Evacuation Plan	Creation of a Hazardous Materials Route Plan
Strategies	Continue the implementation of projects identified in the ITS architecture	Utilize travel demand modeling capabilities to determine the safest and most efficient evacuation routes	Consult with all necessary agencies to determine best routes for transporting hazardous materials in the urbanized area
	Consult with all necessary agencies to determine if projects need to be added or removed from the ITS project listing	Determine what changes need to be made to the current transportation system to implement evacuation and emergency routes	Determine what changes need to be made to the current transportation system to implement transport routes for hazardous materials
Responsible Parties	IDOT, CUUATS Staff, CUUATS Member Agencies, Emergency Responders	IDOT, CUUATS Staff, CUUATS Member Agencies, Emergency Responders	IDOT, CUUATS Staff, CUUATS Member Agencies, Emergency Responders

SAFETEA-LU Planning Factor #4

Increase the accessibility and mobility of people and freight

Planning Process Level	Description			
Goal	5. All transportation system users will have convenient, multi-modal access to all parts of the urbanized area and will travel with increased mobility during peak traffic hours			
Objectives	Improve average vehicular travel time by at least 1.5 minutes during peak hour periods on major traffic corridors by 2035	Improve access for persons with disabilities to all parts of the urbanized area by 2035	Improve truck freight movements in the urbanized area and reduce their effect on mobility and accessibility for other transportation modes by developing and implementing a truck route plan by 2035	Improve the mobility of all transportation system users by applying the CUUATS Access Management Guidelines to selected major corridors by 2035
Measures of Effectiveness	Level of Service Travel Time Studies Congestion	Number of APS Systems Installed Number of ADA Accessible Sidewalk Ramps Constructed	Truck ADT Volumes on Selected Major Corridors	Number of Corridors with Managed Access
Strategies	Continue signal upgrades, periodic re-timing, and coordination of all new and existing signalized intersections	Install APS systems at intersections with high traffic volumes and/ or high pedestrian crossing volumes	Prepare a comprehensive truck route analysis to determine the safest and most efficient routes for trucks in the urbanized area	Revise Access Management Guidelines every five years
	Educate residents about the monetary, health and environmental benefits of mode shift. Encourage the use of other modes of transportation in place of personal vehicle use	Retrofit existing ramps and crosswalk entrances to meet ADA standards	Identify congested intersections resulting from increased truck volumes and recommend solutions	Evaluate access point locations and traffic circulation patterns for all new development as part of the plan review process
	Utilize car sharing programs and park and ride facilities to remove vehicle trips from the roadway network	Fill in gaps which exist in the current sidewalk network	Set delivery times for businesses in high traffic areas, particularly on campus and in the two downtowns	Work with property owners and developers to eliminate unnecessary access points along major corridors to improve mobility and safety
	Continue adding connected pedestrian, bicycle and transit facilities to the existing transportation network making these travel modes more efficient	Fix sidewalks that are in disrepair to make them more accessible and easier to use for disabled persons and all other users	Evaluate loading areas in the urbanized area to determine proper space, timing and roadway geometry	
Responsible Parties	IDOT, CUUATS Staff, Cities and Villages, CU-MTD	IDOT, Cities and Villages, CU-MTD	IDOT, CUUATS Staff, Cities and Villages	IDOT, CUUATS Staff, Cities and Villages, Developers, Property Owners

SAFETEA-LU Planning Factor #5

Protect 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

Planning Process Level	Description			
Goal	6. To provide facilities for non-auto modes of transportation in order to improve mobility and decrease the number of vehicles on our roadways			
Objectives	Construct a comparable amount of facilities for active modes of transportation during new roadway construction, major reconstruction or lane reconfigurations by 2014	Increase local transit ridership by at least 5% by 2014	Increase the number of enplanements at Willard Airport by at least 10% by 2014	Increase the number of Amtrak boardings at Illinois Terminal by at least 15% by 2014
Measures of Effectiveness	Miles of New Roadway Constructed	Annual Transit Ridership	Annual Enplanements	Frequency of Trains per Day
	Miles of New Sidewalk Constructed	Number of Transit Routes	Number of Flights	Annual Ridership at Illinois Terminal
	Miles of Bicycle Facilities Constructed	Residential Acreage within 1/4 Mile of Transit Routes		
Strategies	Utilize Complete Street design where applicable for all newly constructed roadways	Continue the expansion of the transit service area to be coterminous with the urbanized area boundary	Improve airport safety with construction of second Instrument Landing System (ILS)	Increase the frequency of passenger rail service utilizing Illinois Terminal as a stop
	Install striping of on-street bicycle lanes where consistent with existing bicycle plans during roadway resurfacing projects	Utilize park and ride facilities to help eliminate vehicle trips from the roadway network	Enact marketing program to increase enplanements and use of local airport	Pursue funding to complete a feasibility study for a high speed rail line using Illinois Terminal as one destination point
	Continue enforcing regulations requiring sidewalk construction for new development	Expand current and develop new transit lines to cover residential development not currently within 1/4 mile of existing transit service	Improve airport safety by collaborating with local governments to enact runway protection zoning measures	Market Illinois Terminal as a regional hub for rail travel in the region
	Continue the implementation of projects detailed in the Greenways and Trails Plan	Create direct service routes that connect areas of new residential development to major employment and activity centers	Establish, in conjunction with EDC, a local airport committee to study appropriate forms of airport governance	Improve public information for Amtrak passengers about transit connections from Illinois Terminal
Responsible Parties	IDOT, CUUATS Staff, Cities and Villages, Developers	Cities and Villages, CU-MTD, University of Illinois	Cities and Villages, County, EDC, University of Illinois	CU-MTD, Amtrak, IDOT

SAFETEA-LU Planning Factor #5 (cont.)

Protect 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

Planning Process Level	Description		
Goal	7. Utilize a sustainable approach to transportation planning and engineering which promotes environmental stewardship and energy conservation		
Objectives	Continue to maintain attainment status for air quality through the year 2035 and remain below State ozone standards through 2014	Increase the support level for 2 of the 7 non-life supporting segments for monitored rivers and streams in the metropolitan planning area by 2014	Increase the amount of land preserved for existing natural areas, forested areas, parks, and prime agricultural land in the metropolitan planning area
Measures of Effectiveness	IEPA Air Quality Reports	IEPA Water Quality Reports Acres of Wetlands Acres of Floodplain	Agricultural Land Developed Acres of Greenways
Strategies	Continue to construct infrastructure which makes walking, biking and riding transit safer, accessible and more efficient	Limit development and transportation projects which disturb or alter floodplain areas in the metropolitan planning area	Limit the fragmentation of natural habitats by new development and/or the construction or expansion of the transportation network
	Continue to replace buses running on fossil fuels with hybrid buses	Limit development and transportation projects which disturb or alter wetland habitats in the metropolitan planning area	Maintain existing and add new parks and forest preserves to the regional network of open space
	Promote park and ride facilities, car sharing and bike sharing programs in the urbanized area	Reduce and mitigate non-point source pollution caused by oil, fuel, and salt runoff from the roadway network	Preserve prime farmland through farmland preservation programs, transfer of development rights programs, and the establishment of growth boundaries within the metropolitan planning area
	Reduce idle time for motorized vehicles by coordinating signalized intersections and using roundabouts at appropriate locations	Reduce and mitigate point source pollution caused by farming operations, lawn fertilizing, and industrial waste	
Responsible Parties	IDOT, CUUATS Staff, CUUATS Member Agencies, CU-MTD	IDOT, Cities and Villages	IDOT, Cities and Villages, CUUATS Staff, Park Districts, Forest Preserve District

SAFETEA-LU Planning Factor #5 (cont.)

Protect 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

Planning Process Level	Description		
Goal	8. Provide a user-friendly, integrated regional transportation system that supports accessibility and promotes positive social benefits		
Objectives	Consider issues of social justice in all transportation planning and service provisions	Require transit, bicycle, and pedestrian accessible site design, particularly in large-scale developments	Consider and mitigate environmental impacts in roadway widening, reconstruction, and new construction projects
Measures of Effectiveness	Not Yet Determined	Not Yet Determined	Not Yet Determined
Strategies	Complete Title VI Civil Rights reviews to protect against discrimination on the basis of race, color or religion	Create incentives/regulations for developers to incorporate transit-oriented designs and amenities	Minimize habitat destruction when improving and constructing transportation infrastructure
	Introduce visual and verbal language assistance aids in public involvement practices	Continue to mandate bike parking requirements for multi-family and commercial developments	Minimize noise and light pollution when constructing transportation infrastructure
	Seek and consider input from all residents, including low income and minority individuals, during the planning process	Retrofit existing developments and areas of high transit/ bike/ped traffic to incorporate facilities for those modes of transportation	Provide facilities to accommodate walking, biking and transit ridership where feasible to reduce greenhouse gas emissions
Responsible Parties	CUUATS Staff, Cities and Villages	Cities and Villages, CU-MTD, Developers, Property Owners	CUUATS Member Agencies

SAFETEA-LU Planning Factor #6

Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight

Planning Process Level	Description			
Goal	9. All transportation system users in the urbanized area will have access to a network of transportation modes and infrastructure that maximizes connectivity between origins and destinations and promotes the use of both motorized and non-motorized modes to travel between them			
Objectives	Increase the miles of dedicated bicycle facilities and signed bike routes in the metropolitan planning area by at least 15% by 2014	By 2035, travel delay will not exceed 5.5 hours per person per year on urbanized area roadways due to the completion of an enhanced arterial fringe road system around the urbanized area	By 2014, ensure that 100% of new development within the municipal boundaries or land annexed into a municipality provides sidewalks along roadway frontages through construction or a reservation of land and funds for construction, unless an acceptable alternative pathway is provided. Sidewalk connectivity must be analyzed with each new development proposal.	Provide transit service within a 1/4 mile for 90% of residential development (new or existing) within the CU-MTD transit service area by 2014
Measures of Effectiveness	Miles of Dedicated Bicycle Facilities	Hours of Delay per Person per Year	Miles of New Sidewalk Constructed	1/4 Mile Coverage Analysis
	Miles of Signed Bike Routes	Miles of Fringe Road System Completed		Miles of Transit Routes
Strategies	Promote Complete Streets policy implementation where feasible for new roadway construction	Work with CUUATS member agencies to secure funding to complete the enhanced arterial fringe road system	Continue enforcing zoning and subdivision ordinances requiring new development to construct pedestrian and bicycle facilities	Encourage new residential development to locate within 1/4 mile of a transit line
	Construct new and maintain existing bicycle facilities and signed bike routes	Evaluate and prioritize the repair, renovation, and/or construction of the fringe road system to improve the movement of traffic around the urbanized area	Encourage redevelopment and infill within the existing municipal boundaries where pedestrian facilities already exist	Continue the expansion of the transit service area to be coterminous with the urbanized area boundary
	Implement recommendations for bicycle facilities found in the Urbana Bicycle Master Plan and Champaign Transportation Master Plan	Construct remaining segments of the arterial/collector system for the urbanized area with sensitivity toward environmental and land use issues so as to not induce sprawl		Encourage redevelopment and infill development within the existing municipal boundaries
Responsible Parties	IDOT, Cities and Villages, CUUATS Staff, CU-MTD	IDOT, CUUATS Staff, Cities and Villages	Cities and Villages, Developers	Cities and Villages, CU-MTD

SAFETEA-LU Planning Factor #7
Promote efficient system management and operation

Planning Process Level	Description		
Goal	10. To the greatest extent possible, the existing capacity of the urbanized area transportation system will be maximized through innovative transportation system management approaches		
Objectives	Maintain the number of vehicle miles traveled in 2005 through 2010	Decrease Volume-to-Capacity (V/C) ratio to be representative of level of service "D" or better by 2035	Increase the percentage of persons aged 16 and older using transit in their journey to work from 6.5% to 9% of the urbanized area by 2014
Measures of Effectiveness	Vehicle Miles Traveled per Year	Volume to Capacity Ratio	American Community Survey Journey to Work Data CU-MTD Annual Ridership Data
Strategies	Promote Complete Streets concept to provide facilities for all modes of transportation during new construction and reconstruction of roadways	Utilize access management guidelines and traffic signal coordination to optimize traffic flow	Establish new transit express and direct fixed route service from areas of new development to job and activity centers
	Continue the expansion of the transit service area to be coterminous with the urbanized area boundary	Promote Complete Streets concept to provide facilities for all modes of transportation during new construction and reconstruction of roadways	New developments should use a roadway design that allows for direct and convenient access for transit service and provides pedestrian and bicycle access to transit
	Utilize car sharing, bike sharing and park and ride facilities to remove vehicle trips from the roadway network	Continue the expansion of the transit service area to be coterminous with the urbanized area boundary	Promote the implementation and coordination recommendations listed in the Human Services Transportation Plan for the Urbanized Area, especially Job Access and Reverse Commute funding for the creation of new transit services to key locations in and around the urbanized area
Responsible Parties	IDOT, CUUATS Staff, Cities and Villages, CU-MTD	CUUATS Staff, IDOT, Cities and Villages, CU-MTD	CUUATS Staff, Cities and Villages, CU-MTD, Other Transportation Providers

SAFETEA-LU Planning Factor #7 (cont.)
Promote efficient system management and operation

Planning Process Level	Description	
Goal	11. Interagency coordination will be emphasized in all phases of the transportation planning and implementation process	
Objectives	Improve coordination and communication between transportation providers, funding agencies, and other agencies that are stakeholders in transportation projects	Ensure that individual projects are consistent with long-range transportation, land use, and other plans created by CUUATS member agencies
Measures of Effectiveness	Not Yet Determined	Not Yet Determined
Strategies	Continue to discuss transportation projects and plans as public forums at CUUATS Technical and Policy Committee meetings	Continue to discuss transportation projects and plans as public forums at CUUATS Technical and Policy Committee meetings
	Implement and continue coordination efforts established in the urbanized area and rural area Human Services Transportation Plans	Consult existing plans and policies prior to taking action on transportation and land use decisions
		CUUATS staff will create and maintain a database of transportation and land use data as well as a listing of new transportation projects in the urbanized area
Responsible Parties	CUUATS Staff, CUUATS Member Agencies, Other Transportation Providers	CUUATS Staff and CUUATS Member Agencies

SAFETEA-LU Planning Factor #8

Emphasize the preservation of the existing transportation system

Planning Process Level	Description
Goal	12. To the greatest extent possible, improvements will be made to the existing roadway network to preserve or improve upon its current condition and to add pedestrian, bicycle and transit facilities where needed
Objectives	Ensure that no more than 50% of all roadway improvements or construction projects, between 2009 and 2014, fall outside the 2009 municipal boundaries of Champaign, Urbana, Savoy, and Bondville
Measures of Effectiveness	Miles of New Roadway Constructed or Improved Inside 2009 Municipal Boundaries
	Miles of New Roadway Constructed or Improved Outside 2009 Municipal Boundaries
Strategies	Focus new growth and development along the existing transportation network where capacity is sufficient to minimize the construction and maintenance of new roadways
	Utilize innovative transportation solutions, such as access management or signal coordination, to reduce congestion and the need for new roadways and added capacity
Responsible Parties	CUUATS Staff, CUUATS Member Agencies

7 Future Conditions

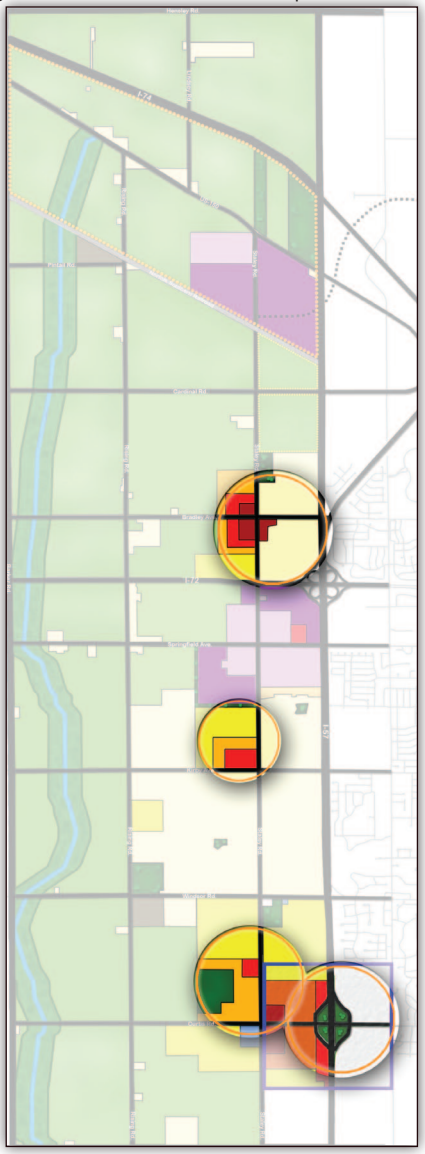
The existing conditions chapter looked at the current condition of the urbanized area and metropolitan planning area. In order to make positive changes for the future of the community, it is important to look at where we are and where we would like to be in 25 years. This chapter looks at land use and development patterns, as well as each mode of transportation discussed in the existing conditions report and describes ways in which element can change between 2009 and 2035. The changes recommended in this chapter resulted from a combination of information provided through the following sources:

- Findings from the existing conditions report.
- The overall LRTP 2035 Mission Statement calling for a safe, efficient, economical transportation system for all users.
- The goals and objectives formulated by CUUATS staff in conjunction with the LRTP Steering Committee and input from the public.
- Recommendations from various planning and transportation documents created between 2004-2009.
- Best practices in transportation planning and engineering.

7.1 Land Use and Development

The municipalities within the urbanized area have seen how the typical suburban style development patterns of the last 50 years can create unsustainable ways for growing a community. It can be tempting to expand new development in fringe areas given the availability of greenfields and farmland in Central Illinois. The new development taking place along the fringe tends to be single family subdivisions with small multi-family and/or commercial components. While municipalities do collect taxes from these developments, their location on the fringe means services and roadway improvements need to be extended beyond current service areas, and oftentimes upgraded to increase capacity. In many cases, the costs associated with service and roadway upgrades are more than the tax revenues generated by the new development. Over time, this development pattern can lead to a backlog of needed improvements in areas of new growth.

Figure 7.1 - Nodal Development Pattern



Future Development in the Urbanized Area

A number of different factors are making suburban development more costly and unsustainable including, recent increases in the price of gasoline, younger and older generations looking to live in urban environments, and higher costs for service and transportation improvements. While it may be unrealistic to halt fringe development completely, there are alternative development patterns and policy decisions that could be used to develop land in a more efficient, economical and environmentally friendly way.

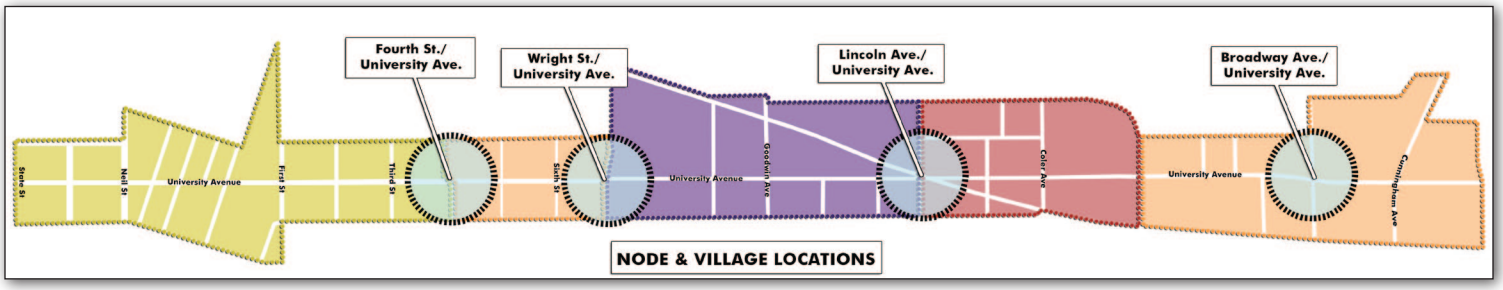
By the year 2035, the prospect of filling a vehicle with gasoline may not be a possibility for many area residents, either due to the cost or the availability of fuel. Daily trips to work, school or to the grocery store may require the use of other transportation modes besides a personal vehicle. Both Champaign and Urbana have already begun thinking about how future development should function with the possibility of reductions in personal vehicle travel and an increased reliance on walking, biking and transit. The idea of using strategically placed nodes of mixed-use higher density development has been proposed in the Champaign Transportation Master Plan, the Staley/Rising Corridor Study and the University Avenue Corridor Study. The nodal development pattern integrates housing, employment, commercial needs, and open space into existing and future urban and suburban development. Nodes can also provide daily service needs within walking and biking distance and can be located on transit lines. The higher density nodes reduce the need for large expanses of single family subdivisions by integrating higher population densities in mixed-use multi-family clusters. Figure 7.1 shows the future land use map for the Staley/Rising Corridor Study. The

orange circles, highlighted in the figure, are the four proposed nodal development sites which integrate single family, multi-family, commercial, and mixed-use land uses. Each node is located at an intersection allowing for easy access by walking, biking, transit, or automobile.

The nodal development pattern's advantages are not limited to fringe and greenfield development. It can also be used to target infill parcels and areas of redevelopment within the urbanized area. The Champaign Transportation Master Plan and the University Avenue Corridor Study both propose using nodes of higher density mixed-use development where infill parcels are available and in areas where redevelopment can bring new housing and employment options. Redevelopment nodes in the core of the community should focus on establishing a mix of housing and employment options and need to be accessible to all modes of transportation, not just personal vehicles. The nodes should also have wider sidewalks, bike facilities, transit stops, additional landscaping, buildings which front the street, and parking oriented to the side or rear of buildings. Nodes, whether in the urban or suburban setting, act as a hub of activity which spurs additional development to support the node. Keeping development patterns compact and accessible by multiple modes of transportation will slow existing land consumption trends and help grow the urbanized area at a pace transportation improvements can keep up with.

Compact development, as proposed through the nodal pattern, can help slow the expansion of suburban development as long as plans are in place and ordinances support the broader concepts. Even with a node concept in place, growth is still going to occur on the fringe and transportation improvements will still need to be implemented. As new development places additional stress on the existing transportation network, it is important that new development contribute to the costs associated with transportation improvements.

Figure 7.2 - Urban Nodal Development Pattern



Sustainable Development and Green Infrastructure

With issues of global climate change, greenhouse gas emissions, and breaking away from fossil fuel dependence at the forefront of planning discussions, sustainable development is becoming more and more important. Compact development that is served by a multi-modal transportation network can provide options to residents who wish to travel using active modes of transportation or mass transit. Land use and transportation planning must go hand in hand when laying out future development in order to make it efficient and accessible. As alternative energy sources, like solar panels and wind turbines, become more affordable to the everyday home owner, ordinances should be put in place to allow for such structures on homes or individual parcels of land. Champaign County recently adopted a wind turbine ordinance to allow for certain portions of the county to be developed as large wind farms. Household solar panels and wind turbines can offset the electricity purchased from large utility companies, thereby reducing our dependence on fossil fuels. Leadership in Energy and Environmental Design (LEED) and LEED-Neighborhood Development (LEED-ND) are two additional tools that can be used by developers and municipalities to ensure sustainable and environmentally friendly developments are occurring in the urbanized area. Municipalities should encourage developers to achieve LEED standards where possible to help reduce negative environmental effects as a result of new construction.

http://api.ning.com

http://www.heliotropics.com

https://www.eere-pmc.energy.gov

Water issues, particularly those involving groundwater recharge and water pollution, can also be mitigated through improved development practices. Reducing the amount of impervious surface on a development site can greatly improve the recharge rate of rainwater back into the aquifers. Using green roofs, stormwater detention facilities and pervious materials for the pavement of driveways and parking lots will all help infiltration rates. Compact development designs can help reduce the amount of impervious surface by clustering development and reserving more area for green space. New development should avoid building in floodplain and wetland areas so as to not disturb the natural drainage paths of surface water and associated natural habitats.

