CHAMPAIGN COUNTY rpc REGIONAL PLANNING COMMISSION

CUUATS
Champaign Urbana
Urbanized Area Transportation Study

Long Range Transportation Plan

Sustainable Choices 2040

December 2014

Plan Prepared By:

CUUATS Staff at the Champaign Urbana Urbanized Area Transportation Study (CUUATS),

rpc a program of the Champaign County Regional Planning Commission (CCRPC)

In Cooperation with CUUATS Member Agencies:

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RESOLUTION TO APPROVE THE FINAL
CHAMPAIGN-URBANA LONG RANGE TRANSPORTATION PLAN: SUSTAINABLE CHOICES 2040
FOR THE CHAMPAIGN-URBANA URBANIZED AREA TRANSPORTATION STUDY (CUUATS)

WHEREAS, the Champaign County Regional Planning Commission (CCRPC) is the designated Metropolitan Planning Organization (MPO) for the Champaign-Urbana Urbanized Area which includes the cities of Champaign and Urbana, the villages of Savoy, Tolono and Bondville, Champaign County, the University of Illinois and the Champaign-Urbana Mass Transit District; and

WHEREAS, it is the responsibility of the MPO, in conjunction with the State, to certify that the transportation planning process complies with all applicable federal laws and regulations; and

WHEREAS, the Champaign-Urbana Urbanized Area Transportation Study (CUUATS) is the transportation program of the Champaign County Regional Planning Commission (CCRPC); and

WHEREAS, a Long Range Transportation Plan (LRTP) is required by the U.S. Department of Transportation (DOT) and was developed by the MPO for the Champaign-Urbana metropolitan planning area in conjunction with the CUUATS Technical and Policy Committees and stakeholders including local, state, federal, transit, and the public; and

WHEREAS, CUUATS provided the public with early and continuous opportunities for public participation throughout the 30-month development of the *Champaign-Urbana Long Range Transportation Plan: Sustainable Choices 2040;* and

WHEREAS, the Draft *Champaign-Urbana Long Range Transportation Plan: Sustainable Choices 2040* was approved by the CUUATS Technical and Policy Committees on September 10th, 2014; and

WHEREAS, the Draft *Champaign-Urbana Long Range Transportation Plan: Sustainable Choices 2040* was presented for review and comments to the CCRPC on September 26th, 2014; and

WHEREAS, the *Champaign-Urbana Long Range Transportation Plan: Sustainable Choices 2040* provides a comprehensive plan to guide multi-modal transportation improvements in the Champaign-Urbana metropolitan planning area over a 25-year planning horizon;

NOW, THEREFORE, BE IT RESOLVED, that the CCRPC Board approves the *Champaign-Urbana Long Range Transportation Plan (LRTP): Sustainable Choices 2040.*

Passed and approved this 21st day of November 2014.

ATTEST:
Laurel L. Prussing
Chair, Regional Planning Commission Board

CHAMPAIGN COUNTY rpc REGIONAL PLANNING COMMISSION

CUUATS
CHAMPAIGN URBANA URBANIZED AREA TRANSPORTATION STUDY

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RESOLUTION TO APPROVE THE LONG RANGE TRANSPORTATION PLAN: SUSTAINABLE CHOICES 2040 FOR THE CHAMPAIGN-URBANA URBANIZED AREA TRANSPORTATION STUDY (CUUATS)

WHEREAS, the Champaign-Urbana Urbanized Area Transportation Study, in cooperation with the Illinois Department of Transportation, has a continuing, comprehensive, and cooperative (3C) planning process for transportation planning in compliance with Federal regulations for the urbanized area;

NOW, THEREFORE, BE IT HEREBY RESOLVED, that the Technical Committee of the Champaign-Urbana Urbanized Area Transportation Study approves the final Long Range Transportation Plan: Sustainable Choices 2040.

Passed and approved this 3rd day of December 2014.