It is important that we take a proactive approach to development patterns and transportation improvements and plan for a future where the availability of land, natural resources and fossil fuels may be limited. If land use and transportation decisions are made with the realization that they go hand in hand, the result will be better planning and a more efficient transportation network.

7.2 Future Transportation Systems

In order to accommodate future population and employment growth in the urbanized area, the existing and future transportation network must become more efficient not only for automobiles but also for pedestrians, bicyclists, transit riders, Amtrak riders, and air passengers. This section will discuss each transportation mode found in the urbanized area and how improvements can be implemented to make travel safer and more efficient.

Personal Vehicles

Personal vehicles make up the majority of travel on roadways in the urbanized area. As population and employment increase in the future, the need for a safe and efficient roadway network will become even more important. The fluctuations in supply and demand chains for fossil fuels have changed the driving patterns for many people in the urbanized area. When gas prices spiked in 2008, Vehicle Miles Traveled (VMT) dropped, not only in the urbanized area but in the United States as a whole, as people could no longer afford to drive as much as they did in years past. Drivers were making each trip in the car as efficient and economical as possible. As the urbanized area progresses toward 2035, it is likely that the price of fossil fuels will continue to increase as demand grows and supply shrinks. Planning for this inevitable reduction in fossil fuels is paramount, and making the transportation network as efficient as possible will help drivers save time and money.

In order for the roadway network to be safe and efficient, it first has to enable mobility through good connectivity. Roadway networks are comprised of sets of hierarchical roadway systems which all function differently, but when combined into a network create connectivity and enable greater mobility. Local roads, collectors, arterials, and interstates all serve different functions within the network and must be maintained as such to maximize efficiency. In order to get from Champaign to Urbana using the current roadway network, most traffic utilizes one of the east/west arterials which run through the core of each community where congestion and capacity are nearing their maximum. To make the arterial network, and subsequently the rest of the roadway network more efficient, additional arterial connections need to be constructed or improved upon. The planned connections and improvements to the arterial network will help establish stronger connectivity between the municipalities and reduce travel time within urbanized area. The proposed connections, seen in Figure 8.2 in the Vision Chapter, will reduce congestion currently seen along arterials in the core of the community and create a more stable traffic balance. The added connections and improvements will not only improve efficiency for automobiles, but will also provide more efficient routes for trucks, keeping them off local roads and collectors in the core of the community. The CUUATS travel demand model shows a reduction in congested and nearly congested lane miles between 2009 and 2035 with the implementation of the transportation vision for the urbanized area. Congested lane miles dropped 19% and nearly congested lane miles dropped by 41%. Increasing connectivity and travel efficiency, and reducing congestion, will ultimately lead to reductions in greenhouse gas emissions. Combining the vision for roadways with improvements to the bicycle, pedestrian and transit networks will create additional positive impacts on the environment in the urbanized area.

The fringe road system will also present opportunities for faster transit and bicycle connections for travelers who need to quickly get from one municipality to the other for work or service needs. Transit routes and riders, instead of having to go through campus and the downtowns, could utilize the fringe road system for faster travel between the fringe and major employment centers and commercial centers. The fringe road system will be designed as a Complete Street network and will be accessible to both bike and pedestrian travel as well. The fringe road system will not only improve mobility for personal vehicles, but can also be utilized by other modes of transportation to increase connectivity and mobility in the urbanized area.

Figure 7.3 - Existing Staley Road/Bradley Avenue Intersection

Figure 7.4 - Proposed Staley Road/Bradley Avenue Roundabout

One way to make driving more efficient is to reduce and/or remove the factors that cause stop and go traffic. Intersection controls, whether stop controlled or signal controlled, can cause excessive delay if they are used improperly, not coordinated or not correctly timed. Signalized intersections in the urbanized area, particularly along corridors with large strings of consecutive signals, need to be coordinated during peak hours to create a continuous traffic flow. Many of the corridors in Champaign-Urbana are already coordinated, but lack coordination across jurisdictions. To make the signalized network in the urbanized area more efficient, a traffic signal coordination master plan should be developed to join the Champaign, Urbana, Savoy, IDOT, and U of I signals under one coordination system. Studies by FHWA have shown computerized signal coordination systems can reduce travel times by 10-20%[1].

Another way to make driving safer and more efficient is to construct modern roundabouts at new or existing intersections where a signal may be warranted. The modern roundabout has been a proven solution in many locations around the United States as a way to reduce the number of crashes and the severity of injuries resulting from the crashes. Modern roundabouts reduce the speed of cars entering the intersection and also eliminate the chance of head-on crashes, which often result in the most severe injuries. Along with safety improvements, modern roundabouts are also more environmentally beneficial. During a red light phase at a signalized intersection, cars waiting at the light are idling during the entire length of the red phase, adding greenhouse gases to the atmosphere and wasting fuel by idling. The signals at the intersection also require electricity to function which uses energy and fossil fuels. Modern roundabouts utilize yield signs as cars enter, nearly eliminating the idling time for a vehicle. Most modern roundabouts do not require signals, thereby eliminating the electricity used by a signalized intersection. Modern roundabouts cannot be used at all intersections. There may be instances where high traffic volumes, high speeds or physical constraints limit the implementation of a modern roundabout. Retrofitting current intersections with modern roundabouts can also require additional right-of-way acquisition which may be cost prohibitive. An intersection study should be completed to determine if the modern roundabout will be the safest and most efficient intersection control device. Figures 7.3 and 7.4 show before and after renderings of the Staley Road/Bradley Avenue intersection with the installation of a modern roundabout in place of a four-way stop.

A third way to reduce travel time along urbanized area roadways is to comply with access management guidelines along high capacity travel routes. Poor access management practices along major arterials can not only result in slower travel times, but can have a significant effect on the safety of drivers, pedestrians and bicyclists. Ingress and egress points to parking lots and developments are all potential conflict points for turning vehicles. They are also conflict points for bicyclists sharing the road, on bike lanes or off-street paths, as well as pedestrians on the sidewalk. In 2001, CUUATS created a set of access management guidelines which were adopted by all member agencies within the urbanized area and should be followed closely when approving new development to ensure safe access. However, these guidelines were not adopted until 2001 and most arterial corridors were constructed prior to the adoption. There are corridors throughout the urbanized area that have poor access management and it can be difficult to convince property and business owners that certain access points should be closed to create better traffic flow and safer conditions for roadway users. Access management needs

[1] http://www.fhwa.dot.gov/tfhrc/safety/pubs/its/planning/toolbox.pdf

to be part of roadway improvement projects, streetscape enhancement projects and the redevelopment of parcels in existing corridors to better manage the relocation or closure of access points.

Not all congestion mitigation solutions result in direct improvements for vehicles. Another way to reduce VMT, travel time and congestion is to remove vehicles from the roadway by adding facilities for pedestrians, bicyclists and transit riders. Increasing the mode share for other modes of transportation will result in reduced congestion, fuel consumption and greenhouse gas emissions. Active modes of transportation, such as walking and biking, also provide health benefits. One way to increase the number of facilities for walking, biking and transit is to construct Complete Streets. As discussed in the Existing Conditions chapter, Complete Streets policies have been adopted by both IDOT and the City of Champaign, which call for the consideration of a Complete Streets design for all new roadway construction projects. The City of Urbana has a council goal which also supports Complete Streets. If a complete network of sidewalks, bike facilities and transit routes are established along with an efficient roadway network, congestion can be minimized.

Figure 7.5 - Existing Staley Road Looking South to I-72

Figure 7.6 - Proposed Staley Road Complete Street Improvement

Another method of removing cars from the transportation network is to continue the car sharing program currently established in the urbanized area. Zipcar has locations in downtown Champaign, downtown Urbana, on the University of Illinois campus, and at the U of I Research Park. The program needs to continue to provide students and urbanized area residents with an option for travel that reduces the need to own a personal vehicle. This becomes particularly important when the program is expanded on campus, allowing students to use Zipcars instead of bringing their own vehicles. In the future, the program should look at expanding to new locations on campus and near major employers to give employees a travel option other than using their personal vehicle for meetings or running errands during the lunch hour. Park and ride facilities can be another method used to reduce the number of vehicles on the roadway. The establishment of park and ride facilities, particularly in fringe areas, will help capture trips from commuters coming from outside the urbanized area for employment as well as urbanized area residents living on the fringe of the community.

The automobile is the most popular form of transportation in the urbanized area, but that does not mean there are not ways we can improve on the current transportation network. Congestion can be reduced using techniques that do not rely on capacity increases and the construction of new roadways. The methods previously described are smaller, less expensive means by which improvements can be made to the existing transportation system to decrease congestion and travel time and at the same time make the roadway network safer for all users.

Bicycles and Pedestrians

Biking and walking have become a more viable option for travel in the urbanized area since the last LRTP update in 2004, and will continue to be so through 2035. As gas prices rise and eco-friendly transportation options become more important, the demand for facilities accommodating active modes of transportation will rise. Champaign and Urbana already have bike plans in place and will continue to implement the recommendations in each of their respective plans. CCRPC, using the Greenways & Trails Plan for Champaign County, will continue to track the construction of bike and pedestrian facilities throughout the County and will work with municipalities and agencies in the County to locate new facilities and implement the recommendations in that plan.

As biking for purposes other than recreation becomes more popular, the need for a well-connected and efficient network of bike lanes, bike routes, sidepaths, and shared-use paths will become greater. Agencies must maximize the opportunities to connect new bike facilities to the existing network in a way that makes traveling by bike safe and efficient. When roadway projects are proposed, agencies should consider whether the addition of bike facilities is possible to avoid the extra cost of constructing bike facilities after the roadway improvement is completed.

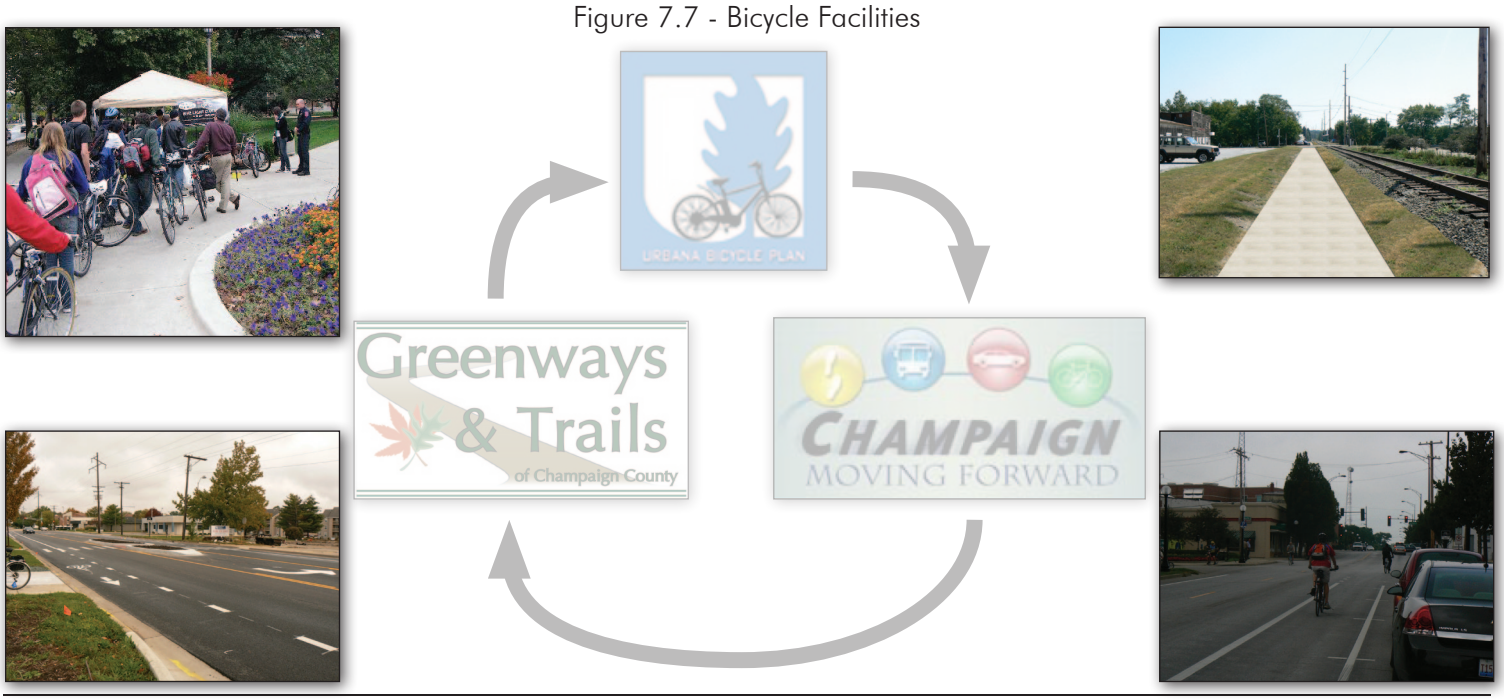
Two other issues may arise as biking becomes a more popular mode of travel. The first is the increased need for proper bike parking facilities. All three bicycle documents describe the recommended types of bicycle parking to be used. Champaign and Urbana also have bicycle parking ordinances which mandate that certain types of development provide bicycle parking in conjunction with automobile parking. As commuting by bicycle becomes more popular, businesses should consider having locker rooms and/or bike lockers for employees.

The second issue deals with safety and education for both bicyclists and automobile drivers. Many bicyclists and drivers are not aware of the rules of the road and how to properly share the road. As more bike riders use the roadway alongside cars, the safety of both parties becomes a concern. Educational programs on local government television and in high school driver's education classes regarding sharing the road need to be put in place, as well as bike training classes provided by the League of Illinois Bicyclists. Safety programs, like the "Light the Night" program on campus, should be continued to provide bikers with front and back lights for riding in the early morning and evening hours. The Cities of Champaign and Urbana are also seeking "Bike Friendly Community" statuses to show their commitment toward constructing new bicycle facilities and making biking a more viable mode of transportation.

Many cities in North America and Europe are using bike sharing programs to promote bicycling for local trips in order to reduce congestion and vehicle trips on the roadway network. Bike sharing programs in the United States, such as SmartBike DC in Washington D.C., are experiencing great success and high registration numbers. Bike sharing programs eliminate the need for residents to own their own bicycle and also eliminate the maintenance expenses. In the future, a bike sharing program should be explored in the urbanized area, particularly on the University of Illinois campus and in the two downtowns. These three locations are areas where additional vehicular traffic could be replaced by bicycle and pedestrian traffic.

Along with biking, walking for purposes other than recreation continues to be a popular active mode of transportation in the urbanized area. For the most part, sidewalks are readily accessible in places where development already exists. Both Champaign and Urbana have ordinances in place requiring sidewalks on both sides of the street for residential and commercial development, and on at least one side of the street for industrial development. Sidewalks need to be installed in

Figure 7.7 - Bicycle Facilities



areas where piecemeal development has created gaps in sidewalk connectivity to create a continuous network of sidewalks. Safe crossings also need to be put in place and updated as standards change, particularly in the two downtowns and on campus where pedestrian traffic is highest. Within the University District, crosswalk and bicycle crossings should be marked according to the University District Crosswalk Markings and Signage book developed by CUUATS. It is recommended that this document be updated every five years or as new standards are created which affect the markings of crosswalks.

Crossings at signalized intersections are also critical to the safety of both pedestrians and vehicular traffic. Countdown and pedestrian crossing heads should be placed at all signalized intersections where crosswalks are present. Areas that have high pedestrian crossings should consider installing Accessible Pedestrians Signals, which provide audible cues for blind or handicapped pedestrians. In areas where standard crossing techniques do not provide appropriate levels of safety for pedestrians, the High-intensity Activated crossWalK (HAWK) signal may be an option. While this signal is still in the testing stages and has not been approved by FHWA, it may be available for future use in the urbanized area. The HAWK signal forces drivers to stop to allow for the safe crossing of pedestrians. The signal remains dark until activated by a pedestrian, then drivers are given a yellow caution light, followed by a red stop light, and pedestrians are provided with a pedestrian countdown signal which gives the amount of safe crossing time remaining. The City of Champaign will be installing a HAWK signal along Bradley Avenue near the Kraft Plant.

Figure 7.8 - HAWK Signal in Tuscon, AZ

http://www.saferoutesinfo.org

One additional measure that can be implemented to ensure safer conditions for pedestrians is the placement of pedestrian level lighting along sidewalks and around bus stops. Pedestrians are walking during evening and night hours, and transit service on many routes continues after the daylight hours. In many parts of the urbanized area, pedestrian level lighting is absent and can give the impression of unsafe conditions. Lighting should be added in areas where pedestrian traffic is high and where bus stops or shelters are present.

Finally, within Champaign and Urbana, the identified Safe Routes to School should be improved upon to ensure safe sidewalks and street crossings for students who walk or bike to school. Through the Safe Routes to School program, safe walking routes have been established and problem areas have been identified with recommendations for improvement. Along with improving the routes, programs like Walk and Bike to School Day should continue as well.

Local Public Transit

CU-MTD is the main provider of transit service in the urbanized area, and their ridership and service area continues to grow each year. CU-MTD provides a critical transportation service not only to students, faculty and staff on the U of I campus, but those who utilize transit service for commuting to work or for daily service needs. As the population in the urbanized area grows, expanding transit service to new growth areas will be extremely important. The CU-MTD service area needs to be coterminous with the urbanized area boundary in order to ensure equal service for all residents in the urbanized area. As gas prices rise, residents who no longer wish to use personal vehicles for travel will be looking for another mode of transportation which can transport them to work and other daily service needs. Transit service will fulfill this role and play an integral part in the future transportation network for the urbanized area.

While CU-MTD is interested in expanding transit service to meet the needs of the urbanized area, the organization is also trying to change the relationship between transit service and new development. CU-MTD is working with local agencies to develop a plan which ties Mobility Enhanced Development (MED) areas to bus rapid transit corridors, thereby increasing the frequency of service and making transit a more competitive choice with driving personal vehicles. The MED areas will be developed as higher density mixed-use clusters which support higher frequency transit service. MEDs located on the fringe of the urbanized area may use park and ride facilities and express bus service to link them to bus rapid transit lines, because densities in fringe areas may not be high enough to support rapid transit. CU-MTD's focus for the future will also be on improving mobility in the core of the urbanized area through street upgrades, bus stop enhancements, signal priority on roadways for transit buses, and making improvements to the high capacity network.

CU-MTD is also interested in increasing the mode share for active modes of transportation in the urbanized area. Creating a seamless network of transit, bicycle and pedestrian facilities will reduce the number of vehicle trips as well as reduce the amount of greenhouse gases being released. A seamless network for active modes will also benefit those residents who cannot afford the expenses associated with owning and maintaining a personal vehicle. Developing affordable and efficient options for transportation creates a system that can be both socially and economically equitable. A well-connected active transportation network will also provide health benefits for users by getting them out of their cars to start biking or walking.

Much of the discussion surrounding the future of the transportation network in the urbanized area revolves around sustainability and environmental consciousness. CU-MTD is already making contributions to this effort by phasing hybrid buses into their fleet. CU-MTD has plans to continue replacing the older, less efficient buses with the new hybrid buses. The district is also planning on making the administration building more energy efficient by applying a white roof concept and installing a geothermal heating and cooling system. As the transportation system evolves, CU-MTD should continue to look at new green technology to reduce greenhouse gas emissions and increase fuel economy. Greenhouse gas emissions can also be reduced by improving upon the current transit, bicycle and pedestrian network, increasing connectivity between the three modes and reducing the reliance on personal vehicles.

Figure 7.9 - CU-MTD Hybrid Bus

Photo Courtesy of CU-MTD

Finally, CU-MTD should continue to work on increasing public access to transportation information for active transportation modes using the latest technologies and information sharing methods. Increasing the use of the internet, text messaging services, information kiosks at bus stops, and real time bus location information will help CU-MTD disseminate accurate real-time information to more people throughout the urbanized area.

CUUATS has developed a Human Services Transportation Plan (HSTP) for the urbanized area which brings together all the different transit providers for the purpose of better coordination of services to avoid a duplication of efforts. According to the HSTP, the population of the urbanized area is expected to increase by about 8.5% by 2025 leading to an increased demand for transportation services, especially for the aging population. The HSTP lists a number of goals and objectives for increasing transit services for low-income, elderly, and disabled residents. Most of the recommendations focus on stronger coordination efforts between transit agencies providing service in the urbanized area. In the future, the urbanized area will have one source for transit information, easily understood route maps, and combined driver training sessions for non-routine service available for all transit users and transit providers. These changes to the current system will make transit service easier and more understandable for both users and providers.

Figure 7.10 - Illinois Terminal

http://www.danobrien.info/images/200511-cu/38.jpg

Intercity Bus System

The current intercity bus system is comprehensive and covers many regional and nationwide destinations for those using Illinois Terminal and designated campus pick-up locations. The future of ridership for intercity buses will grow as gas becomes more expensive and trips using transit become a more affordable option. Intercity bus travel providers to and from the urbanized area should expand destinations and frequencies in the future to make business and leisure travel more accommodating.

Commercial Trucks

The commercial trucking industry provides a crucial service to almost all businesses and industries requiring the delivery of goods. As the urbanized area grows, not only in population but in land area, the amount of goods shipped throughout the

community will inevitably rise. Currently, the urbanized area does not have designated truck routes or a truck route plan. As the number and frequency of truck deliveries increases, the need for a future truck plan will increase. Without a truck route plan, additional truck traffic could cause congestion along the roadway network and at signalized intersections.

Rail

Figure 7.11 - Passenger Rail

www.lightrailnow.org

There are two types of rail traffic utilizing the tracks running through the urbanized area: Passenger Rail and Freight Rail. The future of passenger rail is looking bright. The Midwest High Speed Rail Association released a press release in June 2009 calling for the Illinois State Senate to fund a feasibility study to bring a 220 mph high speed electric train line through Champaign connecting Chicago to St. Louis. A high speed connection between Champaign and Chicago/St. Louis would greatly decrease the commuting time between the cities and would help grow the local and regional economies of downstate Illinois. Aside from high speed rail, Amtrak has seen recent increases in ridership and frequency of train lines using Illinois Terminal, and should continue this trend into the future. To improve ridership for all modes utilizing Illinois Terminal, a marketing program should be created to link Amtrak, CU-MTD and the various intercity bus companies so users can quickly and easily obtain schedules and routing information.

Freight rail, the counterpart to the commercial truck delivery system, will continue to be a viable and economical way of transporting goods in and out of the urbanized area, as well as around the country, in the future. As gasoline prices continue to rise, the economic viability of transporting goods using commercial trucks may diminish and be replaced by freight rail. Investment in the rail system, not only for passenger rail, but also for freight, is imperative if goods are going to be shipped from their creation point to a final destination.

One aspect of rail corridors that needs to be utilized more in the future are Rails-to-Trails, which is the placement of multi-use paths alongside active or abandoned rail lines. Rail corridors provide excellent opportunities for recreational trails that can be accessed by pedestrians, bicyclists, in-line skaters, etc. away from roadways. The Urbana to Danville Rails-to-Trails project, linking east Urbana to the Vermilion County Fairgrounds, is a 23 mile recreational trail that is currently being pursued by a group of regional stakeholders. The future development of this trail will provide recreational opportunities as well as a tourism destination for those wishing to walk or bike between Champaign and Vermilion Counties.

Air Travel

Having a commercial airport within the urbanized area provides a distinct economic advantage in securing companies looking to relocate corporate offices or establish new ones. Willard Airport also provides air travel options for vacationers, students, visiting faculty and speakers at the University, and general travel accommodations for local residents. Unfortunately, Willard Airport has been losing passengers and commercial carriers over the last five years. This trend needs to be reversed to keep the airport a viable travel option for the region. In the near future, a marketing plan needs to be created in order to help draw in air travelers and also carriers willing to serve additional destinations. There also should be a committee created, in conjunction with the Champaign County Economic Development Corporation, to look at appropriate forms of airport governance. Willard Airport is an asset to the urbanized area and needs to remain a commercial airline option for air travelers in the future.

Conclusion

Land use patterns and demands on the transportation network are likely to change as the urbanized area progresses into the future. How the urbanized area responds to the changes is important, so as to leave as little footprint as possible for future generations. The ideas and practices listed in this chapter will help guide future growth and create changes that are sustainable and economical.

8 Regional Vision: Transportation Network in 2035

Land use patterns, employment and population, environmental concerns, and trends in travel patterns are all likely to create different demands on the region's transportation system. The LRTP's vision for the future attempts to take these projected changes into consideration and create a general vision for the region's transportation network. The vision presented in this chapter is based on the principles and ideas discussed in the Future Conditions Chapter. The vision is also broken into two categories to make clear which transportation projects are illustrative and which are fiscally constrained. The CUUATS travel demand model was utilized to help determine how different transportation factors will affect the urbanized area system over the next 25 years. The model provides quantitative comparisons for different alternatives in terms of future traffic volumes, levels of congestion, vehicular travel times and speeds, and transit usage. The model also helps identify "problem areas" in the transportation system that could benefit from future improvements.

8.1 Travel Demand Model Inputs

The CUUATS Travel Demand Model requires numerous inputs to create the most accurate simulation of the existing transportation system:

- Year 2000 population data was collected from the US Census Bureau for the urbanized area
- Year 2000 employment data was collected from the Champaign County Chamber of Commerce, Illinois Employment Security offices, University of Illinois, and local school districts
- Origin-destination surveys were completed to determine travel patterns in and around the urbanized area
- Household travel surveys were completed in 2002 to determine travel patterns by urbanized area households over a 24-hour time period
- On-board transit surveys were completed to determine the purpose, location and time of transit trips in the University District
- 24-hour traffic counts were conducted in hundreds of locations in the urbanized area in 2001, and some have been updated as corridor studies and traffic counts were requested by member agencies
- Turning movement counts were completed at approximately 150 locations within the urbanized area to help determine travel patterns during AM and PM peak hours and the off-peak (midday) hours. Turning movement counts have also been updated for some intersections in the urbanized area during corridor studies, intersection studies, and signal warrant studies
- Intersection and roadway segment characteristics (i.e. number of lanes, posted speed limits, traffic signal and sign locations, roadway widths, etc.) were collected for principal corridors in the urbanized area in order to establish a baseline condition for roadway capacity. These were all updated as part of this LRTP update
- Local public transit routes and ridership information were compiled from the Champaign-Urbana Mass Transit District

The model also requires several inputs to forecast baseline future conditions (2035):

- Population projections through the year 2035 were completed for the modeling area based on residential developments local planners anticipate will occur over the next 25 years. Population projections for the CUUATS modeling area resulted in an increase of 66,025 residents or 50.3%, as can be seen in Table 8.1.

Table 8.1 - Population Projections

Year	2000	2005	2015	2025	2035
Population	131,230	135,481	166,298	183,061	197,255

- Employment projections were completed through the year 2035 for the modeling area based on commercial, industrial, service, and educational employment sector growth that local planners anticipate will occur over the next 25 years. Employment projections for the CUUATS modeling area resulted in an increase of 55,314 employees or 77%, as can be seen in Table 8.2.

Table 8.2 - Employment Projections

Year	2000	2005	2015	2025	2035
Employment	71,558	77,138	89,418	110,808	126,872

- Transportation projects that have a reasonable expectation of occurring in the next 25 years were integrated into the model. These include, but are not limited to, the extension of Olympian Drive from Apollo Drive to US 45, the extension of Florida Avenue east to Illinois Route 130, the expansion of I-74 between Prospect Avenue and IL-47 in Mahomet, and additional improvements to segments of Curtis Road.

For more information on the CUUATS Transportation Model, please refer to the CUUATS Transportation Model Appendix.

8.2 Developing the Vision for 2035

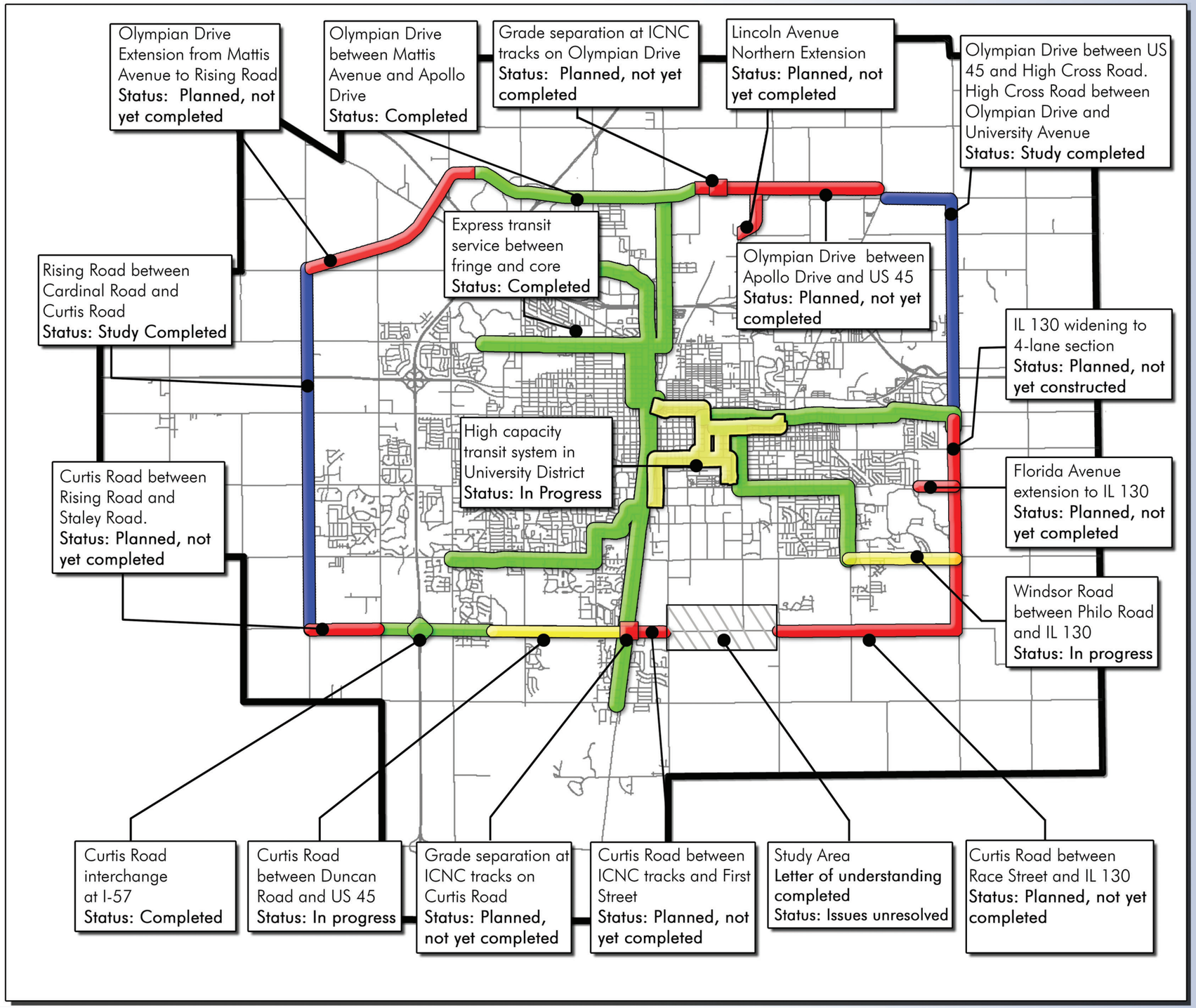
During this update of the LRTP, two separate concepts were developed. The first is the vision for the future, which is based on the principles and concepts found in the Future Conditions Chapter. Vision maps were created for roadway improvements, bicycle and pedestrian facilities, and public transit, rail and air projects that will provide a regional benefit to the transportation network. The projects highlighted in the roadway vision map are regionally significant projects that are likely to seek federal funding in the future. The projects and ideas that make up the visions for 2035 combine both fiscally constrained projects, as well as illustrative projects for which funding has not yet been identified. These two types of projects were combined on the vision maps to show how both sets of projects connect to each other to form a cohesive, complete transportation network. The visions also show how a multi-modal network that focuses on mode shift, from automobiles to active modes of transportation, can create more accessible and affordable choices for travelers in the urbanized area. The implementation of these projects will result in a more mobile and interconnected transportation network by the year 2035.

Some of the projects shown in the vision maps and the fiscally constrained map are similar to those shown in the preferred alternative from the 2004 LRTP. In 2004, after an iterative modeling process, CUUATS staff created a preferred alternative detailing 17 regionally significant transportation projects within the metropolitan planning boundary. These projects were mostly focused around the creation of an enhanced arterial fringe road system which would loop the urbanized area, providing a more efficient route for traveling between municipalities and around the urbanized area, as opposed to traveling through the core of the community. The preferred alternative also proposed two projects to expand the local transit system, as well as noting areas which needed to be studied further to determine necessary transportation improvements.

During this update of the LRTP, CUUATS staff, in conjunction with the LRTP Steering Committee, used an updated version of the 2004 preferred alternative as a base for creating the vision and the fiscally constrained project maps. Since many of the regionally significant projects from 2004 have not been funded or constructed as of 2009, and are still high priority projects, they remained part of the vision for 2035. The selected projects shown in each vision map were the result of discussions between CUUATS staff, the LRTP Steering Committee, and members of the CUUATS Technical and Policy Committees.

State and local agencies have made significant progress on the completion of the 2004 preferred alternative. Figure 8.1 shows the 2004 preferred alternative with a status update on each project as of 2009. The remaining projects have been added to the roadway vision for 2035. Projects which have guaranteed funding were added to the fiscally constrained projects map.

Figure 8.1 2004 LRTP Preferred Transportation Project Status in 2009



2004 LRTP Preferred Transportation Project Status in 2009

This map displays the current status of the projects identified in the 2004 LRTP Preferred Alternative Plan. Each project is marked by a green, yellow or red coloring indicating its status. Green indicates a completed project, yellow indicates a project currently in progress and red indicates a project planned for completion by the year 2025.

Legend

- Completed Projects
- Projects in progress
- Projects planned for completion by 2025
- Study Completed (2 lane roadway w/ shoulders)
- Streets

Regional Roadway Network Vision for 2035

The roadway vision for 2035 accounts for most of the overlap in projects from the 2004 LRTP to this 2009 update. It is important to look at the entire vision to understand how the proposed improvements come together to form a well connected and efficient network. Currently, there are arterial roadways in and around the urbanized area that provide incomplete connections. There are also unimproved arterials and collector streets that need to be improved to urban arterial standards for the safety of all roadway users. The implementation of the roadway vision for 2035 will ensure better connectivity and more efficient travel in and around the urbanized area for the future. The roadway vision combines both projects with funding and those that are not yet funded. Proceeding the regional vision map are two additional maps. The first (Figure 8.3) identifies regionally significant fiscally constrained projects and the second (Figure 8.4) identifies locally funded projects. It is important to look at Figures 8.2-8.4 as one complete vision for the future improvement of our roadway network. The three maps not only highlight the big picture roadway projects, but also look at the locally funded improvements which are focused primarily on the operation and maintenance of the existing transportation network.

The following information details the various projects, as shown in Figure 8.2, that comprise the regional roadway vision for 2035 *(projects are not listed in order of priority)*:

1. Possible interchange location with I-74 (West Champaign) - This project would provide funding for the completion of an Interchange Justification Study along I-74, west of the existing I-74/I-57 interchange. No funding has been secured for this study.

2. West Olympian Drive (east of Duncan Road to Rising Road) - This project is the western segment of the recently constructed Olympian Drive improvements between Apollo Drive and just east of Duncan Road. This extension will continue Olympian Drive west over I-74 and connect it with Rising Road in northwest Champaign.

3. I-74 widening from Prospect Avenue to IL-47 - Money from the 2010-2015 State Capital Bill has been allocated for the widening of I-74 from two lanes to three lanes in each direction. This project will reduce congestion along this section of I-74 and increase capacity along the entire section of the interstate.

4. Olympian Drive grade separation over CN railroad tracks - This project provides a grade separation over the CN railroad tracks for the extension of Olympian Drive between Apollo Drive and US 45.

5. Olympian Drive extension from Apollo Drive east to US 45 - Olympian Drive, between Apollo Drive and US 45, is proposed as an arterial roadway and would also include off-street bike and pedestrian facilities. This project has already received some federal and state funding to help with engineering costs and construction.

6. Lincoln Avenue extension to Olympian Drive - Lincoln Avenue is a heavily traveled north/south arterial providing access to I-74 and the University of Illinois campus. With the planned extension of Olympian Drive from Apollo Drive to US 45, extending Lincoln Avenue north to Olympian Drive will provide improved access to Lincoln Avenue.

7. High Cross Road preservation of rural roadway character - During the IL-130/High Cross Road Corridor Study, recommendations were made for the portion of High Cross Road between University Avenue north to Olympian Road as well as for Olympian Road between High Cross Road and US 45. The resulting recommendations suggested minor improvements to both sections of roadway to include repaving the existing surface and adding wider paved shoulders which could accommodate bicyclists. These minor improvements will help with safety concerns and add shoulders for bicyclists while still preserving the rural character of the area.

8. Possible interchange location with I-74 (East Urbana) - Funding has been allocated through the 2010-2015 State Capital Bill to complete an Interchange Justification Study in the east Urbana area of I-74. The study will determine the proper location, if any, for a new interchange in east Urbana connecting to I-74.

9. Florida Avenue extension to IL-130 - Currently, Florida Avenue ends just east of Abercorn Street in east Urbana. Florida Avenue does not intersect with IL-130, forcing traffic to use other east/west roadways such as Washington Street or Windsor Road for access to IL-130. The extension will also include an extension of the existing sidepath on

the south side of Florida Avenue. Extending Florida Avenue will provide access to IL-130 and create a more efficient travel path for all modes of transportation.

10. Windsor Road reconstruction from Philo Road to IL-130 - This project will reconstruct Windsor Road between Philo Road and IL-130 as a four-lane section with medians, and extensions east and west of the existing sidepaths on the north and south side for bicyclists and pedestrians. This project will increase capacity on Windsor Road and ease current and future congestion. The reconstruction of Windsor Road is currently underway but not yet completed.

11. IL-130 widening with medians from University Avenue to Curtis Road - This project widens and improves the segment of IL-130 between University Avenue and Curtis Road from the current two-lane section to a four-lane section with medians. The segment of IL-130 between University Avenue and Windsor Road received a funding allocation for engineering and construction through the 2010-2015 State Capital Bill. The segment between University Avenue and Windsor Road will also have a sidepath on the west side of IL-130.

12. Curtis Road improvements between IL-130 and Race Street - This segment of Curtis Road is proposed to be constructed as a four-lane section to match the current improvements on Curtis Road from Staley Road to Wesley Avenue. This project will include off-street facilities for pedestrians and bicyclists.

13. Curtis Road, between First Street and Race Street, letter of understanding completed, issues unresolved - *Improvements to this area are pending further discussion with the University of Illinois, City of Urbana, Champaign County, Village of Savoy, and Urbana Township*.

14. Curtis Road grade separation at CN tracks - This grade separation just east of the Curtis Road and US 45 intersection will provide a safer crossing of the railroad tracks than the current at-grade crossing. This grade separation will also help create a more efficient travel route when coupled with the existing and proposed Curtis Road improvements.

15. Curtis Road improvements between Wesley Avenue and Wynstone Drive - This project improves Curtis Road, from Wesley Avenue to Wynstone Drive, to a four-lane roadway section with sidepaths on the north and south sides of the roadway. This improvement matches the segment of Curtis Road from the new I-57 interchange east to Wynstone Drive. This project is currently under construction.

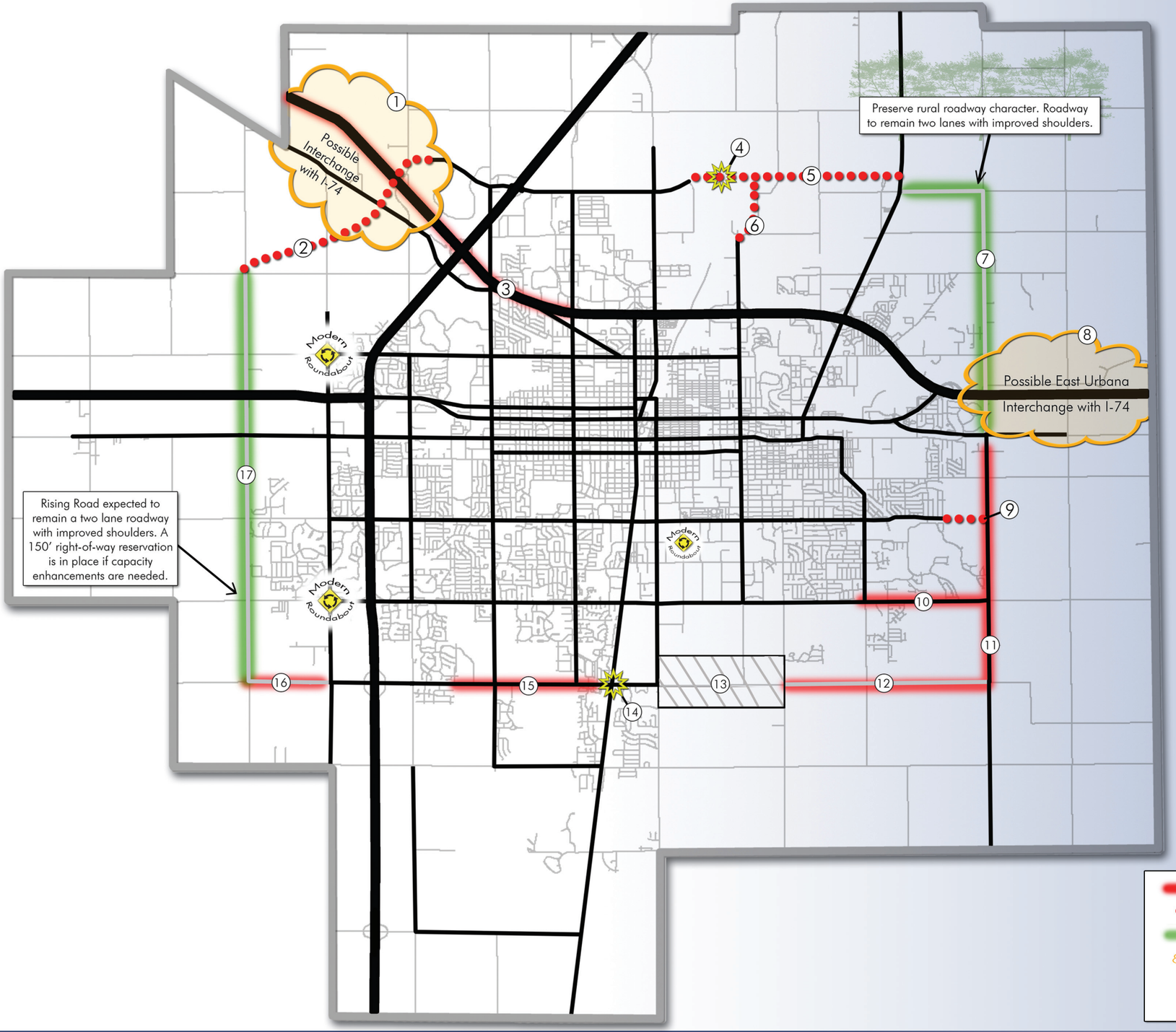
16. Curtis Road improvements between Staley Road and Rising Road - The remaining section of Curtis Road, between Staley Road and Rising Road, is proposed to be improved to a four-lane section with ten-foot multi-use trails on the north and south sides of the roadway.

17. Rising Road improvements from Cardinal Road to Curtis Road - The results of the Staley/Rising Corridor Study stated that if development patterns follow what is proposed in the study, Rising Road could remain a two-lane collector with improved six foot shoulders without experiencing large amounts of congestion. However, if fringe development continues as it is now, Rising Road may need to be improved to a four-lane arterial with off-street pedestrian and bicycle facilities. In anticipation of possible future improvement needs, the City of Champaign and CUUATS' Technical and Policy Committees approved a right-of-way reservation resolution reserving 150 feet of right-of-way along Rising Road.

Also shown on in Figure 8.2 are three possible intersection locations for the implementation of modern roundabouts: St. Mary's Road and Fourth Street, Windsor Road and Staley Road and Bradley Avenue and Staley Road. As discussed in the previous chapter, modern roundabouts can be safer and handle more traffic than traditional methods like stop signs and signals. Modern roundabouts can also be more environmentally friendly by reducing idling time and greenhouse gas emissions.

If the proposed roadway projects are implemented by the year 2035, travelers in the urbanized area will experience better connectivity, leading to reductions in travel time, travel delay and the total amount of vehicle hours traveled per year per person. The regional roadway vision for 2035 can be seen in Figure 8.2.

Figure 8.2 LRTP 2035: Roadway Vision for the Future



LRTP 2035 Vision for the Future

The LRTP Regional Roadway Vision for the Future is based on the Preferred Alternative developed during the 2004 LRTP as well as completed corridor studies, the urbanized area's Transportation Improvement Program, and the State Highway Improvement Program. The vision identifies projects having regional significance as well as the ability to reduce congestion and expand accessibility within the metropolitan planning area. Projects, both fiscally constrained and illustrative, are shown.