ATTEST: _____
Pam Voitik
Chairperson, CUUATS Technical Committee

CHAMPAIGN COUNTY rpc REGIONAL PLANNING COMMISSION

CUUATS
CHAMPAIGN URBANA URBANIZED AREA TRANSPORTATION STUDY

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RESOLUTION TO APPROVE THE LONG RANGE TRANSPORTATION PLAN: SUSTAINABLE CHOICES 2040 FOR THE CHAMPAIGN-URBANA URBANIZED AREA TRANSPORTATION STUDY (CUUATS)

WHEREAS, the Champaign-Urbana Urbanized Area Transportation Study, in cooperation with the Illinois Department of Transportation, has a continuing, comprehensive, and cooperative (3C) planning process for transportation planning in compliance with Federal regulations for the urbanized area;

NOW, THEREFORE, BE IT HEREBY RESOLVED, that the Policy Committee of the Champaign-Urbana Urbanized Area Transportation Study approves the final Long Range Transportation Plan: Sustainable Choices 2040.

Passed and approved this 10th day of December 2014.

ATTEST: _____
Dave Clark (Proxy)
Chairperson, CUUATS Policy Committee

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Executive Summary

EXECUTIVE SUMMARY

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 urbanized area as delineated by the 2010 U.S. Census. It looks at a 25-year Metropolitan Planning Area (MPA), shown on the following page, which encompasses land outside the urbanized area that is likely to be included in the urbanized area between the years 2015 and 2040. The LRTP looks at the projected evolution of pedestrian, bicycle, bus transit, automobile, 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 that 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 and attempts to bring multiple jurisdictions together under one common vision. The LRTP: *Sustainable Choices 2040* focuses on increasing the mobility of area residents and the connectivity of the entire transportation system in order to provide residents greater access to services and facilities and to create a more efficient travel network.

As a community transportation policy document, LRTP: *Sustainable Choices 2040* helps guide the direction for future investments and enhances the findings of LRTP: *Choices 2035*, Champaign-Urbana's previous LRTP. It uses improved modeling tools and a dramatically expanded public involvement campaign to more clearly define the region's transportation issues and identify strategies to address them.

LRTP Mission

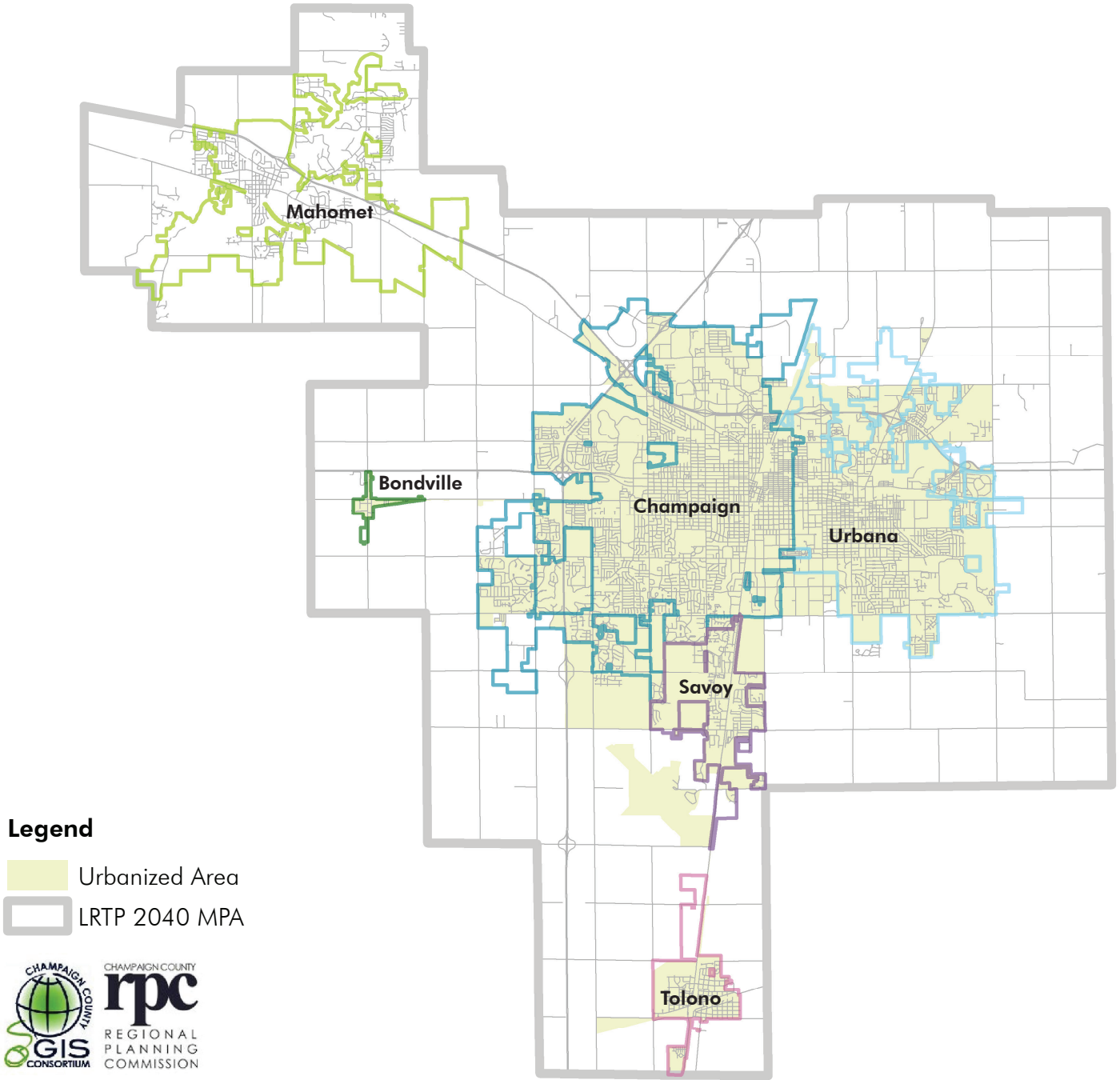
To provide a safe, efficient, and economical transportation system that optimizes and enhances the existing infrastructure to promote mobility, accessibility, economic development, and physical health for all users.