LRTP 2035 Vision Project List

1. Possible interchange location along I-74 in west Champaign; interchange justification study not yet funded
2. Olympian Drive extension east of Duncan Road to Rising Road
3. I-74 widening from Prospect Ave to IL-47 in Mahomet
4. Olympian Drive grade separation at CN tracks
5. Olympian Drive extension from Apollo Drive to US 45
6. Lincoln Avenue northern extension to Olympian Drive
7. Preserve rural character of northeast Urbana roadways
8. Possible interchange location along I-74 in east Urbana; interchange justification study funded but not yet completed
9. Florida Avenue extension to IL-130
10. Windsor Road reconstruction between Philo Road and IL-130
11. IL-130 widening with medians from University Ave. to Curtis Road
12. Curtis Road improvements between IL-130 and Race Street
13. Curtis Road letter of understanding completed, issues unresolved
14. Curtis Road grade separation at CN tracks
15. Curtis Road improvements between Wesley Avenue and Wynstone Drive
16. Curtis Road improvements between Staley Road and Rising Road
17. Rising Road: resurface, stripe, and add 6' shoulders

- Regional Arterial Improvements
- New Regional Roadway Construction
- Preservation Corridors
- Areas for Possible Interchanges
- Rail Crossing Improvement Projects
- Planned Modern Roundabout
- Existing Interstates
- Existing Arterials
- Existing Collector/Local Road
- Metropolitan Planning Area

Projects 12 and 16 are currently collectors/local roads, but will be improved to arterials following reconstruction.

Fiscally Constrained Projects for 2035

The second map that makes up the roadway vision for 2035 is the identification of fiscally constrained projects. As part of the LRTP, the Federal Highway Administration requires a listing of the fiscally constrained projects that are part of the overall vision for the urbanized area. The fiscally constrained projects are those that have either guaranteed or reasonably guaranteed funding secured for the completion of the project. Fiscally constrained projects are required to be identified separately from the overall vision map to provide additional transparency to the public regarding funded transportation projects in the urbanized area. Within the urbanized area, there are nine regionally significant projects which are fiscally constrained:

1. I-74 widening from IL-47 to Prospect Avenue - This project widens and improves the segment of I-74 between IL-47 and Prospect Avenue from two lanes in each direction to three lanes in each direction. The added capacity will help reduce current congestion and deal with future demands on this section of the interstate. This project received funding through the 2010-2015 State Capital Bill.

2. Olympian Drive extension from east of Duncan Road to I-74 - This segment of Olympian Drive from east of Duncan Road to I-74 is proposed as an arterial with off-street bicycle and pedestrian facilities. This project has already received some federal and state funding to help with engineering and construction.

3. Olympian Drive extension from Apollo Drive to US 45 - Olympian Drive, between Apollo Drive and US 45, is proposed as an arterial and would also include off-street bike and pedestrian facilities. This project has already received some federal and state funding to help with engineering costs and construction.

4. Olympian Drive grade separation over CN railroad tracks - This project provides a grade separation over the CN railroad tracks for the extension of Olympian Drive between Apollo Drive and US 45.

5. IL-130 widening with medians from University Avenue to Windsor Road - This project widens and improves the segment of IL-130 between University Avenue and Windsor Road from the current two-lane section to a four-lane section with medians. This project will include a sidepath on the west side of IL-130. The project received a funding allocation for engineering and construction through the 2010-2015 State Capital Bill.

6. Florida Avenue extension to IL-130 - Currently, Florida Avenue ends just east of Abercorn Street in east Urbana. Florida Avenue does not intersect with IL-130, forcing traffic to use other east/west roadways such as Washington Street or Windsor Road for access to IL-130. The extension will also include an extension to the existing sidepath on the south side of Florida Avenue. Extending Florida Avenue will provide access to IL-130 and create a more efficient travel path for all modes of transportation. This project received local funding through the City of Urbana in the 2010-2013 TIP.

7. Windsor Road reconstruction from Philo Road to IL-130 - This project will reconstruct Windsor Road between Philo Road and IL-130 as a four-lane section with medians, and extensions east and west of the existing sidepath on the north side for bicyclists and pedestrians. This project will increase capacity on Windsor Road and ease current and future congestion. The reconstruction of Windsor Road is currently under construction but not yet completed.

8. Curtis Road improvements between Wesley Avenue and Wynstone Drive - This project improves Curtis Road, from Wesley Avenue to Wynstone Drive, to a four-lane roadway section with a sidepath on the north and south sides of the roadway. This improvement matches the segment of Curtis Road from the new I-57 interchange east to Wynstone Drive. This project is currently under construction.

9. High Capacity Transit Network - In the fall of 2009, CU-MTD instituted new high capacity transit routes to serve the core of the urbanized area where greater transit frequency was needed and warranted. These routes are currently being implemented. While not directly a roadway improvement project, it is a fiscally constrained transportation project that does promote mode shift and reduces automobile trips.

A map of the fiscally constrained projects is shown in Figure 8.3.

Locally Funded Projects (FY 2010 - FY 2019)

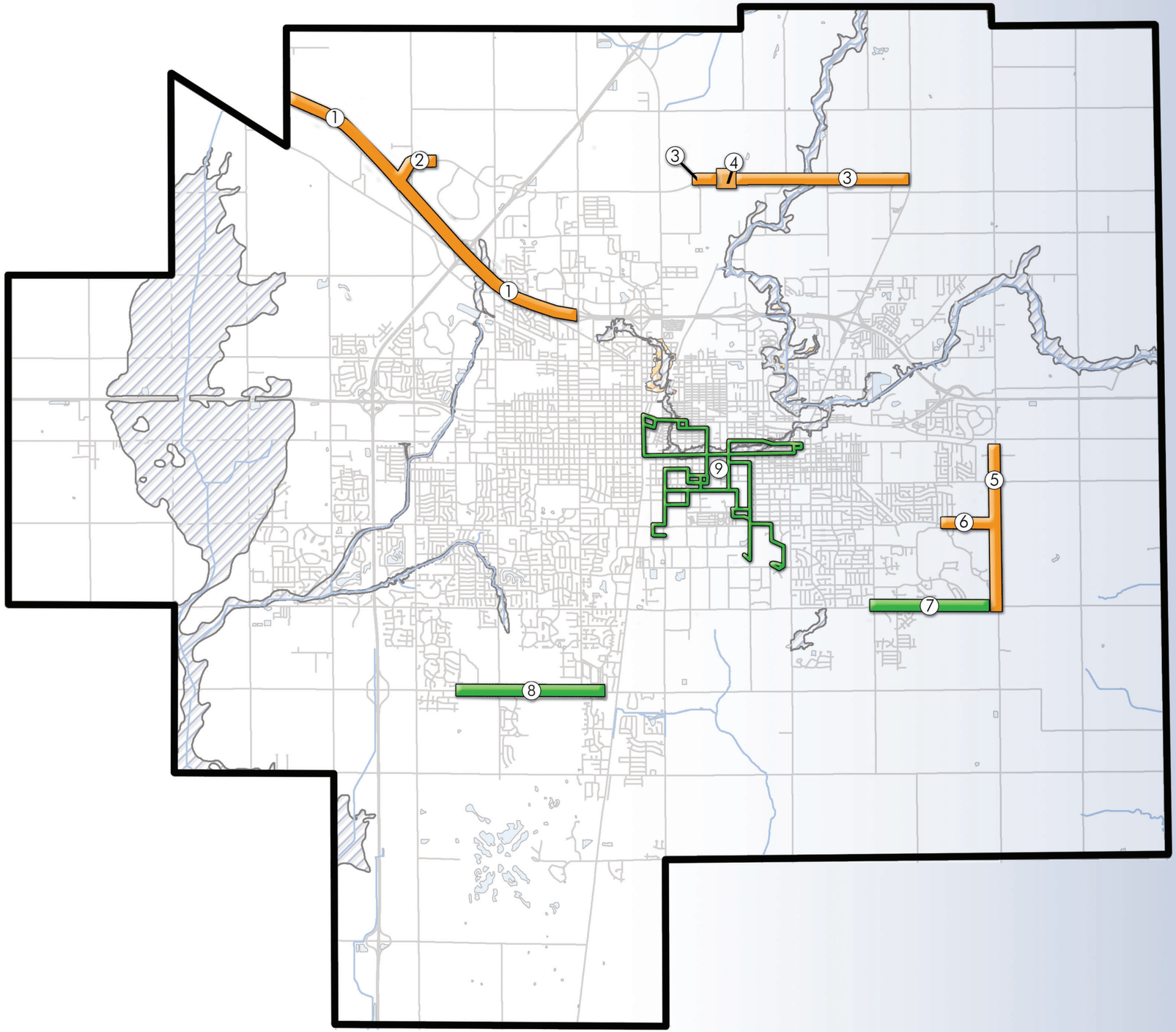
The third and final map which makes up the roadway vision for 2035 is one which identifies locally funded projects. While the LRTP is only responsible for identifying regionally significant transportation projects that could be targeted for federal funding, it is important to identify locally funded projects that are focused primarily on the operation and maintenance of the existing transportation network. The operation and maintenance of the existing transportation system currently utilizes a majority of local budgets that are dedicated to improving and maintaining transportation facilities. Over a multi-year period, system expansion, both in the form of capacity improvements and new roadway construction, utilizes a smaller portion of transportation budgets than the on-going operation and maintenance of the existing transportation system. The funding tables for each municipality's Capital Improvement Program and the urbanized area's Transportation Improvement Program can be seen in Chapter 9. The majority of the projects listed in the locally funded project tables are those involving existing system maintenance and operations.

Figure 8.4 identifies the location of all roadway and intersection projects that involve local transportation funding. The projects shown in Figure 8.4 were taken from the following sources:

- 2010-2013 Transportation Improvement Program for the urbanized area
- 2010-2019 Capital Improvement Program for the City of Champaign
- 2010-2019 Capital Improvement Program for the City of Urbana

Detailed information for each project shown in Figure 8.4 can be seen in the local funding tables in Chapter 9.

Figure 8.3 Fiscally Constrained Projects: 2010-2035



LRTP 2035 Fiscally Constrained Projects

This map shows all the regionally significant projects in the urbanized area that have either guaranteed or reasonably guaranteed funding for the completion of each improvement. Projects are separated into those that are currently being implemented and those that have funding but have not yet begun. The projects listed below are based on the 2004 LRTP Preferred Alternative and are currently listed in the 2010-2013 TIP, 2010-2015 State Highway Improvement Program, or have been identified by MTD as a project currently in progress.

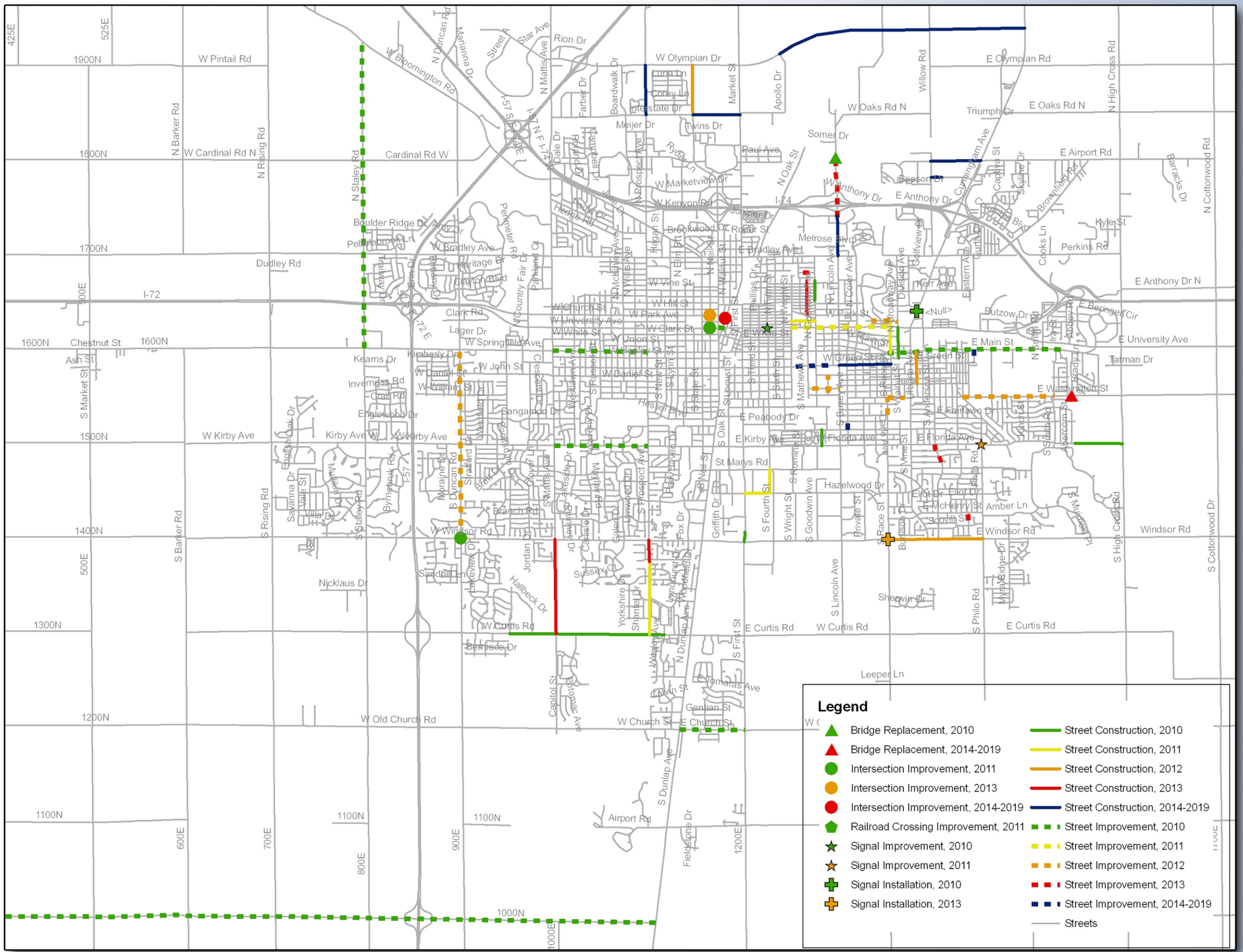
LRTP 2035 Fiscally Constrained Projects List

1. I-74 widening from Prospect Ave to IL-47 in Mahomet
2. Olympian Drive extension east of Duncan Road to I-74
3. Olympian Drive extension from Apollo Drive to US 45
4. Olympian Drive grade separation at CN tracks
5. IL-130 widening with medians from University Ave. to Windsor Road
6. Florida Avenue extension to IL-130
7. Windsor Road reconstruction between Philo Road and IL-130
8. Curtis Road improvements between Wesley Avenue and Wynstone Drive
9. High capacity transit network

Legend

- Projects in Progress
- Regional Projects Not Yet Completed
- Streets
- Floodplain
- Water Course
- Wetland

Figure 8.4 Local Transportation Projects from TIP FY10-13 and CIP FY10-19



CHOICES
Champaign-Urbana Urbanized Area Transportation Study
Long Range Transportation Plan

Bicycle and Pedestrian Vision for 2035

One important goal for the future transportation network is to provide choices to all users in how they travel from place to place. Whether users choose to drive, ride a bicycle or walk, facilities will be in place to make travel convenient, safe and timely. Increasing the amount of facilities for active modes of transportation will also reduce the number of automobiles on the roadway network, thereby reducing congestion, travel time and greenhouse gas emissions. Increasing the number of biking and walking trips will also benefit the health of those travelers choosing to use active modes of transportation. As the urbanized area's population increases, it will be more important to shift the mode share of travelers from driving to biking, walking and transit. A reduction in the number of automobile trips will put less stress on the existing network and reduce the amount of funding needed for roadway improvements.

As discussed in the Future Conditions Chapter, the bicycle and pedestrian vision for 2035 relies heavily on the successful implementation of three plans: the City of Urbana's Bicycle Master Plan, the City of Champaign's Transportation Master Plan and the Champaign County Greenways & Trails Plan. These three plans comprise the future locations for bicycle and pedestrian facilities in the urbanized area, as well as addressing how other facilities such as bicycle parking should be accommodated. The vision map, Figure 8.5, shows existing bicycle and pedestrian facilities as well as those facilities that are expected to be completed between 2010 to 2015. Projects are shown in Figure 8.5 under one of three categories: Completed, Under Construction or Not Yet Completed. The projects shown were selected by local agencies and the park districts as projects which have reasonably guaranteed funding and would most likely be completed by the year 2015. Since all three bicycle/pedestrian plans list numerous improvement projects, the horizon year of 2015 was used to realistically show what is expected to be completed in the next 5 years.

Other elements making up the bicycle and pedestrian vision for 2035 include:

1. Safety and Education - As more bicyclists and pedestrians share the road and adjacent right-of-way with vehicles, the need for additional safety aspects and educational components will become greater. Bicyclists and vehicles must be aware of each other while traveling and know the proper rules of the road to ensure safe and predictable travel behaviors. Safety courses and events need to continue in the urbanized area to educate all users.

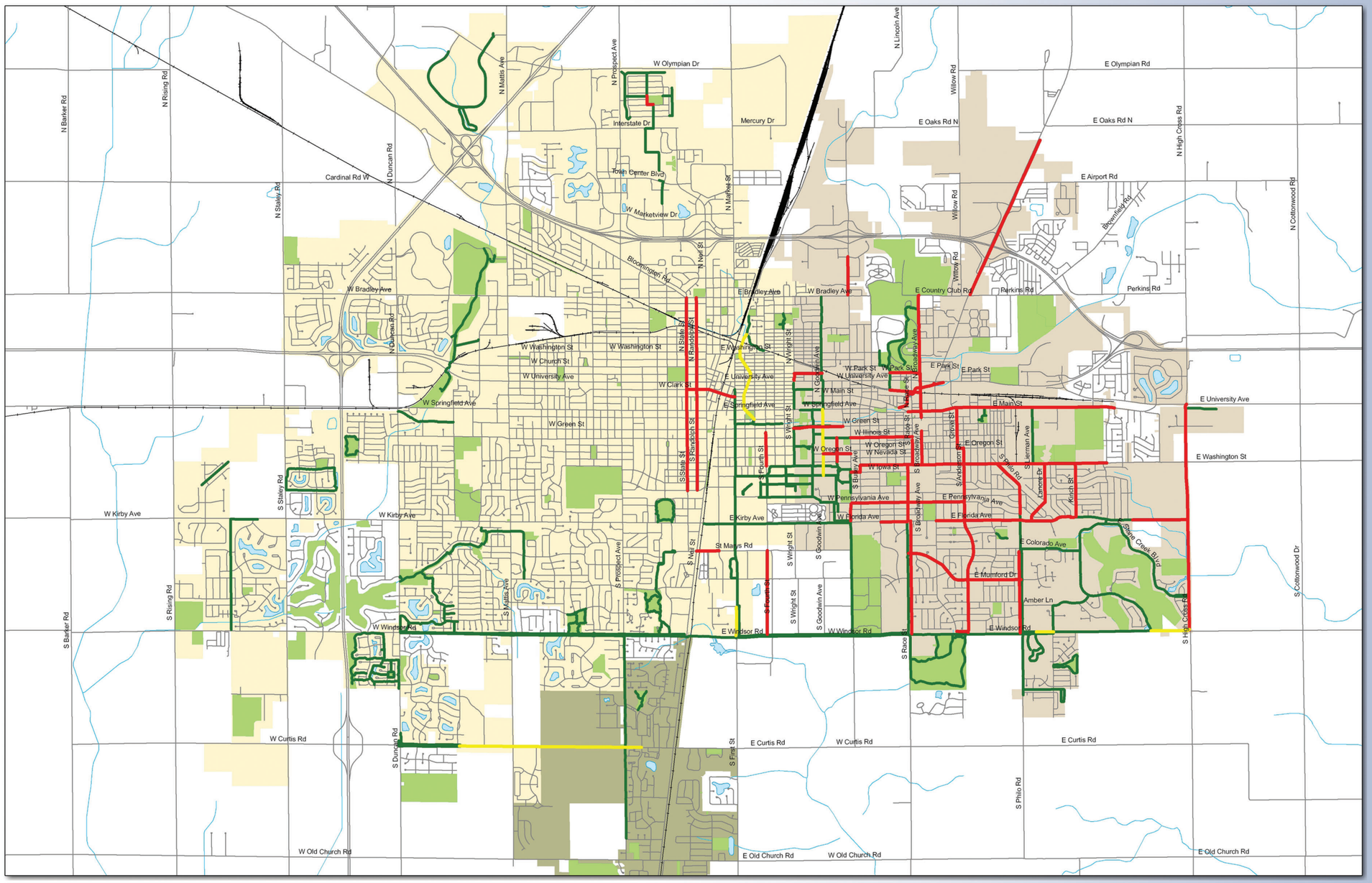
2. Interagency Coordination - With the completion of the three bicycle/pedestrian plans and their ongoing implementation, coordination between the local agencies is more important than ever. The bicycle and pedestrian facilities need to connect to each other to make travel between the municipalities safe and efficient. As facilities are constructed along streets that connect municipalities to each other or to the University, it is important to make sure the plans are consistent and the facilities constructed are similar in type, dimension and properly signed.

3. Technology and Techniques - Between 2010 and 2035, traffic patterns, technology and techniques regarding bicycling and walking are going to change. It will be important for the local agencies implementing and updating the plans to adapt to any changes and adopt new techniques and technology where applicable.

Figure 8.5 LRTP 2035: Bicycle and Pedestrian Vision for the Future

2035 CHOICES

Champaign-Urbana Urbanized Area Transportation Study
Long Range Transportation Plan



LRTP 2035 Vision for the Future

The LRTP Bicycle and Pedestrian Vision Map is based on the 2009 Greenways and Trails update but also includes facilities that are currently under construction and those that will be constructed through the year 2015. Due to the large amount of bicycle facilities planned in the urbanized area, this map only shows those projects that are fiscally constrained and will be constructed by 2015.

What's the Plan for Bikes and Peds?

- City of Urbana will continue implementing the Urbana Bicycle Master Plan and updating the plan every five years.
- City of Champaign will continue implementing the City's Transportation Master Plan and updating the plan every five years.
- Continue implementing the Greenways & Trails Plan and updating the plan every five years.
- Add a bicycle component to the University's Campus Master Plan.

Why Bike or Walk?

- Reduces the amount of automobiles on the roadways.
- Reduces congestion on the roadways.
- Reduces greenhouse gas emissions.
- Walking and biking can benefit your health.

Legend

- Projects Completed
- Projects Under Construction
- Projects Not Yet Completed
- Champaign
- Urbana
- Savoy
- Open Space
- Water
- Streets

What Else Can Be Done?

- Promote interagency coordination to ensure biking and walking facilities connect between municipalities and the University.
- Keep current on new technology and techniques which can make biking and walking safer.
- Consider implementing a bike sharing program in the urbanized area.

Safety and Education

- Need to educate all roadway users on how to share the road.
- Continue bicycle safety programs such as "Light the Night".
- Continue pedestrian safety efforts including updating University District Crosswalk Book.
- Continue the Safe Routes to School program.
- Promote walking and biking to school and work.

Public Transit, Rail and Air Travel Vision for 2035

Shifting mode share away from personal vehicles also requires a strong public transit system within the urbanized area, as well as efficient and affordable links to destinations outside the urbanized area. Local transit agencies, such as CU-MTD, have a large role to play in making the local transit system as efficient as possible to be competitive with personal vehicles. The vision developed for the future of public transit, rail and air travel provides general principles and some major projects that can help promote mode shift for these forms of transportation. The vision map is shown in Figure 8.6.

Local Public Transit

The Future Conditions Chapter discussed the role of CU-MTD in creating a seamless network connecting walking, biking and transit facilities to provide travelers in the urbanized area with options other than the automobile. With a well-connected and efficient network for active transportation, the reliance on automobile travel can be reduced, providing health benefits to users and environmental benefits to the entire urbanized area. To aid in this task, CU-MTD, in conjunction with the City of Champaign, City of Urbana and University of Illinois, put together a grant request to the federal government for the Core Area Mobility Project (CAMP). The CAMP will improve core area roadways to support additional transit, bicycle and pedestrian traffic. The project will also add facilities which increase safety for all modes of transportation utilizing the network. The CAMP creates a full range of improvements within the core of the urbanized area to better link the transportation networks of Champaign and Urbana and increase connectivity for active modes of transportation. The additional bicycle, pedestrian and transit facilities proposed will help in creating a seamless network for active modes of transportation. Users will be able to walk or bike from their place of residence to a nearby bus stop, ride the bus to the stop closest to their destination and then walk or ride a bike to their end point. This network would significantly reduce the need for automobile travel for trips within the core area.

This project will also help with the dissemination of information regarding the local transit system. The CAMP would provide additional StopWatch kiosks which provide real-time information about the wait time for buses on that particular route. Providing accurate and timely information to riders can be one way to increase dependability between the user and provider.

In addition to the CAMP project, it is also important for CU-MTD to continue expanding its current service area to be coterminous with the urbanized area boundary. This measure will ensure that transit service is available to all residents in the urbanized area. Transit service can be very useful in fringe areas where multi-family housing developments exist or are approved for construction. These developments may involve housing student populations or households that cannot afford the expense of owning a car. Transit service can play a particularly important role in providing transportation services in these instances. In addition, residents residing on the fringe of the urbanized area often times have longer commutes to work or to shopping. These longer trips could be removed from the roadway network if transit service were available.

Intercity Bus System

Currently, intercity bus providers cover a large range of destinations from the urbanized area. Travelers can reach destinations in all cardinal directions from either Illinois Terminal or specific locations on campus. Excellent access to surrounding interstates makes traveling from the urbanized area to outside destinations easy and marketable for transit providers. To make Illinois Terminal even more successful as a transit hub, additional carriers and destinations should be added in the future.

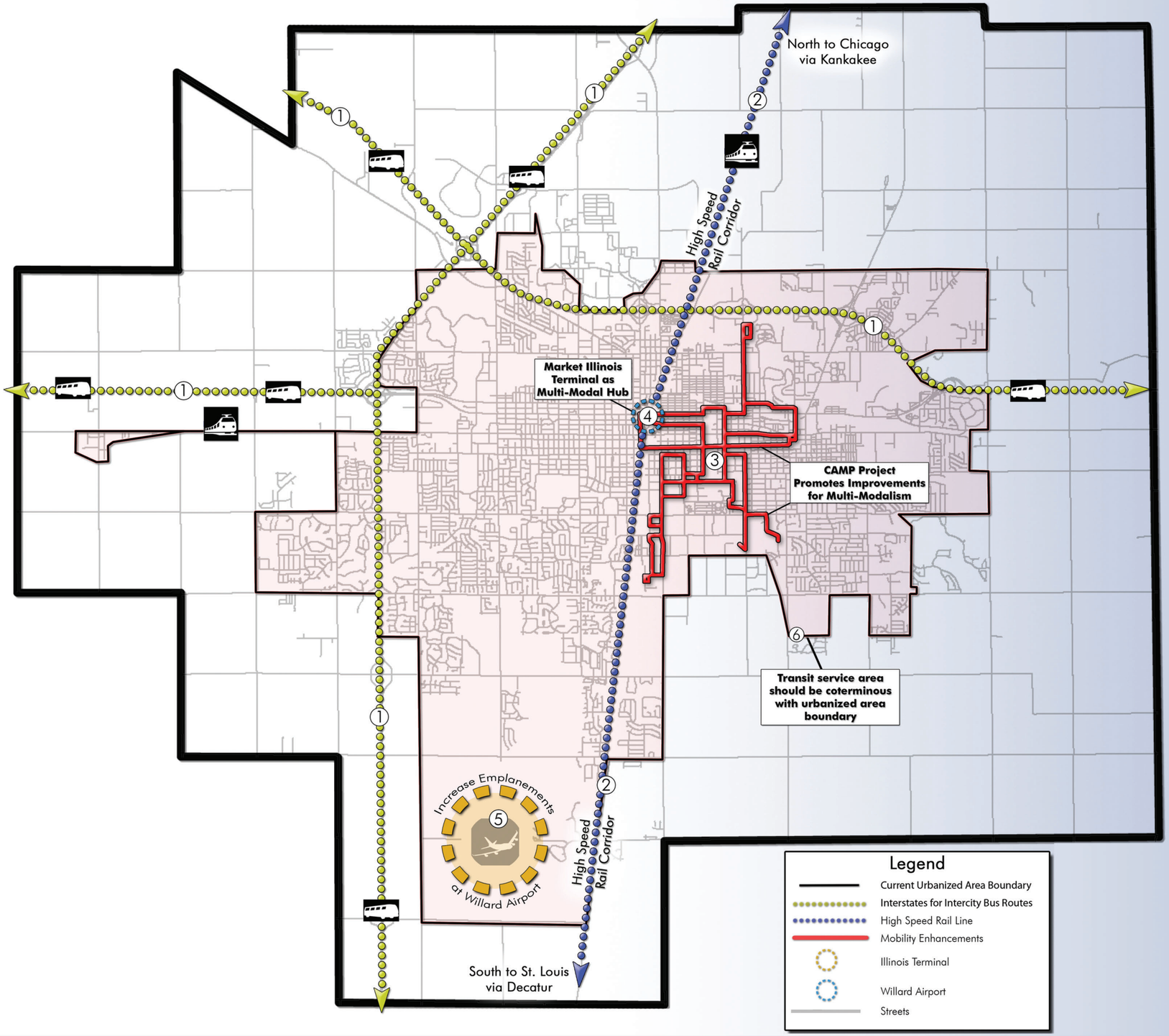
Rail

One of the biggest projects for the future of passenger rail in the urbanized area will be the development of a high speed rail connection between Chicago and St. Louis, using Illinois Terminal as a stop on the route. High speed rail would make traveling to Chicago for work or leisure a more attractive option and reduce the number of vehicles using local roadways and the interstate system. A high speed rail stop at Illinois Terminal would also make it more marketable as a hub for public transit and reduce the commute time between Champaign and Chicago to approximately 43 minutes.

Air Travel

Willard Airport is and must continue to be an asset to the urbanized area. The airport is currently experiencing declining enplanement numbers and has lost carriers and flights over the last five years. In the future, Willard Airport should strive to serve more destinations and must increase the number of enplanements to attract new flights and carriers. Having an airport is convenient for residents, and it can also be an economic development driver for businesses utilizing air travel for commuting.

Figure 8.6 LRTP 2035: Public Transit, Rail and Air Travel Vision for the Future



LRTP 2035 Vision for the Future: Public Transit, Rail and Air Travel

The LRTP Vision for the Future of public transit, rail and air travel is shown on this map. The projects are based on a future where increased public transit is utilized more for daily commuting purposes than it is today. High capacity transit routes and high speed rail make intracity and intercity travel more efficient and more competitive with automobile travel. Additional emplanements at Willard Airport attract new carriers which serve more destinations.

LRTP 2035 Vision Project List

① Market excellent interstate connectivity in the urbanized area to attract additional intercity transit carriers.

② Secure funding to complete a feasibility study for a high speed rail connection between Chicago and St. Louis via Illinois Terminal utilizing rail lines within the urbanized area.

③ Secure funding and implement the Core Area Mobility Project (CAMP) within the urbanized area. Project will improve core area roadways to support additional transit, bicycle and pedestrian traffic. Project will also add facilities which increase the safety for all modes of transportation utilizing the network.

④ Market Illinois Terminal as a multi-modal hub connecting local public transit (CU-MTD), intercity transit and passenger rail. Create a marketing plan that can be distributed to travelers notifying them of the different modes of travel at Illinois Terminal and the corresponding schedules.

⑤ Increase emplanements at Willard Airport in order to attract new carriers which may serve more destinations than what currently exists.

⑥ The transit service area boundary should be coterminous with the urbanized area boundary in order to provide transit service to all residents within the urbanized area. As the urbanized area expands, so should transit service.

8.3 Modeling the Vision for 2035

The vision for 2035, as described above, will create a more efficient and connected transportation network and provide more opportunities for travel using active modes of transportation. To see how effective the future vision is in creating a more efficient network, the proposed roadway improvements were placed in the CUUATS travel demand model. The model incorporates both the regionally significant projects shown in the roadway vision as well as local roadway projects listed in the 2010-2013 Transportation Improvement Program, the Capital Improvement Programs for local agencies, and the 2010-2015 State Highway Improvement Program. These local projects are all considered fiscally constrained and are likely to be completed between 2010 and 2020. For a full listing of the local projects, see Chapter 9.

Modeled Scenarios

Three different scenarios were modeled to obtain accurate results as to how the proposed improvements to the transportation network through the year 2035 would affect congestion and capacity. The three scenarios modeled include:

1. 2005 Base Year Scenario - The model uses the year 2005 as the base year for all future comparisons. The model has been calibrated using actual traffic counts completed for the urbanized area during the 2004 LRTP update process. Updates to the model are completed as CUUATS staff receives updated traffic count information. Population and employment projections for the model are based on 2000 Census figures.

2. 2035 No Improvements Scenario - This scenario reflects the future conditions of the transportation network in 2035 if no changes are made to the network between the years 2005 and 2035. This scenario provides a comparison for the year 2035 to see how congested the current system would be if no improvements are made.

3. 2035 Full Improvement Scenario - This scenario reflects the future conditions of the transportation network in 2035 if all proposed transportation improvements are made to the existing network. This scenario is compared to the "no improvement" scenario to determine how much the proposed changes would improve the system.

These three scenarios are able to provide information about the future transportation network and allow for a direct comparison of various transportation improvement projects to see which projects have the greatest benefit to the urbanized area. Projects can be swapped in and out of the model to create an ideal network for 2035. Unfortunately, at this point in time, the CUUATS travel demand model is unable to accurately model transit, bicycle and pedestrian trips. The model does project future transit trips, but is not as accurate as a mode choice model. A mode choice component, which will accurately predict these mode trips, is currently being built, but was not ready for this LRTP update. The current model can only accurately predict vehicle trips and miles traveled, and does not accurately take into account trips from other modes. The mode choice component is expected to be added to the current model in 2010.

Model Results

The results from the travel demand model are shown in Table 8.3. Vehicle Miles Traveled (VMT) increased between the 2035 No Improvement and 2035 Full Improvement scenarios due to improvements to some of the arterials (i.e. Curtis Road, Windsor Road, IL-130, etc.) which create slightly longer commutes in terms of miles traveled, but reduces the overall total travel time for trips. For example, if all the recommended new roadway connections and arterial improvements under the Full Improvement scenario are implemented, it would provide increased connectivity and faster travel routes in and around the urbanized area. Travelers coming from the fringe or the core could utilize the improved arterial connections for intercity travel and easier access to surrounding interstates. According to the model, the arterial improvements result in a higher VMT for the year 2035, but also result in shorter travel times and delay for drivers on the roadway network. The arterial improvements may create longer mileage commutes, but travel times will be reduced.

Although the model is showing additional VMT for the Full Improvement scenario, it is not taking into account all the trips taken using active modes of transportation such as biking, walking and transit. Table 8.3 does show an increase in total transit trips, but this is according the current travel demand model, which is lacking the mode choice component. In actuality, biking, walking and transit trips make up much more of a percentage of total trips than is shown through the current model. Once the mode choice component is added to the model, it is expected that total VMT should be reduced significantly.

Table 8.3 - Model Results

Statistic	Scenario		
	2005 Base Year	2035 No Improvements	2035 Full Improvements
Total Number of Households	53,844	79,471	
Total Population	133,285	197,255	
Total Vehicle Miles Traveled	1,993,121	3,291,578	3,659,213
Vehicle Miles Traveled per Household	37.0	41.4	46.0
Vehicle Miles Traveled per Person	15.0	16.7	18.6
Vehicle Hours Traveled	50,282	104,649	99,280
Vehicle Hours Traveled per Household	0.9	1.3	1.2
Vehicle Hours Traveled per Person	0.4	0.5	0.5
Total Auto Trips	395,767	563,074	498,635
Total Transit Trips	36,050	48,698	54,950

Congested and Nearly Congested Corridors

The model also provides data on corridors and roadway segments that will be fully congested or nearly congested under each scenario for the year 2035. Congestion is determined by analyzing the traffic volume on any given roadway in the network compared to the capacity that the roadway is built to handle. Volume refers to the amount of automobile traffic, and capacity refers to the amount of traffic a given roadway is able to handle. The ratio of volume over capacity is used to calculate congestion, and shown as follows:

Fully Congested Corridor: (Volume/Capacity Ratio) $\geq$ 1.0

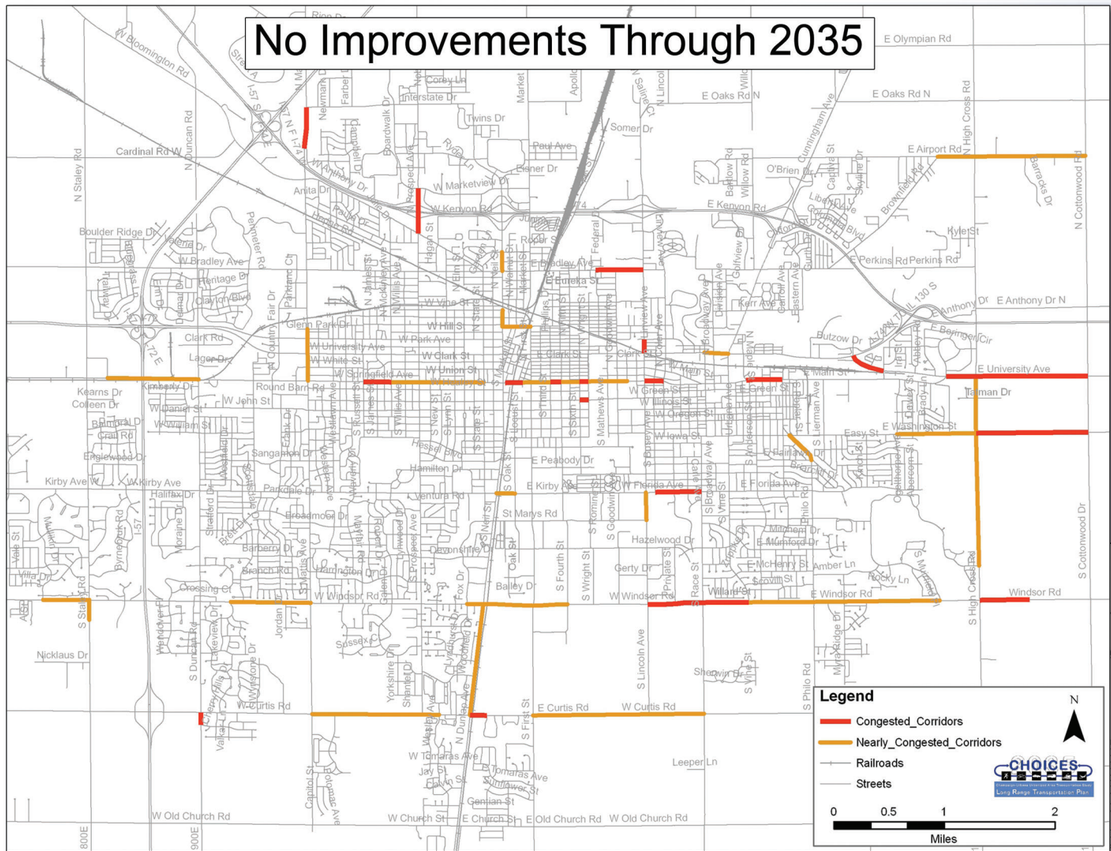
Nearly Congested Corridor: 1.0 $>$ (Volume/Capacity Ratio) $\geq$ 0.9

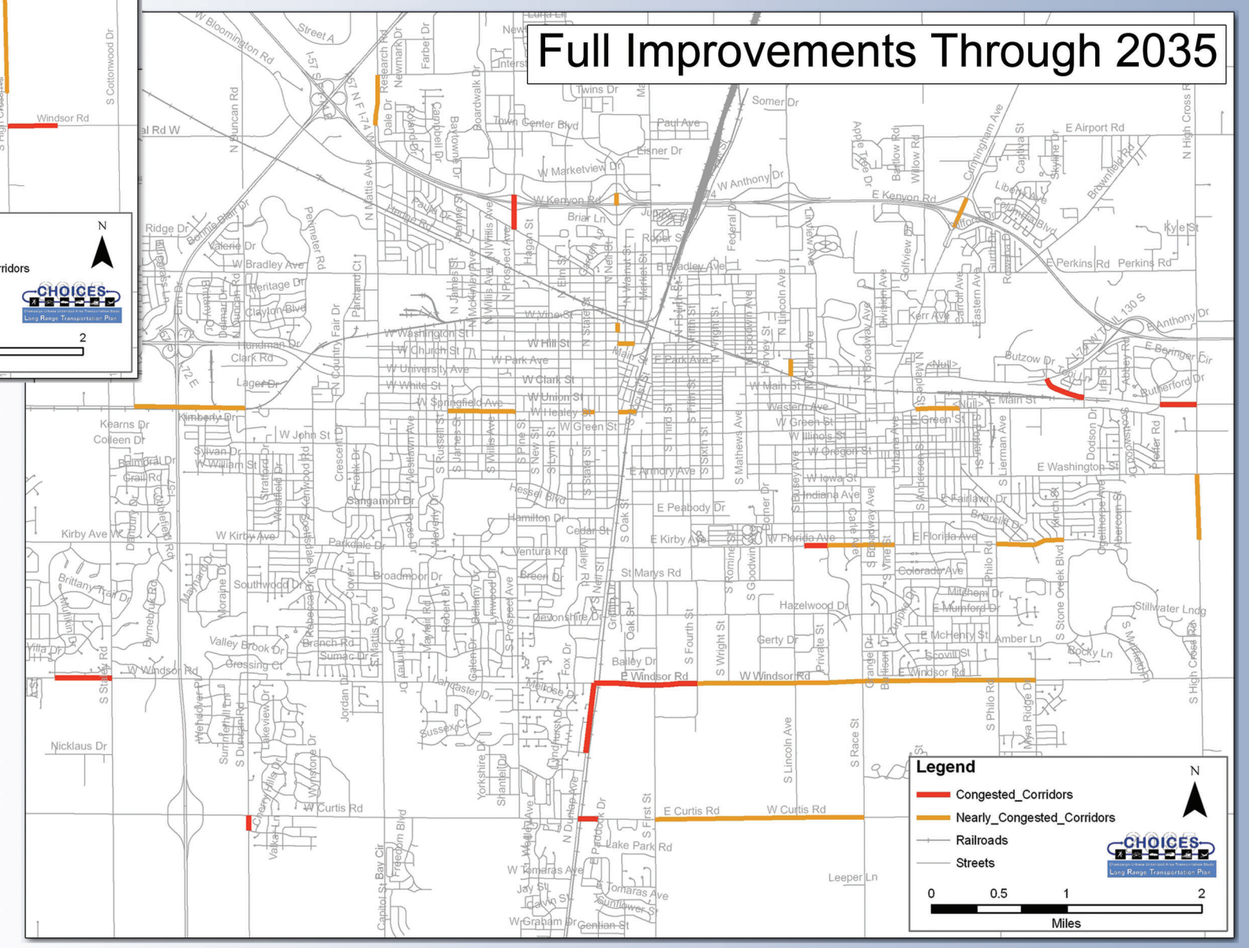
Figure 8.7 shows a congestion map for the year 2035 with No Improvements and 2035 with Full Improvements. The red lines represent corridors experiencing full congestion and significant travel delays. The orange lines represent corridors that are nearly congested. These corridors have not reached full capacity yet, but are still experiencing congestion and travel delay at undesirable levels. As is shown in Figure 8.6, the amount of congestion under the "No Improvement" scenario is far more than that experienced under the Full Improvement scenario. This is to be expected given the significant number of roadway improvement projects proposed through the year 2035. The amount of congestion under both scenarios is expected to decrease further once an accurate estimate of bike, pedestrian and transit trips is available through the mode choice model component.

Conclusion

This chapter sets forth a vision for each mode of transportation in the urbanized area through the year 2035. This vision is meant to be general and looked at from a regional perspective. The vision is not meant to address detailed local projects such as a missing sidewalk link or the need for an additional bus shelter. The vision's purpose is to create a common set of regional transportation improvement projects that will improve efficiency, mobility and connectivity for residents and travelers within the urbanized area through the year 2035. The vision is also meant to help define the larger land use and transportation principles that are keys to growing a more compact and sustainable urbanized area.

Figure 8.7 LRTP 2035: Congested and Nearly Congested Corridors





The two maps show the congested and nearly congested corridors as projected by the CUUATS Travel Demand Model for the year 2035.

The first map shows congestion for corridors in the urbanized area if no transportation improvements are made to the existing network through 2035.

The second map shows congestion for corridors if all transportation projects expected to occur by 2035 are completed.

9 Funding

By Federal law, the LRTP must be financially constrained, meaning transportation projects must have reasonably guaranteed funding sources for them to be included in the LRTP projects list. Specifically:

> *The LRTP must include a financial plan that demonstrates the consistency of proposed transportation investments with already available and projected sources of revenue. The financial plan shall compare the estimated revenue from existing and proposed funding sources that can reasonably be expected to be available for transportation uses, and the estimated costs of constructing, maintaining and operating the total (existing plus planned) transportation system over the period of the plan. (23 CFR 450.322)*

This chapter will detail revenue sources, how staff and local agencies determined revenues for the 25-year planning horizon, expenditures for operations and maintenance, and a list of expansion and improvement projects needed to implement the plan.

9.1 Revenues

The 25-year vision for the urbanized area transportation system is limited by how much money there is to fund the projects needed to realize it. A review of federal, state and local revenues is required for the Long Range Transportation Plan so that we can ensure the plan has the financial capacity to come to fruition.

Federal

SAFETEA-LU provided federal funding for transportation projects over four years (2005-2009). SAFETEA-LU expired at the end of September 2009, and was given a 1 month extension. The federal government is currently in the process of authoring a new transportation bill to take the place of SAFETEA-LU, and provide funding for future transportation infrastructure in the United States. The details and funding sources for the new authorization are unknown at this time, therefore, CUUATS is unable to identify funding sources to be allocated to the urbanized area and MPO. The funding sources currently available through SAFETEA-LU are as follows:

- Interstate Maintenance Program
- National Highway System Program
- Surface Transportation Program
- Highway Bridge Replacement and Rehabilitation Program
- Hazard Elimination Safety Fund
- Federal Transit Administration urbanized area formula grants
- Federal Transit Administration capital investment grants
- Transportation Enhancement Program
- Highway Safety Improvement Program
- Safe Routes to School

These programs require different levels of local matching funds, ranging from 10% to 50%.