The Champaign Urbana Urbanized Area Transportation Study (CUUATS) is the transportation entity of the Champaign County Regional Planning Commission (CCRPC), which is the Metropolitan Planning Organization (MPO) responsible for administering the federally mandated transportation planning process for the Champaign-Urbana urbanized area. CUUATS staff is responsible for updating the LRTP every five years, as well as other federally mandated transportation planning documents. The member agencies of CUUATS are the City of Champaign, the City of Urbana, the Village of Savoy, the University of Illinois, the Champaign Urbana Mass Transit District (CUMTD), Champaign County, and the Illinois Department of Transportation (IDOT).

CHAMPAIGN COUNTY rpc REGIONAL PLANNING COMMISSION

CUUATS

Champaign-Urbana Urbanized Area and Metropolitan Planning Area



PERFORMANCE MEASURES ARE CALCULATED ANNUALLY AND PRESENTED TO CUUATS MEMBER AGENCIES FOR ONGOING PROGRAM EVALUATION.

Existing Conditions Findings

- Land development patterns between 2009 and 2011 show that while **both population and residential density** have decreased since 1990, both measures **have leveled or increased in the Metropolitan Planning Area since 2009** (Chapter 4).
- The **urbanized area continues to meet air quality attainment status,** and **water quality measurements remain mixed though negative overall** (Chapter 6).
- The number of **people utilizing active modes of transportation to get to work (walking, biking, and public transportation) has increased** in the MPA between 2000 and 2011, while the number of people driving alone to work has decreased during the same time period (Chapter 7).
- The total mileage of **bicycle facilities has risen by 29%** in the urbanized area between 2009 and 2012 (Chapter 7).
- Between 2005 and 2011, the number of **crashes per 100 million VMT in Champaign-Urbana has steadily decreased** and remains lower than the statewide rates (Chapter 7).
- **C-U MTD annual ridership has increased 22% since 2009**. In addition, the C-U MTD service area covered 94% of all residential land uses in the urbanized area compared with 88% in 2009 (Chapter 7).
- **Amtrak ridership from Illinois Terminal has increased 38%** since 2009 (Chapter 7).

Performance Measures

The federal transportation legislation, Moving Ahead for Progress in the 21st Century (MAP-21), requires MPOs to develop a performance-based approach to transportation decision-making to support the seven national goals of the federal aid highway program. Since 2004, CUUATS has been tracking data-driven performance measures to monitor progress toward specific goals and objectives related to transportation, land use development, safety, mode choice, accessibility, and environmental health as delineated in previous LRTP documents. With that foundation, CUUATS staff has identified new performance measures and associated targets to reflect the vision and goals of the LRTP: *Sustainable Choices 2040* (Chapter 9). Performance measures are calculated annually and presented to CUUATS member agencies for ongoing program evaluation (2014 Report Card excerpt on following page).

The *Sustainable Choices 2040* goals, objectives, and performance measures have been developed around **six planning pillars** (listed on the following page and detailed further in Chapter 8) that summarize the existing conditions data collection (Chapters 2-7). They reflect over 1,000 pieces of input from the public regarding the existing conditions in the community and community goals for the future (Appendix A). These planning pillars, goals, objectives, and performance measures capture the current use and maintenance of the regional transportation system as well as its relationship with issues such as fluctuating energy costs, climate change, environmental preservation, and public health. The overarching pillars are supported in the transportation realm by planning goals that federal, state, and local area transportation and land use plans share.

LRTP 2035 Report Card, (page 6)

MOE Summary

2

MOE Summary

LAND USE MOEs

Population Density and Land Area

Positive

This MOE receives a positive rating because Urbana, Champaign, Savoy, and Bondville all have increased densities from 2009 to 2013. In addition, there was a slight increase in the amount of total land area of the Cities of Champaign and Urbana in 2012 compared to 2009.

Acreage per Land Use Category

Neutral

Available data indicates an increase of agricultural land from 2009 to 2013. New data also suggests a shift in acreages in the Open Space categories towards public open space and away from private open space. This MOE receives a neutral rating until data inconsistencies can be corrected.

Environmental MOEs

Air Quality

Neutral

This MOE receives a neutral rating because of the mixed results in our region. Although Particulate Matter and Ozone 1-hour pollutant levels have decreased in measurements and were safely below state standards, Ozone 8-hour level measurements were above the state standard for the second year in a row. Despite this, the urbanized area continues to be an Illinois Air Attainment Area.

Water Quality

Negative

This MOE receives a negative rating because of the mixed and slightly worsened results in our region. In 2008, portions of the Kaskaskia River and Copper Slough were fully supporting aquatic life. In 2012, the Saline Branch and Embarras River improved in water quality to support aquatic life. However, a portion of the Kaskaskia River and a portion of the Copper Slough no longer support aquatic life and Crystal Lake has been deemed to be Not Supportive of fish consumption.

Wetlands

Positive

This MOE receives a positive rating because of the 0.55% increase in the amount of wetland acreage in the urbanized area since 2009 and no loss of wetlands since the previous LRTP update.

MOE SUMMARY

6 CUUATS LRTP *Choices 2035*

MOE = "Measure Of Effectiveness", also referred to as "performance measure"

Sustainable Choices 2040 Planning Pillars

Safety and Security

- Traffic safety
- Emergency evacuation
- Commodity flows
- Food security

Balanced Development

- Historic preservation
- New construction
- Infill development
- Environmental preservation

Multimodal Connectivity

- Provision and coordination of different transportation modes to get everywhere

Accessibility and Affordability

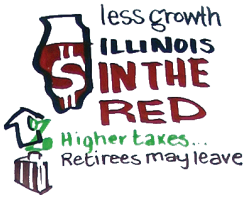
- Equal access
- Equity
- Diversity
- Education

Healthy Neighborhoods

- Public health
- Mixed use, compact development
- Ecology
- Recreation

Resilient Economy

- Diverse economy
- Infrastructure
- UIUC/Parkland College
- Financial stability



Sustainable Choices 2040 Vision

LRTP: *Sustainable Choices 2040* aims to acccommodate projected population and employment growth by focusing urbanized area transportation investments on improving core **accessibility**, arterial **mobility**, and regional **connectivity**. In the core of the community - around the City of Champaign downtown, the City of Urbana downtown, and the University Avenue corridor connecting the downtowns and the campus - the vision emphasizes complete streets* to increase accessibility and safety for active modes of transportation: walking, biking, and transit. This includes improving connectivity for the sidewalk and bicycle networks and also increasing the coverage and frequency of public transit. In addition, mobility and safety can be increased by more efficiently serving some of the current automobile and freight traffic on an enhanced arterial network. The enhanced arterial network would be designed as complete streets to improve auto and freight mobility while also accommodating pedestrians, bikes, and transit. It would be connected to the core via main corridors and arterials such as Windsor Road, Florida Avenue, University Avenue, Bradley Avenue, Lincoln Avenue, Neil Street, Prospect Avenue, and Mattis Avenue. Regional connectivity is represented by the existing train corridors where the vision recommends higher Amtrak frequency and eventual installation of a separate high speed rail corridor. In addition, the map shows the rails-to-trails project connecting east to Kickapoo State Park and west to Bloomington, as well as vehicle access to Interstates 57, 72, and 74.