State

The State of Illinois, through the Illinois Department of Transportation (IDOT), distributes funding from the federal transportation bill to the MPOs. The allocation for each MPO is based on urbanized area population. Most state funding allocated to projects in the urbanized area require at least a 20% local match from a CUUATS member agency or private party.

The state also disperses its own transportation funding through IDOT for expansion and improvement projects; these funds also require a minimum 20% local match. In addition, IDOT receives funding from the state to maintain its highways.

The Illinois Department of Natural Resources (IDNR) is another state agency that provides grants for greenways and trails

projects. Many local bike paths and trails have been funded in part by IDNR; a local match is required in order to receive funding.

The state Motor Fuel Tax (MFT) is derived from the purchase of gasoline and diesel. MFT monies are distributed by IDOT to counties, townships and municipalities for use in transportation-related expenditures.

Local

Transportation projects receive local funding through municipal and county budgets, public transit fares, local park districts (for greenways and trails projects), the University of Illinois, and private donations.

General Notes Regarding Funding

It is current and common practice for federal, state and local transportation dollars to be largely dedicated to the operations and maintenance (O&M) of the existing transportation network. It is a costly endeavour to keep the existing system in "good" operational standing, devoid of major cracks, chips, potholes and ruts. Large amounts of transportation funding are allocated to resurfacing and reconstruction projects on existing roadways. Current federal and state projections conclude that very few transportation system expansion projects will be possible without a significant increase in transportation funding. Funding for the maintenance of the existing transportation network is often undercut, leading to poor pavement conditions, unsafe roadways and faulty structures.

One significant issue with transportation network expansion projects is that expansion creates new roadways, which over time need to be resurfaced or reconstructed, similar to the existing transportation network. As the overall network expands, so must the budget for O&M. This issue creates concerns for efficient and proper management of the asset that is the transportation network. In order to effectively choose which roadways are resurfaced or upgraded, it is important to look at specific life cycle costs for each proposed transportation project. Life cycle cost refers to looking at multiple design solutions for a transportation improvement project and weighing the benefits of each solution against the proposed costs to find the most effective way in spending taxpayer dollars. Utilizing asset management practices such as life cycle cost analyses will help with the strategic planning of the right improvements at the right time to maximize transportation funding resources.

9.2 Methodology for Forecasting Revenues

CUUATS staff determined estimated revenues for the 25-year planning horizon on a source-by-source basis, as each funding source has a different level of guarantee in the funding it could provide. With the expiration of the current federal transportation bill, SAFETEA-LU, and no replacement bill yet approved by Congress, federal funding sources for the urbanized area after FY 2010 are currently unknown. Additionally, uncertainty increases in state and local funding levels as we project farther out in the planning horizon. The current Motor Fuel Tax revenue system provides much of the transportation funding at the local level. As fuel prices continue to rise, and Americans drive less, MFT revenues will most likely diminish. It is unknown at this time what revenue source could replace MFT revenues. The funding projections shown in this chapter are based on five-year averages from years 2005 to 2009, as well as future growth rates provided by the different agencies involved.

Federal

Federal funding fluctuates yearly, often differing by millions of dollars. In order to provide a reasonable estimate, four different forecasts were completed based on different program funds:

1. All federal program funds, with the exception of STP-U Local dollars and transit funding, were calculated for the FY 2010-2013 Transportation Improvement Program (TIP). The four-year anticipated funding level was $24,442,000.

2. In order to determine the remaining 22 years of federal funding, an average was taken of the previous five years' (FY 2005 through FY 2009) federal funding allocations. A 4% annual inflation rate was applied to funding each year over the 22-year period. The 22-year estimate for federal funding, not including the STP-U Local and transit apportionment, would be $262,900,300.

3. STP-U Local funding was calculated by multiplying the FY 2009 apportionment by 25. An annual inflation rate of 4% was added to the funding allocation for each year during 25 year projection. The estimated 25-year allocation will be $46,752,700.

4. Federal transit funding is divided into two programs: Federal Transit Administration urbanized area formula grants and Federal Transit Administration capital investment grants. The Champaign-Urbana Mass Transit District estimates there will be $70,200,000 available in the next 25 years through these funds, which are used for fleet expansion and replacement.

Total for all Federal programs: $379,853,000

State

State forecasts can be divided into four areas: monies allocated through the FY 2010-2013 TIP, monies allocated to projects in the State's FY 2010-2015 Highway Improvement Program, forecasted funding for operations and maintenance and improvement projects, and monies that have been allocated by the Illinois Department of Natural Resources.

1. For forecasting purposes, TIP funding was divided into three parts: maintenance, improvement projects, and projects funded only by the state. The total for the state-only portion for the first four years of the 25-year planning horizon is estimated to be $31,573,000.

2. To determine the remaining operations and maintenance forecast, a five-year average was derived from the FY 05-09 IDOT Performance and Costs Report for transportation-related projects. It should be noted that the Performance and Costs Report is provided for all of Champaign County. Staff calculated the proportion of US highways, state highways, and interstates that fall within the urbanized area compared to the entire county; approximately 14.2% of the infrastructure falls within the current urbanized area boundary. The budget for each year in the report was thus multiplied by 14.2% to calculate a rough estimate of the urbanized area operations and maintenance costs. This average was then multiplied by 25 to cover the planning horizon from FY 2010-2035. A 4% inflation rate was added annually to the 25 year projection. The estimated operations and maintenance revenues for the 25-year period is $16,053,249.

3. For those improvement projects not considered in the TIP, the 2010-2015 State Highway Improvement Program was consulted. Any project funding listed for the urbanized area for fiscal years 2010 through 2015 was included. Some projects have limits that extend beyond the urbanized area. For those projects, the percentage falling within the urbanized area was multiplied by the total funding amount to get an estimate of the project cost within the urbanized area. The sum of the estimated expenditures for this period within the urbanized area is $14,634,400. It should be noted that the State Highway Improvement Program lists total project costs only; a local match is required as part of the project cost. For the purposes of the LRTP, we are assuming that a 20% local match is required. The final forecast for FY 2010-2015 is thus $14,634,400*.8=$11,707,520.

   To determine estimated revenues for fiscal years 2016-2035, a 5-year average was taken from "State Only" projects for FY 2005 through 2009. This average was then multiplied by 19 (years) to cover the remainder of the planning horizon. A 4% inflation rate was added annually to the 19 year projection. The estimated revenues for improvement projects from this source for fiscal years 2016 through 2035 are $62,694,770.

4. Funding from the Illinois Department of Natural Resources is not guaranteed; rather, it is based on approval of grant applications. The only reasonably guaranteed funding from this source is listed in the FY 2010-2013 TIP. No funding has been allocated to transportation projects in the urbanized area through IDNR.

Total for all State programs: $122,028,539

Local

For the purpose of forecasting, local funding was calculated for each agency that contributes to the local transportation system.

1. In calculating municipal contributions to the local transportation system, the FY 2010-2013 TIP was used for the first four fiscal years. For fiscal years 2014 through 2035, municipalities were asked to provide local budget estimates, as well as Motor Fuel Tax revenue estimates. Local budget estimates are limited to funding spent for transportation improvements, operations, and maintenance.
   * An annual growth rate of .6% was applied to funding for the City of Champaign between 2019-2035.
   * An annual growth rate of 3% was applied to the operations and maintenance funding for the City of Urbana from 2012-2035.
   * An annual growth rate of .6% was applied to overall transportation funding revenues for the Village of Savoy.

   The yearly growth rates applied vary for each municipality depending on the rate of growth city staff anticipates will occur during the planning horizon. The projected total future revenues available for the City of Champaign, City of Urbana, and Village of Savoy are $825,874,074.

2. Champaign County contributions within the urbanized area are on a project-by-project basis. Only those projects that have established agreements at this time with the County for urbanized area transportation projects can be considered reasonably guaranteed. The FY 2010-2013 TIP provides funding levels for all projects in which the county is currently obligated. The only other major project in which the county may have additional obligations is for the Olympian Drive extension project from Apollo Drive to US 45. At this time, estimated funding from the County is $8,650,000 for the 25-year planning horizon.

3. The Champaign-Urbana Mass Transit District receives an allocation from the state and uses its local revenues to cover operations and maintenance for its system. CU-MTD estimates that there will be $817,800,000 in revenues that will fully cover operations and maintenance for the 25 year planning horizon. CU-MTD staff applied an average annual growth rate per year of 3% over the next 25 years.

4. The University of Illinois has no reasonably guaranteed funds for transportation improvements or maintenance with the exception of what is listed in the FY 2010-2013 TIP. Estimated funding from this source based on the TIP is $1,608,000. The University-owned Willard Airport in Savoy was able to provide a budgeted amount of $3,000,000 for FY 2010. Staff at the University was unable to do a formal projection to the year 2035 due to the uncertainty of airline travel and airline funding in the future. If airline travel grows at Willard, their revenues will increase. If gas prices and the overall cost of airline travel increases, it is possible their revenues could decrease. CUUATS staff took the FY 2010 budget and multiplied it by 25 to project the possible 25 year funding opportunity the airport could see if funding remains at its current level.

5. Another source of local funding for transportation projects is private sources. The only reasonably guaranteed monies from this source are found in the FY 2010-2013 TIP, where there are several projects in Urbana that will be partially or fully financed with private funds. The estimated funding from this source is $14,020,000.

The Village of Bondville does not have a Capital Improvement Program and does not have any official long-range plan for transportation projects. No reasonably guaranteed funding is anticipated from this municipality.

Total for all Local programs: $1,742,952,074

To operate, maintain and expand upon our local area transportation system, we have estimated total revenues of $2,244,833,613 between the years 2010-2035. Table 9.1 shows the budget summary for each agency, and also provides a breakdown where possible for funding used for operations and maintenance and funding used for capital improvements. For more detailed funding tables and explanations, see the Funding Appendix.

Figure 9.1 - Future Funding Projections

Agency/Fund Type	Revenues	Expenditures	Balance	Notes on Expenses
Federal Total	$379,853,000	$97,142,000	$282,711,000	
Transit (capital improvements)	*$70,200,000*	*$70,200,000*	*$0*	*MTD Improvements FY 10-35*
STP-U Local	*$46,752,700*	*$2,500,000*	*$44,252,700*	*STP-U Funding Program FY 10-13*
Non STP-U	*$262,900,300*	*$24,442,000*	*$238,458,300*	*Other Federally Funding Projects FY 13-35*
State Total	$122,028,539	$59,333,769	*$62,694,770*	
IDNR	*$0*	*$0*	*$0*	*No allocation of funds FY 10-13*
Improvements	*$105,975,290*	*$43,280,520*	*$62,694,770*	*Improvements through FY 2035*
O&M	*$16,053,249*	*$16,053,249*	*$0*	*O&M FY 10-35*
Local Total	$1,742,952,074	$1,739,044,131	$3,907,943	
Champaign County	$8,650,000	$8,650,000	$0	Based on current project cost shares
City of Champaign	$581,025,038	$581,025,038	$0	
Improvements	*$119,253,350*	*$119,253,350*	*$0*	*Improvement projections FY 10-35*
O&M	*$461,771,688*	*$461,771,688*	*$0*	*O&M projections FY 10-35*
City of Urbana	$216,504,018	$216,504,018	$0	
Improvements	*$49,350,000*	*$49,350,000*	*$0*	*Improvement projections FY 10-35*
O&M	*$167,154,018*	*$167,154,018*	*$0*	*O&M projections FY 10-35*
Village of Savoy	$28,345,018	$24,437,075	*$3,907,943*	Improvements, O&M FY 10-35
Improvements	*$10,338,898*	*$6,430,955*	*$3,907,943*	*Improvement projections FY 10-35*
O&M	*$18,006,120*	*$18,006,120*	*$0*	*O&M projections FY 10-35*
University of Illinois	$1,608,000	$1,608,000	$0	Project funding from TIP FY 2010-2013
CU-MTD	$817,800,000	$817,800,000	$0	
Improvements	*$17,400,000*	*$17,400,000*	*$0*	*Improvements FY 10-35 (State and Local Dollars)*
O&M	*$800,400,000*	*$800,400,000*	*$0*	*O&M through FY 2035*
Village of Bondville	N/A	N/A	N/A	No Information Available
Willard Airport	$75,000,000	$75,000,000	$0	*Projected funding based on FY 2010 budget*
Improvements	*$25,000,000*	*$25,000,000*	*$0*	
O&M	*$50,000,000*	*$50,000,000*	*$0*	
Private	$14,020,000	$14,020,000	$0	Project funding from TIP FY 2010-2013
Total	**$2,244,833,613**	**$1,895,519,900**	**$349,313,713**	

9.3 Fiscally Constrained Projects

Achieving the vision laid out for the future requires an in-depth look at the local area transportation system. We must recognize its strengths and weaknesses, determine what needs to be done to maximize system functionality, and find the resources to implement the ideas for the future. Many of the projects needed may not be implemented in the 25-year planning horizon given the budget forecast for that time period. This section provides a list of fiscally constrained projects that have either guaranteed or reasonably guaranteed funding over the next 25 years.

Financially constrained refers to projects where funding is either guaranteed or reasonably guaranteed to secure the completion of a transportation improvement. Projects which do not have identified sources of funding are not included in this section of the LRTP.

Fiscally Constrained Projects for 2035 - Regionally Significant Projects

As part of the LRTP, the Federal Highway Administration requires a listing of the fiscally constrained projects that are part of the overall vision for the urbanized area. The fiscally constrained regional projects are those that have either guaranteed or reasonably guaranteed funding secured for the completion of the project. Fiscally constrained projects are required to be identified separately from the other local projects in order to provide additional transparency to the public regarding funded transportation projects in the urbanized area. Within the urbanized area, there are nine regionally significant projects which are fiscally constrained.

1. I-74 widening from IL-47 to Prospect Avenue - This project widens and improves the segment of I-74 between IL-47 and Prospect Avenue from two lanes in each direction to three lanes in each direction. The added capacity will help reduce current congestion and deal with future demands on this section of the interstate. This project received funding through the 2010-2015 State Capital Bill.

2. Olympian Drive extension from east of Duncan Road to I-74 - This segment of Olympian Drive from east of Duncan Road to I-74 is proposed as an arterial roadway with off-street bicycle and pedestrian facilities. This project has already received some federal and state funding to help with engineering and construction.

3. Olympian Drive extension from Apollo Drive to US 45 - Olympian Drive, between Apollo Drive and US 45, is proposed as an arterial roadway and would also include off-street bike and pedestrian facilities. This project has already received some federal and state funding to help with engineering costs and construction.

4. Olympian Drive grade separation over CN railroad tracks - This project provides a grade separation over the CN railroad tracks for the extension of Olympian Drive between Apollo Drive and US 45.

5. IL-130 widening with medians from University Avenue to Windsor Road - This project widens and improves the segment of IL-130 between University Avenue and Windsor Road from the current two-lane section to a four-lane section with medians. This project will include a sidepath on the west side of IL-130. The project received a funding allocation for engineering and construction through the 2010-2015 State Capital Bill.

6. Florida Avenue extension to IL-130 - Currently, Florida Avenue ends just east of Abercorn Street in east Urbana. Florida Avenue does not intersect with IL-130, forcing traffic to use other east/west roadways such as Washington Street or Windsor Road for access to IL-130. The extension will also include an extension to the existing sidepath on the south side of Florida Avenue. Extending Florida Avenue will provide access to IL-130 and create a more efficient travel path for all modes of transportation. This project received local funding through the City of Urbana in the 2010-2013 TIP.

7. Windsor Road reconstruction from Philo Road to IL-130 - This project will reconstruct Windsor Road between Philo Road and IL-130 as a four-lane section with medians, and extensions east and west of the existing sidepath on the north side for bicyclists and pedestrians. This project will increase capacity on Windsor Road and ease current and future congestion. The reconstruction of Windsor Road is currently under construction but not yet completed.

8. Curtis Road improvements between Wesley Avenue and Wynstone Drive - This project improves Curtis Road, from Wesley Avenue to Wynstone Drive, to a four-lane roadway section with a sidepath on the north and south sides of the roadway. This improvement matches the segment of Curtis Road from the new I-57 interchange east to Wynstone Drive. This project is currently under construction.

9. High Capacity Transit Network - In the fall of 2009, CU-MTD instituted new high capacity transit routes to serve the core of the urbanized area where greater transit frequency was needed and warranted. These routes are currently being implemented. While not directly a roadway improvement project, it is a fiscally constrained transportation project that does promote mode shift and reduces automobile trips.

A map showing the regionally significant fiscally constrained projects is shown in Figure 8.3.

Fiscally Constrained Projects for 2035 - Local Transportation Projects

The local projects listed in the LRTP were derived from a variety of sources. The fiscally constrained Transportation Improvement Program (TIP), created by CUUATS and its member agencies, outlines transportation projects for the next four years. Another source is the fiscally constrained Capital Improvement Plans (CIP) created by the City of Champaign and City of Urbana. These CIPs identify infrastructure maintenance and improvement projects, typically for a 10-year time period. The TIP document will be used to determine the project list for the first four fiscal years (2010-2013) of the 25-year planning horizon for roadway projects. The CIPs will be used to determine the project list for fiscal years five through ten (2014-2019). The 2010-2015 State Highway Improvement Program will be used to determine state projects that fall within the urbanized area boundaries. The projects outlined in these documents will be prioritized above all others in the LRTP. The fiscally constrained roadway projects are shown in Tables 9.2 to 9.11.

Bicycling and walking projects were identified separately from roadway projects using the Champaign County Greenways and Trails Plan, the City of Urbana Bicycle Master Plan and the City of Champaign Transportation Master Plan. Bicycle and pedestrian projects were also taken from the TIP and CIPs for Champaign and Urbana. CUUATS staff, in conjunction with local agency staff, identified the fiscally constrained projects from these three plans for the years 2010-2015 to show which bicycle and walking projects have reasonably guaranteed funding over the next five years. The costs listed for each project reflect the total cost and not necessarily the cost to the agency listed. Some of the projects involve multiple agencies, and cost-sharing agreements will be put in place. These projects are shown in Tables 9.12 to 9.16 as well as in Figure 9.2. Tables 9.12 to 9.16 are organized by agency responsible, then fiscal year, then path type.

The implementation of the local projects described in the following tables are not the responsibility of CUUATS or the Champaign County Regional Planning Commission. These projects have been included in the LRTP to highlight local improvement projects that will enhance the quality of the overall transportation network and will help connect the local transportation network to the planned regionally significant improvements for the future.

Table 9.2 City of Champaign TIP (FY 10-13)

Fiscal Year	Project	From	To	Estimated Project Cost (in 1,000s)	Notes
2010	Asphalt Overlay 2009	Various	Various	$35.70	Rehabilitate Asphalt Streets
2010	Curtis Rd Interchange and Enhancements	Duncan	Staley	$53.29	New Interchange on I-57
2010	Neighborhood Street Rehab 2009	Various	Various	$377.15	Rehabilitate Local Streets
2010	PCC Patching 2009	Various	Various	$577.05	Rehabilitate Concrete Streets
2010	PCC Patching 2010	Various	Various	$194.47	Rehabilitate Concrete Streets
2010	Curtis Road	Wynstone	Wesley	$6,818.30	Widen, pave Curtis Road
2010	Kirby Avenue Asphalt Overlay	Prospect	Mattis	$125.00	Rehabilitation of Kirby Ave - Construction
2011	Curtis Rd Interchange and Enhancements	Duncan	Staley	$414.34	New Interchange on I-57
2011	PCC Patching 2010	Various	Various	$600.42	Rehabilitate Concrete Streets
2011	PCC Patching 2011-2019	Various	Various	$180.72	Rehabilitate Concrete Streets
2011	Curtis Road	Wynstone	Wesley	$1,519.93	Widen, pave Curtis Road
2011	Asphalt Overlay 2011-2019	Various	Various	$49.17	Rehabilitate Asphalt Streets
2012	Asphalt Overlay 2011-2019	Various	Various	$1,135.00	Rehabilitate Asphalt Streets
2012	PCC Patching 2011-2019	Various	Various	$882.43	Rehabilitate Concrete Streets
2013	Asphalt Overlay 2011-2019	Various	Various	$1,174.72	Rehabilitate Asphalt Streets
2013	PCC Patching 2011-2019	Various	Various	$913.31	Rehabilitate Concrete Streets
2013	Olympian Drive Extension	Apollo	US 45	$5,000.00	Engineering & ROW

Table 9.3 City of Urbana TIP (FY 10-13)

Fiscal Year	Project	From	To	Estimated Project Cost (in 1,000s)	Notes
2010	Asphalt Resurfacing 2010	Various	Various	$480.00	Mill and resurface various asphalt streets
2010	Boneyard Corridor Study & Design	Main	University	$500.00	Study & design redevelopment of Boneyard corridor
2010	Brick Sidewalk Maintenance	Various	Various	$25.00	Sidewalk repair & replacement
2010	Downtown Streetscape	Downtown TIF District		$400.00	Streetscape installation
2010	East Urbana Sanitary Sewer	University	S of Florida	$7,360.00	Interceptor sewer extension construction with pump station

Table 9.3 City of Urbana TIP (FY 10-13) (Cont.)

Fiscal Year	Project	From	To	Estimated Project Cost (in 1,000s)	Notes
2010	Florida Avenue Extension	High Cross	1/2 mi west of High Cross	$3,400.00	Street construction including 8' bike path and intersection work at High Cross
2010	Goodwin Avenue Reconstruction	N of Beslin	N of Eads	$1,000.00	Street reconstruction
2010	High Cross Road Improvement	University	Florida	$8,000.00	Widening and intersection improvements
2010	Parking Lot Maintenance	Various	Various	$350.00	Lot maintenance, reconstruction and construction
2010	Pavement Maintenance	Various	Various	$1,100.00	Street, sidewalks, alleys, maintenance and sealing
2010	North Lincoln Avenue Bridge	Saline Ditch		$2,000.00	Bridge replacement
2010	Railroad Bike Path	Broadway	McCullough	$330.00	Bike path construction
2010	Sanitary Sewer Remediation	Various	Various	$395.00	Sanitary sewer inflow/infiltration remediation
2010	Series Lighting Replacement	University District		$900.00	Series street lighting replacement
2010	Storm Sewer Repairs	Various	Various	$140.00	Storm sewer repairs
2010	University Avenue Corridor Study	Wright	Maple	$492.00	Corridor study and preliminary design work
2010	Windsor Road Improvement	Philo	High Cross	$150.00	Engineering services
2010	Windsor Road Improvement	Philo	High Cross	$260.00	Outside engineering services, ROW, easements
2011	Brick Sidewalk Maintenance	Various	Various	$25.00	Sidewalk repair & replacement
2011	Brick Street Pavement & Curb and Gutter Replacement	Various	Various	$880.00	Patch brick pavement and replace curb and gutter
2011	Broadway Avenue Reconstruction	University	Elm	$1,000.00	Street reconstruction including streetscape and bike lanes
2011	Broadway Avenue/Park Street Bike Path	Country Club	McCullough	$520.00	Bike path and sidewalk installation
2011	Cunningham Avenue Corridor Study	University	N City Limits	$2,300.00	Corridor study and enhancements
2011	Florida Avenue and Philo Road Signal	Florida	Philo	$200.00	Traffic Signal Modernization
2011	Main Street Improvement	Cedar	Scottswood	$2,170.00	Street resurfacing, bike lane, sidewalk ramps, and signal upgrade
2011	Park Street Reconstruction	Wright	Goodwin	$1,000.00	Street Reconstruction

Table 9.3 City of Urbana TIP (FY 10-13) (Cont.)