The vision's purpose is to encourage discussion about how residents, travelers, and local agencies can work together to provide a transportation network that will suit the needs of all users in the year 2040. The vision is also meant to help define larger land use and transportation principles that are keys to growing a more healthy and sustainable urbanized area.

* Complete Streets are streets designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. There is no singular design prescription for Complete Streets; each one is unique and responds to its community context (www.smartgrowthamerica.org).

Funded Future Projects of Regional Significance

- Multimodal Corridor Enhancement Project: Complete streets reconstruction for Armory Avenue from Wright Street to Fourth Street; Wright Street from White Street to Armory Avenue; Green Street from Wright Street to Lincoln Avenue and Neil Street to Fourth Street; and White Street from Wright Street to First Street
- Lincoln Avenue northern extension to Olympian Drive (Complete Street)
- Prospect Avenue Complete Street Reconstruction from Curtis Road to Windsor Road
- I-74/I-57 Interchange Reconstruction (Phase 1 and Phase 2)
- Kickapoo Recreational Trail from Urbana to Danville (Rails-to-Trails Project)

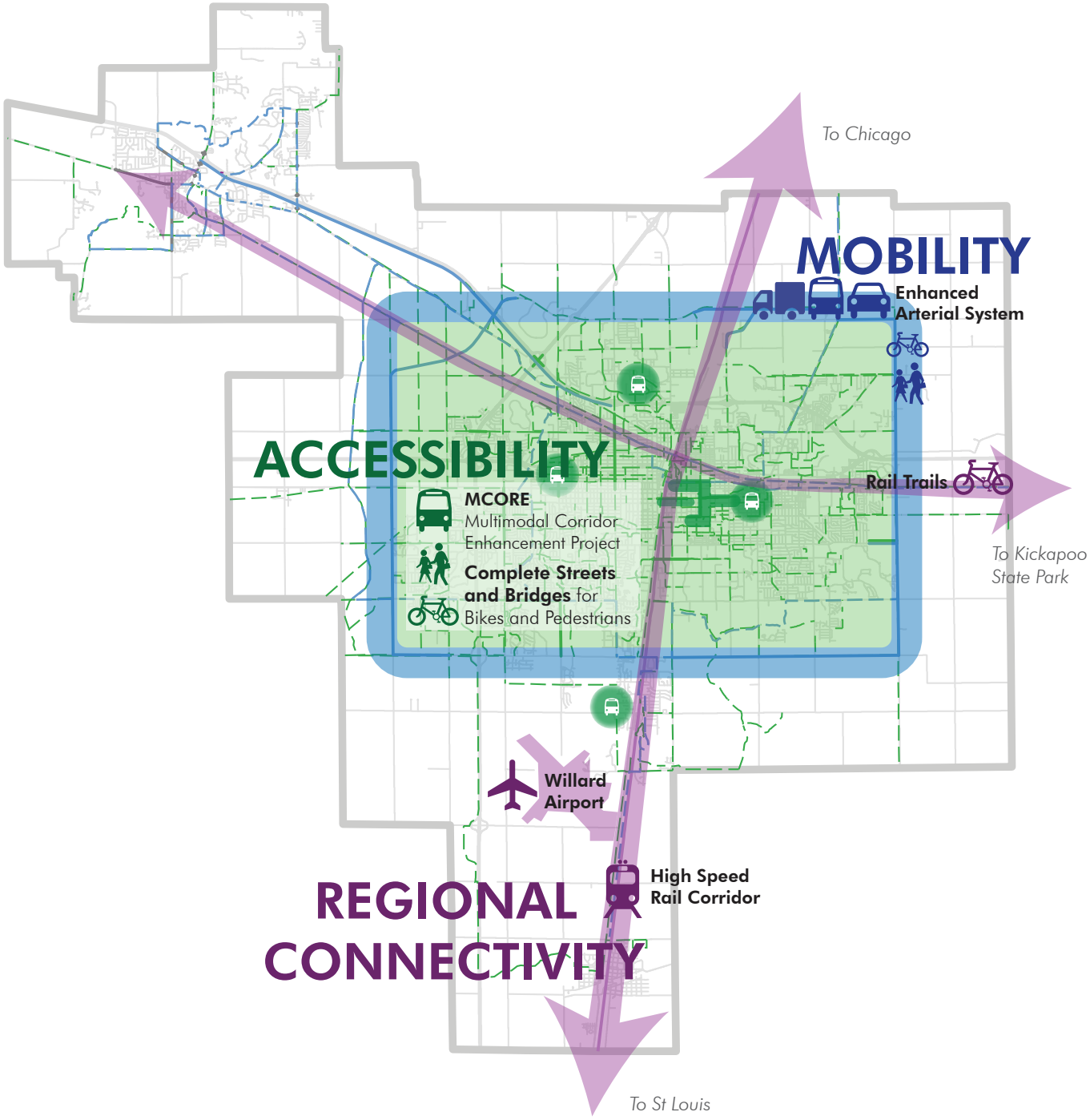
Funding

Funding projections were completed for transportation projects using federal, state and local funding sources (Chapter 13). An average was used to project federal and state funding based on the amount of transportation funding between fiscal years 2010 and 2018. Local funding projections were completed with help from local agencies including the City of Champaign, City of Urbana, Village of Savoy, CU-MTD, and IDOT. Funding projections for Champaign County and the University of Illinois were completed using the current 2015-2018 Transportation Improvement Program for the urbanized area.

Implementation

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 "sustainable choices" in transportation is more important than ever with transportation infrastructure construction and maintenance costs increasing, Motor Fuel Tax revenues decreasing, 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.

Sustainable Choices 2040 Conceptual Vision Map



1 Plan Overview
INTRODUCTION

INTRODUCTION

A long range transportation plan's (LRTP) purpose is to assess the existing and future transportation infrastructure over a 25-year horizon for an area of urban development known as the metropolitan planning area (MPA). The LRTP planning process helps coordinate how the region addresses transportation needs with the end goal of fostering an efficient, convenient, safe, secure, and sustainable transportation system.

While recognizing the challenges that the Champaign-Urbana MPA faces, LRTP: *Sustainable Choices 2040* looks into the future and describes a vision for Champaign-Urbana's transportation system. The plan anticipates future conditions and outlines issues that should be considered when confronting those conditions. Most importantly, the plan identifies broad policy goals and objectives associated with strategic actions and performance measures to improve accessibility, mobility, and regional connectivity in ways that support sustainability and economic growth.

The Champaign County Regional Planning Commission (CCRPC) is the Metropolitan Planning Organization (MPO) for the Champaign-Urbana 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, as well as other federally-mandated transportation planning documents. The member agencies of CUUATS are the City of Champaign, the City of Urbana, the Village of Savoy, the University of Illinois, Champaign County, the Champaign Urbana Mass Transit District (CUMTD), the Illinois Department of Transportation (IDOT), and CCRPC.