Fiscal Year	Project	From	To	Estimated Project Cost (in 1,000s)	Notes
2011	Pavement Maintenance	Various	Various	$805.00	Street, sidewalks, alleys, maintenance and sealing
2011	Race Street Reconstruction	Main	Park	$2,000.00	Street reconstruction and bridge replacement
2011	Sanitary Sewer Remediation	Various	Various	$395.00	Sanitary sewer inflow/infiltration remediation
2011	Series Lighting Replacement	University District		$250.00	Series street lighting replacement
2011	Sidepath Construction	Various	Various	$55.00	Sidepath construction
2011	Storm Sewer Repairs	Various	Various	$140.00	Storm sewer repairs
2011	Windsor Road Improvement	Philo	High Cross	$90.00	Engineering services
2011	Windsor Road Improvement	Philo	High Cross	$130.00	Outside engineering services, ROW, easements
2012	Asphalt Resurfacing 2012	Various	Various	$1,090.00	Mill and resurface various asphalt streets
2012	Brick Sidewalk Maintenance	Various	Various	$75.00	Sidewalk repair & replacement
2012	Boneyard Corridor Improvement	Main	University	$3,000.00	Study & design redevelopment of Boneyard corridor
2012	Pavement Maintenance	Various	Various	$355.00	Street, sidewalks, alleys, maintenance and sealing
2012	Provena Area Street Lighting Project	Wright	Lincoln	$800.00	Street lighting replacement
2012	Sanitary Sewer Remediation	Various	Various	$395.00	Sanitary sewer inflow/infiltration remediation
2012	Series Lighting Replacement	University District		$800.00	Series street lighting replacement
2012	Storm Sewer Repairs	Various	Various	$440.00	Storm sewer repairs
2012	Urbana Avenue Reconstruction	Main	Oregon	$825.00	Street reconstruction
2012	Windsor Road Improvement	W of Race	Philo	$6,600.00	Reconstruct/replace pavement and install signal at Race
2013	Asphalt Resurfacing 2013	Various	Various	$1,900.00	Mill and resurface various asphalt streets
2013	Brick Sidewalk Maintenance	Various	Various	$75.00	Sidewalk repair and replacement
2013	Mathews Avenue & Church Street Improvements	Church	N of Eads	$1,250.00	Street Reconstruction
2013	Parking Lot Maintenance	Various	Various	$480.00	Lot maintenance, reconstruction and construction
2013	Pavement Maintenance	Various	Various	$185.00	Street, sidewalks, alleys, maintenance and sealing
2013	Race Street & Windsor Road Signal	Race	Windsor	$200.00	Traffic signal installation
2013	Sanitary Sewer Remediation	Various	Various	$395.00	Sanitary sewer inflow/infiltration remediation

Table 9.3 City of Urbana TIP (FY 10-13) (Cont.)

Fiscal Year	Project	From	To	Estimated Project Cost (in 1,000s)	Notes
2013	Series Lighting Replacement	University District		$200.00	Series street lighting replacement
2013	Storm Sewer Repairs	Various	Various	$440.00	Storm sewer repairs
2013	Olympian Drive Extension	Apollo	US 45	$5,000.00	Engineering & ROW

Table 9.4 Village of Savoy TIP (FY 10-13)

Fiscal Year	Project	From	To	Estimated Project Cost (in 1,000s)	Notes
2010	East Church Street	Dunlap	First	$480.00	Roadway improvements
2010	Curtis Road	Wynstone	Wesley	$6,818.30	Widen, pave Curtis Road
2010	Prospect Avenue	Curtis	Corp. Limit	$320.00	Roadway reconstruction - design work
2011	Curtis Road	Wynstone	Wesley	$1,519.93	Widen, pave Curtis Road
2011	Prospect Avenue	Curtis	Corp. Limit	$2,241.00	Roadway reconstruction

Table 9.5 Champaign County TIP (FY 10-13)

Fiscal Year	Project	From	To	Estimated Project Cost (in 1,000s)	Notes
2010	Curtis Road	Wynstone	Wesley	$6,818.00	Widen, pave Curtis Road
2010	Windsor Road Improvement	Philo	High Cross	$150.00	Engineering services
2010	Windsor Road Improvement	Philo	High Cross	$260.00	Outside engineering services, ROW, easements
2010	North Lincoln Avenue Bridge	Saline Ditch		$2,000.00	Bridge replacement
2010	Monticello Road HSIP	US 45	Piatt Co.	$5,537.00	Safety Improvements
2011	Curtis Road	Wynstone	Wesley	$1,519.93	Widen, pave Curtis Road
2011	Windsor Road Improvement	Philo	High Cross	$90.00	Engineering services
2011	Windsor Road Improvement	Philo	High Cross	$130.00	Outside engineering services, ROW, easements
2013	Olympian Drive Extension	Apollo	US 45	$5,000.00	Engineering & ROW

Table 9.6 University of Illinois TIP (FY 10-13)

Fiscal Year	Project	From	To	Estimated Project Cost (in 1,000s)	Notes
2010	Maryland Drive Reconstruction	Kirby	Pennsylvania	$350.00	Reconstruction of street to a 2-lane concrete street
2010	Fourth Street Extension	St. Mary's	Hazelwood	$570.00	Install roundabout at Fourth and St. Mary's, extend Fourth as 3-lane roadway
2010	Series Lighting Replacement	University District		$900.00	Series street lighting replacement
2011	Series Lighting Replacement	University District		$250.00	Series street lighting replacement
2012	Asphalt Resurfacing 2012	Various	Various	$1,090.00	Mill and resurface various asphalt streets
2012	Series Lighting Replacement	University District		$800.00	Series street lighting replacement
2013	Series Lighting Replacement	University District		$200.00	Series street lighting replacement

Table 9.7 CU-MTD TIP (FY 10-13)

Fiscal Year	Project	Estimated Project Cost (in 1,000s)
2010	(9) 40' Low-Floor Hybrid Buses	$6,300.00
2010	(2) Bus Operator Training Simulators and Software	$500.00
2010	Facility Security Camera System	$500.00
2010	(10) Vans for ADA and Direct Service	$800.00
2010	New "White" Roof for Administration Bldg	$350.00
2010	Geothermal HVAC System in Administration Bldg	$200.00
2010	Traffic Signal Prioritization Project	$100.00
2010	(1) Tow Truck	$125.00
2010	Bus Garage Rapid Roll Doors	$100.00
2011-2013	(18) 40' Low-Floor Hybrid Buses	$13,230.00
2011-2013	Park and Ride/Child Care Facility 2	$5,000.00

Table 9.8 City of Champaign CIP (FY 10-19)

Fiscal Year	Project	From	To	Total Cost (in 1,000s)	More Notes
2010	Fourth and University Signal Upgrade	Fourth	University	$363.21	New signal at intersection
2010	North Prospect Avenue Circulation Improvements	Various	Various	FY10-12 = $590.22	Identifies, designs, and construction improvements for operations and safety
2010	Staley Road Improvements	Springfield	US 150	FY10-12 = $2,860.79	Identify and construct improvements on Staley
2010	University Avenue Pedestrian Improvements	Neil	Chestnut	FY10-11 = $1,821.49	New signals, bumpouts and median between Market and Chestnut
2010	Windsor and First Intersection Improvements	Windsor	First	$30.00	Intersection improvements to the north leg
2011	Duncan & Windsor Intersection Improvements	Duncan	Windsor	FY11-12 = $526.31	Turning lanes to the north and east legs
2011	University Avenue Pedestrian Improvements	University/Randolph Intersection		FY11-13 = $886.15	Striping, bumpouts and upgraded signals
2012	Duncan Road Resurfacing	Springfield	Windsor	FY12-13 = $453.45	Pave three or four lanes of Duncan, install curb, gutters, storm sewer, lights
2012	Neil Street Extension	Interstate	Olympian	$134.55	Construct extension of Neil Street
2013	University Avenue Pedestrian Improvements	Church/Randolph Intersection		FY13-15 = $962.92	Striping, bumpouts and upgraded signals
2013	Mattis Avenue Reconstruction	Curtis	Windsor	FY13-14 = $320.34	Reconstruct from oil & chip to new arterial (2-12′ lanes and 6′ shoulders)
2013	Prospect Avenue Reconstruction	Windsor	Savoy Corp. Limit	FY13-14 = $257.22	Pave 3-lane sections with curb, gutter, sidewalks and street lights
2014	Asphalt Overlay 2011-2019	Various	Various	FY14-19 = $6,151.46	Maintenance
2014	PCC Patching 2011-2019	Various	Various	FY14-19 = $6,036.74	Maintenance
2014	Annual Alley Maintenance 2011-2019	Various	Various	FY14-19 = $946.77	Maintenance
2014	Brick Surface Rehabilitation	Various	Various	FY14-19 = $2,376.65	Maintenance
2014	Bridge Maintenance	Various	Various	FY14-19 = $1,199.11	Maintenance

Table 9.8 City of Champaign CIP (FY 10-19) (Cont.)

Fiscal Year	Project	From	To	Total Cost (in 1,000s)	Notes
2014	Local Street Rehabilitation	Various	Various	FY14-19 = $5,630.84	Maintenance
2014	Neighborhood Street Rehabilitation	Various	Various	FY14-19 = $2,741.51	Maintenance
2015	Interstate Drive Extension	Neil	Market	$1,360.42	Extend Interstate Dr from Neil to Market
2015	Prospect Ave Widening Improvement	Interstate	Olympian	FY14-15 = $2,945.47	Widen Prospect to arterial standards from Interstate to Olympian
2015	University Avenue Pedestrian Improvements	Walnut/Main Intersection		FY15-17 = $1,126.76	Striping, bumpouts and upgraded signals

Table 9.9 City of Urbana CIP (FY 10-19)

Fiscal Year	Project	From	To	Total Cost (in 1,000s)	Notes
2010	Park Street Improvements	Wright	Goodwin	$1,000.00	Improvements to Park Street
2010	Traffic Signal Upgrade	Florida	Philo	$200.00	New traffic signal at intersection
2011	Brick Street Improvements	Broadway, Clark	Indiana, Michigan	$880.00	Brick street maintenance and curb and gutter repairs
2011	Concrete Street and Gutter Improvements	Various	Various	$220.00	Patching concrete streets and gutters
2011	Cunningham Avenue Sidepath	Country Club	City Limits	$300.00	Sidepath construction and outside engineering costs
2011	Florida Avenue Extension	High Cross	1/2 Mile west of High Cross	$1,800.00	Construct extension of Florida Avenue from High Cross to 1/2 mile west of High Cross
2011	Race Street Reconstruction	Main	University	$2,000.00	Reconstruct street, new bridge, upgrade rail crossing
2011	Washington Street Reconstruction	Philo	Dodson	$900.00	Reconstruct street
2011	Windsor Road Reconstruction	Philo	High Cross	$820.00	Reconstruct street to four lanes with sidepath
2011	Windsor Road Patching	Race	Philo	$100.00	Patch concrete street

Table 9.9 City of Urbana CIP (FY 10-19) (Cont.)

Fiscal Year	Project	From	To	Total Cost (in 1,000s)	Notes
2012	Cunningham Avenue Sidewalk	Country Club	N of Country Club	$300.00	Sidewalk on west side of roadway
2012	Gregory Street Improvements	Illinois	Nevada	$75.00	Curb bumpouts and bike lanes
2012	Oregon Street Improvements	Lincoln	Mathews	$150.00	Curb bumpouts and bike lanes
2012	Park Street Improvements	McCullough	Broadway	$125.00	Park Street improvements
2012	Race Street Improvements	Washington	Michigan	$400.00	Race Street improvements
2012	Urbana Avenue Improvements	Main	Oregon	$825.00	Urbana Avenue improvements
2012	Washington Street Improvements	Race	Walnut	$65.00	Washington Street improvements
2013	Anderson Street Improvements	Florida	Colorado	$200.00	Anderson Street improvements
2013	Lincoln Avenue Improvements	S. of Kenyon	Saline Branch	$600.00	Lincoln Avenue improvements
2013	Mathews Avenue Improvements	Church	S of Ellis	$1,250.00	Improvements to Mathews Avenue and Church Street (Mathews to Goodwin)
2013	Pond Street Improvements	McHenry	Scovill	$75.00	Pond Street improvements
2013	Tremont Street Improvements	Romine	Goodwin	$400.00	Tremont Street improvements
2014	Busey Avenue Improvements	Pennsylvania	Michigan	$450.00	Busey Avenue improvements
2014	Cunningham Avenue & Crystal Lake Drive Traffic Signal	Cunningham	Crystal Lake	$300.00	Traffic signal installation
2014	Green Street Improvements	Wright	Gregory	$1,000.00	Green Street improvements
2014	Traffic Signal Installation	Race	Windsor	$200.00	Install new signal at intersection
2014	Windsor Road Improvements	Race	Philo	$1,450.00	Windsor Road improvements
2015	Lincoln Avenue Widening	N. of Bradley	Kenyon	$1,100.00	Widen Lincoln Avenue
2015	Street Resurfacing	Various	Various	$250.00	Resurface streets
2016	Airport Road Reconstruction	Willow	Cunningham	$1,150.00	Reconstruct Airport Road
2016	Street Resurfacing	Various	Various	$1,250.00	Resurface streets
2016	Washington Street Bridge Replacement	Sunny Lane		$430.00	Bridge replacement
2017	Pavement Maintenance	Various	Various	$510.00	Pavement maintenance
2017	Street Resurfacing	Various	Various	$1,300.00	Resurface streets
2018	Pavement Maintenance	Various	Various	$185.00	Pavement maintenance
2018	Street Resurfacing	Various	Various	$1,300.00	Resurface streets
2019	Green Street Reconstruction	Lincoln	Race	$1,600.00	Reconstruct Green Street
2019	Hartle Street Improvements	Main	Green	$240.00	Improvements to Hartle Street
2019	O'Brien Drive Improvements	West Terminus	Willow	$500.00	Construction section of O'Brien Drive
2019	Pavement Maintenance	Various	Various	$380.00	Pavement maintenance
2019	Street Resurfacing	Various	Various	$300.00	Resurface streets

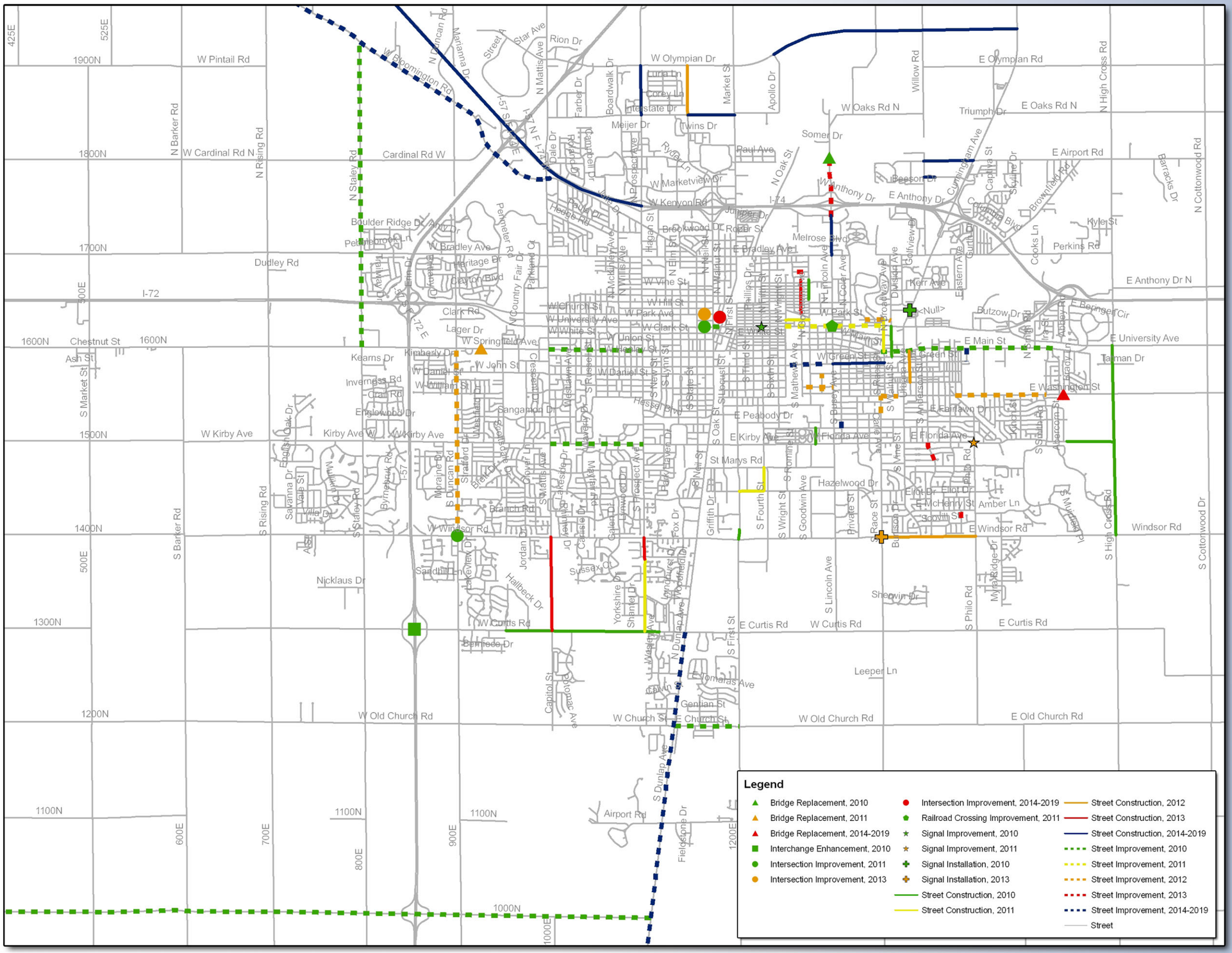
Table 9.10 State Capital Improvement Program (FY 10-15)

Fiscal Year	Project	From	To	Total Cost (in 1,000s)	Notes
2011-2015	Pedestrian Overpass at Curtis Road Interchange	Curtis Road	I-57	$1,000.00	Pedestrian overpass over I-57
2010	New I-74 Interchange in East Urbana	I-74 and Location TBD		$5,925.00	P.E. Phase I
2011	Railroad Crossing Improvement	US 150	Lincoln	$350.00	Railroad crossing improvement
2011	US 150 Resurfacing	Wright	Race	$1,245.00	Resurface US 150
2011-2015	IL 10 Bridge Replacement	Copper Slough W of Champaign		$910.00	Bridge Replacement
2011-2015	IL 10 Utility Adjustment			$50.00	Utility Adjustment
2011-2015	IL 10 Land Acquisition			$50.00	Land Acquisition
2011-2015	IL 130 Construction	US 150	Windsor	$2,500.00	Engineering and new construction of additional lanes
2011-2015	Fourth Street and Hazelwood Drive Extension	St. Mary's to Hazelwood	First to Fourth	$6,136.05	Extend Fourth Street and Hazelwood Drive
2011-2015	Olympian Drive	Duncan Rd	US 45	$5,000.00	New Construction
2010	I-74 Lane Additions	Prospect Ave	IL-47	$10,800.00	P.E. Phase I and Phase II
2013				$3,500.00	Land Acquisition
2011-2015				$2,700.00	Construction Engineering
2011-2015				$54,000.00	Construct additional lanes and bridge improvements
2011-2015	US 45 Resurfacing	Curtis Road	Tolono	$3,380.00	Resurface US 45
2011-2015	US 150 Resurfacing	Mattis Avenue	W. of Mahomet	$2,600.00	Resurface US 150

Table 9.11 Surface Transportation Program-Urban Funds (FY 13-35)

Fiscal Year	Project	From	To	STP-U Funding	Notes
2013	Olympian Drive	Apollo	Lincoln	$2,500.00	Engineering and Land Acquisition
Thru 2035	Olympian Drive	Lincoln	US 45	N/A	Construction of new roadway

Figure 9.1 Transportation Projects from TIP FY10-13 and CIP FY10-19



2035 CHOICES

Champaign-Urbana Urbanized Area Transportation Study

Long Range Transportation Plan

Table 9.12 City of Champaign Bike/Ped Projects

Project Name & Type	From (N/E)	To (S/W)	Mileage	Agency Responsible	Fiscal Year	Estimated Cost* (in $1,000s)
Boneyard Creek Second Street Reach	Martin Luther King Jr. Trail	Boneyard Creek Trail	0.91	Champaign	Under Constr.	$355.54
First Street Trail Extension	Gerty Dr	Windsor Rd	0.27	Champaign	Under Constr.	$30.85
Logan Street/Clark Street Bike Lanes	First St	Randolph St	0.35	Champaign	2010	$5.64
Randolph & State Streets Bike Lanes & Sharrows	Bradley Ave	Hessel Blvd	3.44	Champaign	2010-2011	$71.00
Champaign Bicycle Plan Implementation	Various	Various	-	Champaign	2010-2015	$521.36
Fourth Street HSIP Improvements	S of Green St	Armory Ave	0.29	Champaign	2011	$1,577.00
Fourth Street Bike Lanes	St. Mary's Rd	Windsor Rd	0.60	Champaign	2011	$4,165.39
Clark Street Bike Lanes	Randolph St	State St	0.09	Champaign	2011-2012	$2.33
Curtis Road Sidepath	Wesley Ave	Wynstone Dr	1.62	Champaign, County, Savoy	Under Constr.	$162.27

Table 9.13 Champaign Park District Bike/Ped Projects

Project Name & Type	From (N/E)	To (S/W)	Mileage	Agency Responsible	Fiscal Year	Estimated Cost* (in 1,000s)
Moreland Boulevard [corridor] Trail	S of Krebs Dr	Toalson Ln	0.13	CPD	2010	$50.79

Table 9.14 University of Illinois Bike/Ped Projects

Project Name & Type	From (N/E)	To (S/W)	Mileage	Agency Responsible	Fiscal Year	Estimated Cost* (in 1,000s)
St. Mary's Road Sidewalk & Bike Lanes	Oak St	Neil St	0.20	UIUC	2010	$147.78
UI Bike Path Reconstruction - N of Bevier Hall	Goodwin Ave	Mathews Ave	0.09	UIUC	2010	$40.00
Gregory Street Bike Route	Oregon St	Nevada St	0.07	UIUC	2012	$0.34
UIUC Sidepath Construction	Various	Various	-	UIUC	2012	$70.00

Table 9.15 Urbana Park District Bike/Ped Projects

Project Name & Type	From (N/E)	To (S/W)	Mileage	Agency Responsible	Fiscal Year	Estimated Cost* (in 1,000s)
South Ridge Park Path Resurfacing	Myra Ridge Dr	Myra Ridge Dr	0.64	UPD	2011	$300.00

Table 9.16 City of Urbana Bike/Ped Projects

Project Name & Type	From (N/E)	To (S/W)	Mileage	Agency Responsible	Fiscal Year	Estimated Cost* (in 1,000s)
Main Street Bike Lanes (E)	Scottswood Dr	Broadway Ave	1.73	Urbana	2010	$42.03
Main Street - Bike Lanes Study Area	Broadway Ave	Race St	0.08	Urbana	2010	$2.07
Main Street Bike Lanes (W)	Race St	Cedar St	0.03	Urbana	2010	$0.78
Philo Road Bike Lanes	Washington St	Pennsylvania Ave	0.84	Urbana	2010	$10.76
Race Street Bike Lanes	Pennsylvania Ave	Windsor Rd	1.17	Urbana	2010	$17.32
Washington Street Bike Lanes (W)	Philo Rd	Vine St	0.55	Urbana	2010	$7.17
Anderson Street Bike Route (N)	Oregon St	Florida Ave	0.64	Urbana	2010	$1.02
Anderson Street Bike Route (S)	Mumford Dr	South Terminus	0.46	Urbana	2010	$1.02
Busey Avenue Bike Route	Washington St	Iowa St	0.06	Urbana	2010	$0.34
Grove Street Bike Route	Main St	Oregon St	0.36	Urbana	2010	$0.68
Illinois Street Bike Route	Race St	Lincoln Ave	0.55	Urbana	2010	$1.02
Iowa Street Bike Route	Busey Ave	Lincoln Ave	0.08	Urbana	2010	$0.34
Mumford Drive Bike Route	Philo Rd	Race St	1.09	Urbana	2010	$1.70
Oregon Street Bike Route	Anderson St	Grove St	0.06	Urbana	2010	$0.34
Pennsylvania Avenue Bike Route	Vine St	Lincoln Ave	0.75	Urbana	2010	$1.02
Washington Street Bike Route	Vine St	Busey Ave	0.67	Urbana	2010	$1.02
Race Street Share the Road	Illinois St	Pennsylvania Ave	0.56	Urbana	2010	$1.02
Anderson Street Shared Bike / Parking Lanes	Florida Ave	Mumford Dr	0.55	Urbana	2010	$7.21
Pennsylvania Avenue Shared Bike / Parking Lanes	Anderson St	Vine St	0.25	Urbana	2010	$3.28
High Cross Road / IL 130 West Sidepath	University Ave	Windsor Rd	2.02	Urbana	2010	$789.21
Philo Road Sharrows	Colorado Ave	Windsor Rd	0.76	Urbana	2010	$2.89
Urbana Bicycle Master Plan Bike Lanes and Routes	Various	Various	-	Urbana	2010	$185.00
Urbana Bike Lane Striping and Maintenance	Various	Various	-	Urbana	2010	$25.00
Broadway Avenue Bike Lanes (N)	Park St	Elm St	0.40	Urbana	2011	$7.66
Florida Avenue Bike Lanes	Rutledge Dr	Vine St	1.21	Urbana	2011	$24.01
Kinch Street Bike Lanes	Washington St	Florida Ave	0.47	Urbana	2011	$8.83

Table 9.16 City of Urbana Bike/Ped Projects (Cont.)

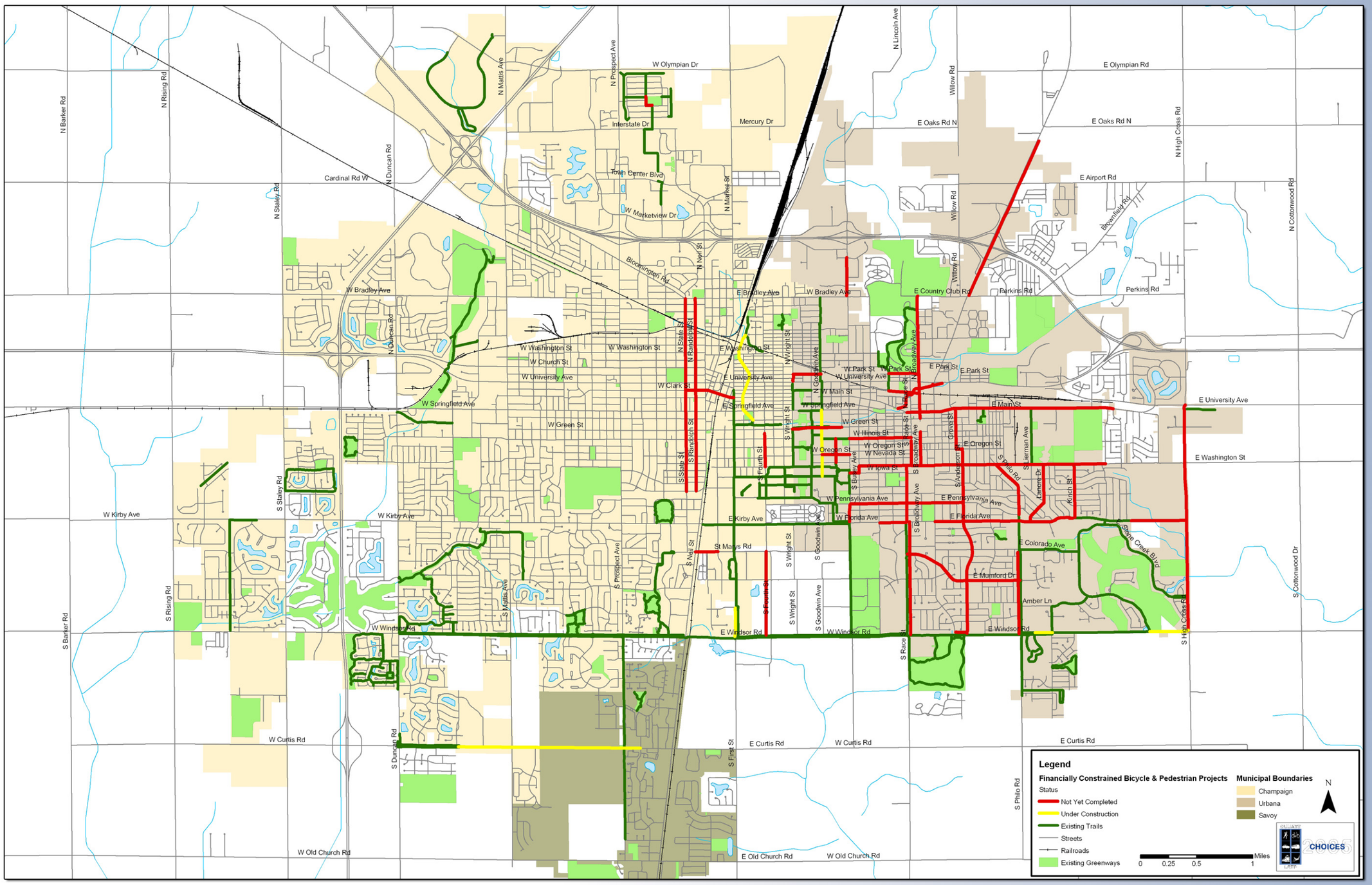
Project Name & Type	From (N/E)	To (S/W)	Mileage	Agency Responsible	Fiscal Year	Estimated Cost* (in 1,000s)
Washington Street Bike Lanes (E)	Dodson Dr	Philo Rd	0.97	Urbana	2011	$26.68
Park Street Bike Route	Goodwin Ave	Wright St	0.25	Urbana	2011	$0.34
Cunningham Avenue / US 45 East Sidepath	north city limits	Perkins Rd	1.51	Urbana	2011	$589.96
Florida Avenue Extension - Sidepath	High Cross Rd	Abercorn St	0.49	Urbana	2011	$191.44
Railroad Path	Broadway Ave	McCullough St	0.27	Urbana	2011	$605.59
Adams Street Bike Route	Fairlawn Dr	Florida Ave	0.16	Urbana	2011-2014	$0.34
Lanore Drive Bike Route	Washington St	South Terminus	0.36	Urbana	2011-2014	$0.68
Anderson Street Shared-Use Path to Windsor Road	South Terminus of Anderson St	Windsor Rd	0.01	Urbana	2011-2014	$205.00
Florida Avenue Sidepath Extension	Mid-block between Kinch St & Rutledge Dr	Rutledge Dr	0.03	Urbana	2011-2014	
Lanore-Adams Path	South terminus of Lanore Dr	Fairlawn Dr	0.04	Urbana	2011-2014	
Lincoln Avenue West Sidepath	Pennsylvania Ave	Florida Ave	0.15	Urbana, UIUC	2011-2014	
Windsor Road North Sidepath to Meadowbrook Park	Anderson St	Vine St	0.10	Urbana	2011-2014	
Wright Street East Sidepath	Park St	University Ave	0.06	Urbana	2011-2014	
Broadway Avenue Bike Lanes (S)	High St	Washington St	0.31	Urbana	2012	$5.82
Boneyard Creek Path (W)	Broadway Ave	Main St	0.22	Urbana	2012	$121.12
Urbana Bike Lane Striping and Maintenance	Various	Various	-	Urbana	2012	$25.00
Urbana Bike Lane Striping and Maintenance	Various	Various	-	Urbana	2013	$25.00
Boneyard Creek Path (E)	University Ave	Broadway Ave	0.31	Urbana	2014	$85.95
Urbana Bike Lane Striping and Maintenance	Various	Various	-	Urbana	2014	$25.00
Lincoln Avenue West Sidepath	Killarney St	Bradley Ave	0.34	Urbana	2015	$132.84

Table 9.16 City of Urbana Bike/Ped Projects (Cont.)

Project Name & Type	From (N/E)	To (S/W)	Mileage	Agency Responsible	Fiscal Year	Estimated Cost* (in 1,000s)
Urbana Bike Lane Striping and Maintenance	Various	Various	-	Urbana	2015	$25.00
Windsor Road North Sidepath Extension	High Cross Rd	Stone Creek Blvd	0.34	Urbana, County	Under Constr.	$50.00
Windsor Road North Sidepath Completion	Myra Ridge Dr	Boulder Dr	0.15	Urbana, County	Under Constr.	$19.00
Goodwin Avenue Bike Lanes	Springfield Ave	Gregory Dr	0.59	Urbana, UIUC	Under Constr.	$12.00
Gregory Street Bike Lanes	Illinois St	Oregon St	0.14	Urbana, UIUC	2012	$3.63
Oregon Street Bike Lanes	Lincoln Ave	Goodwin Ave	0.25	Urbana, UIUC	2012	$6.48
Green Street Bike Lanes	Gregory St	Wright St	0.51	Urbana, UIUC	2014	$8.73
Florida Avenue South Sidepath	Race St	Orchard St	0.23	Urbana, UIUC	2015	$89.86
Broadway Avenue West Sidepath	Country Club Rd	Park St	0.70	Urbana, UPD, Carle	2011	$273.49
Park Street North Sidepath	Broadway Ave	McCullough St	0.27	Urbana, UPD, Carle	2011	$105.49

*Estimated costs are not necessarily to be paid solely by the agency listed as responsible for the project. Cost shares may occur for some improvement projects.

Figure 9.2 Fiscally Constrained Bicycle & Pedestrian Projects (FY 2010-2015)



10 Implementation

Implementing the LRTP is not only about completing all the projects identified in the plan. During each step of plan implementation, progress must be made to achieve the benchmarks outlined through the eight SAFETEA-LU planning factors, and the associated goals, objectives, and strategies. When implementing the plan, adjustments may be needed to complement changes in local conditions, whether these are anticipated or not. Proactive planning must be used to foresee these changes as time progresses so immediate reactionary measures are lessened or eliminated. The success of this plan depends on the effort local agencies and residents put into its implementation.

10.1 Upcoming Tasks

Plan implementation also involves certain "housekeeping" tasks that can be considered on two levels: project-related implementation, and concept-related implementation. These tasks are as necessary as fulfilling our goals and objectives and constructing road projects.

Project-Related Implementation

- Review Project Priorities Periodically: Projects in the LRTP have undergone an initial prioritization process; this prioritization should be reviewed periodically to include new projects and change priorities if new funding or information becomes available. This can be aided by continuing to complete the Transportation Improvement Program every year.

- Geographically Unite Nearby Projects: Attempts should be made during initial project prioritization and in later revisions to unite geographically adjacent projects. If an on-street bike lane is planned on the same road where widening will occur, these projects should be joined in order to save money and time.

- Keep a Record of Prioritized Projects and Their Implementation: As a benchmark for completing the plan, project lists should be reviewed with each five-year update of the LRTP. A progress map should be included in each subsequent LRTP update to show project progress during each five-year period.

- Seek New Funding Resources: Local agencies should continually seek new funding sources for those projects that do not currently have funding. When the new federal transportation bill is enacted, local agencies should determine potential funding sources and pursue projects that fit the intent of the new bill.

Concept-Related Implementation

- Complete Benchmarks from Plan: Measures of Effectiveness are based on the LRTP goals and objectives as well as the project lists; they are measurable events that signify success or failure. Every effort should be made to update data sets related to the MOEs and LRTP each year.

- Update Plan: By federal law, the LRTP must be updated at least every five years. New information relevant to the transportation system, funding or specific projects can be cause for amending the LRTP prior to the five-year update.

- Determine Responsible Parties: Each benchmark and transportation project requires participation by different local, regional, state, and federal agencies. All parties involved should be clear on their responsibilities in implementing the LRTP, and should act upon them accordingly.

- Monitor Area Development: While the LRTP is based on local agencies' most available knowledge at the time of writing, many new developments may occur while other anticipated developments may not occur on time or at all. Decision-making processes and future updates to the plan should reflect these changes.

- Evaluate Change: Proactive planning should be utilized to anticipate changes to the transportation network. Where unanticipated changes occur, local agencies should assess how unanticipated changes will affect the transportation system, and react to those changes logically and efficiently.

- Revise Forecasts: Population and employment forecasts should be revised with each five-year LRTP update or when it is clear that a development that was not anticipated in the previous LRTP will have a significant impact on the transportation system. If a decennial Census takes place between LRTP updates, adjustments may be made to the LRTP through an amendment process if necessary.

- Update Model: The CUUATS Transportation Model must be updated as continually as staff and funding permit. Updated traffic volumes, population forecasts, employment forecasts, and other inputs are essential elements to an accurate working model. A mode choice component for the model should be integrated as soon as possible to more accurately reflect future walking, biking and transit trips.

- Seek Funding for Implementation: Some of the goals and objectives will require significant staff time or other inputs to be completed. Funding must be sought for both transportation projects and concepts implementation.

10.2 Successful Plan Implementation: Obstacles to Overcome

Bringing the projects and concepts in this plan to fruition will require public officials, local government staff and residents to seek a fresh perspective on how our community functions and how they want it to function. Maintaining our current development patterns will create a system that has longer travel times, more roadways with congestion, and fewer opportunities to promote mode shift. Diverging from the status quo requires openness to new ideas.

This plan has outlined ideas for improving the transportation system in ways that benefit residents on economic, social and environmental levels. In order to realize these benefits, there are numerous obstacles that must be overcome.

1. Organizing Urban Development to Improve Travel Conditions: Traveling between home and work, shopping, and entertainment centers often requires a lengthy journey that can be more difficult without a car. By creating denser mixed-use areas in the community, we can increase the share of trips made using active modes of transportation. This development pattern allows residents to walk, bike or use short-distance and timely public transit to travel between these activity centers. This will remove cars from the roadways, reduce congestion and lessen the need for new roadway expenditures. Focusing development within the existing municipal boundaries will reduce greenfield development and expenditures made for service extensions and roadway improvements.

   Obstacle: Current land use policies provide incentives for mixed-use development and higher densities, but these incentives are weak in comparison to the impacts of federal and state lending programs, transportation subsidies and land use and zoning policies that promote lower density, segregated development. Stronger incentives and procedural changes can help address this obstacle.

   Obstacle: New development occurs on a project by project basis and current development standards do not adequately provide integrated pedestrian, bicycle, transit, and motor vehicle facilities with those on adjacent sites. Site reviews for new development should include steps to ensure connectivity for active modes of transportation. New developments on existing transit routes should include walking and/or biking connections to transit stops. Site design and development standards need to be reviewed and improved cooperatively by the relevant jurisdictions in the urbanized area.

   Obstacle: Consumer preferences, market forces and government policies creating incentives and disincentives can determine how a community develops. For the most part, these forces (e.g. interest rates, overall economic growth, state and federal subsidies) are beyond local control. Local government policies can mitigate the impact of these forces when carefully targeted and can exacerbate them if they are ill considered. Relevant policies are not just the familiar land use regulations but also include building regulations, taxes, economic development policies and, of course, direct public investment in infrastructure and services. Local governments in the urbanized area need to evaluate the impacts of all their decisions as they affect urban form and development to ensure they create no

barriers to and effectively encourage compact, dense, mixed-use, transit-friendly development.

2. Relationship between Economic Growth and Transportation Capacity: If a transportation system cannot adequately support residents, businesses and institutions, economic growth can be hampered. This in turn negatively affects quality of life and the vitality of a community. Links between investment in new transportation capacity and economic growth need to be analyzed to ensure decisions are in the best interest of the community.

   Obstacle: Economic development considerations sometimes focus on short-term payoffs at the expense of established plans and long-term costs. The goal of economic growth is sometimes sought without consideration for the transportation infrastructure that would be needed to adequately service the area. Local government officials need to plan and provide for adequate transportation infrastructure in order to have new development occur in an efficient and cost effective fashion rather than the current pattern of building infrastructure for specific projects. This would ensure logical planning and efficient expenditure of tax revenues. Requests for incentives or assistance that are inconsistent with established plans should be subjected to close scrutiny and evaluated for their net benefits over the long term.

3. Shifting Travel Modes: The vision for 2035 calls for an increase in active modes of transportation and a decrease in personal vehicle use. This shift in mode choice would take some cars off the roadways, thus decreasing congestion, lessening air pollution and reducing the need for additional roadway expenditures. In order for residents to change their travel habits, facilities for active modes of transportation must become more accessible, affordable and efficient.

   Obstacle: With the recent increases in fuel prices, people are looking for an inexpensive transportation mode that is as convenient as a car. Local transit agencies need to continue to service the needs of existing development as well as extending service to new development. Transit service must become more time efficient by offering more high capacity routes and express service routes along major corridors which can directly link residential developments to large employers. Funding for pedestrian and bicycle projects tend to lose priority behind roadway projects. Local agencies must also continue to construct more pedestrian and bicycle facilities to improve connectivity and safety.

   Obstacle: Current development patterns make people dependent on their cars. Some land use policies and ordinances regulating development make suburban style development an easier and more cost-effective option, making it more difficult to incorporate higher density development into the current mix. Higher density development makes use of active transportation more accessible by reducing walking, biking and transit distances. Local land use policies could strengthen existing incentives for higher density in both the core and fringe of the urbanized area.

   Obstacle: The existing public transit system must continue to keep pace with projected growth. Higher capacity public transit routes will need to be expanded as development and densities increase through the urbanized area. Expanding the current transit system with new technologies and strategies would require significant public investment over an extended period of time; how much funding local transit agencies are able to secure will determine how effective our public transit system is.

   Obstacle: Adding active transportation mode facilities to the existing roadway network, such as public transit stops, bike paths and sidewalks, can be difficult due to limited space on or adjacent to existing roadways and a lack of dedicated funding sources. These facilities could be a deciding factor in whether or not a person drives their car or uses another transportation mode. When feasible, residents should be open to providing right-of-way or allowing easements on their properties when such facilities are deemed necessary for the proper functioning of the local transportation system. These facilities should be added where possible during new construction or the reconstruction of existing roadways to create Complete Streets.

4. Increasing Transportation Capacity through Corridor Management: Major arterial routes that traverse the urbanized area need to operate under conditions that guarantee drivers a high level of mobility and safety. CUUATS Access Management Guidelines provide a tool for implementation that considers elements such as location and spacing of at-grade intersections with other roadways, location and configuration of medians, location and spacing of private

driveways, etc. Since major highway corridor improvements can be costly, implementation of corridor management strategies are critical to preserve public investment in roadways and improve capacity.

Obstacle: Corridor management can be challenging because it involves both transportation and land use issues. Some development typologies, such as drive-thrus, may require two access points in close proximity to one another to account for vehicle queues and stacking. Closing access points for these types of businesses may not be an option in certain corridors. Negotiating with business owners and property owners to close access points can also be difficult because a perception exists that more access points mean more business, and closing them will turn customers away. Access management should be included as part of roadway projects in high traffic corridors to complete construction on the roadway and close access points where possible all at the same time. This will save time and money and reduce the disturbance to businesses along the corridor. State and local agencies should work together on corridor management plans and enter into intergovernmental agreements during roadway projects involving both jurisdictions.

Obstacle: Since land development is primarily a private sector activity regulated by the public sector, stakeholder education and involvement is also critical to success. The metropolitan planning organization (CCRPC) can play an important role as a liaison between all parties.

5. Making the Local Area Transportation System Easier to Use: Transportation system users benefit from standardized signage, markings and facilities while traveling. Staff has developed several sets of guidelines that, if implemented, would make our roadways and pedestrian/bicycle facilities safer and more user friendlier. Accessible Pedestrian Signals guidelines show how, where and why to install these signals that assist visually impaired persons in crossing the street. Guidelines for standardized streetscaping in the University District were developed as part of the Campus Area Transportation Study (CATS). Staff created Crosswalk Guidelines for the University District to help designate where and under what conditions standardized crosswalks for bicyclists and pedestrians in the University area should be installed. Finally, staff completed standards and design guidelines for the Greenways and Trails Plan to encourage standardized signage, markings and design for pedestrian and bicycle facilities.

   Obstacle: Consensus building among local government and private agencies to implement the guidelines is difficult because each jurisdiction likes having a unique identity. Standards that are inconsistent between agencies can lead to confusion for transportation system users. Local regulations also contribute to developing and implementing any standards; sometimes changes in municipal codes are required if new standards are to be introduced. In addition, funding for implementation of multi-jurisdiction standards is not always available from all agencies at the same time.

   Obstacle: Educating the public about standardized signage and markings is difficult, especially in the University District, where the resident population changes yearly. Education must reach many diverse people and groups, and extend over a fairly long period of time in order to be effective. Funding for educational efforts at such a large scale can be difficult to find.

   Obstacle: The different guidelines established by CUUATS need to be updated on a regular basis to account for changes in standards, techniques and new technology. Time and money can be difficult to budget for such updates, but are a necessary component in keeping local standards in the urbanized area current with national standards.

Conclusion

Traveling in the Champaign-Urbana-Savoy-Bondville urbanized area is generally an easy experience, with a choice of several transportation modes and no destination more than 20 minutes from any point of origin. Some areas of the community are easier to navigate than others, and some transportation modes are more convenient than others. Through the implementation of this Long Range Transportation Plan, the hope is to make the system more connected, convenient, accessible, and efficient for all users.