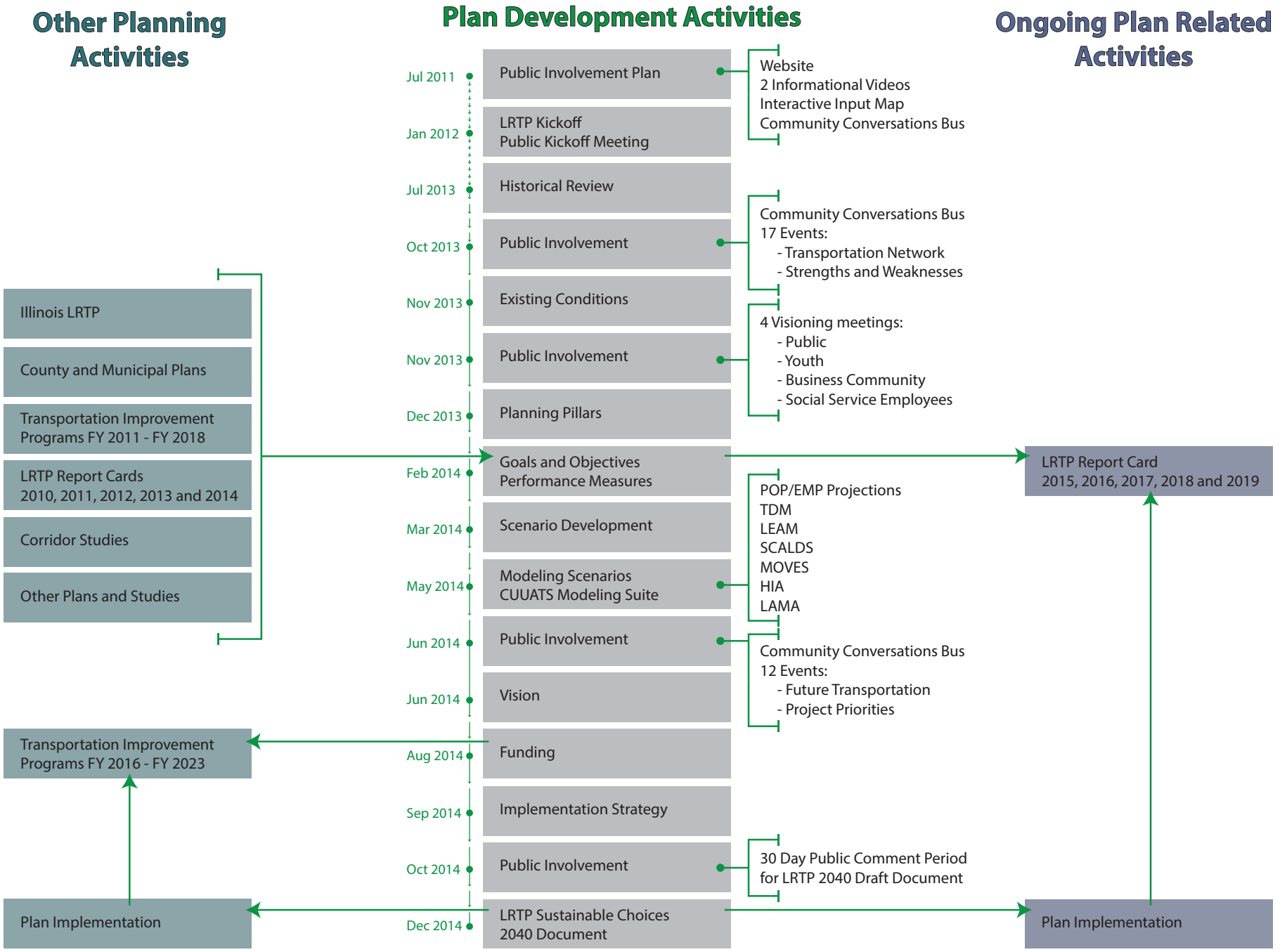
All CUUATS member agencies set forth approaches in this document to achieve accessibility, mobility, and regional connectivity improvement goals that pavement alone cannot provide, particularly in terms of enhancing the quality of life of Champaign-Urbana's residents. As a community transportation policy document, *Sustainable Choices 2040* sets the direction for future investments and enhances the findings of *Choices 2035*, Champaign-Urbana's previous LRTP, by using improved modeling tools and a dramatically expanded public involvement campaign to more clearly define the region's transportation issues and identify a future vision along with strategies to realize it.

LRTP Mission

To provide a safe, efficient, and economical transportation system that optimizes and enhances the existing infrastructure to promote mobility, accessibility, economic development, and physical health for all users.

Community Conversations Bus, Savoy Orchard Days, September 2013

FIGURE 1.1 LONG RANGE TRANSPORTATION PLAN WORKFLOW



CHAMPAIGN-URBANA MPO AND LRTP PERFORMANCE MEASURES

The federal transportation legislation, Moving Ahead for Progress in the 21st Century (MAP-21), requires MPOs to develop a performance-based approach to transportation decision-making to support the seven national goals of the federal aid highway program (see bottom right corner).

MAP-21 requires that each MPO establishes performance measures and targets that track progress toward attainment of critical outcomes for its region. This performance-based planning approach reflects best practices for transportation planning and programming and can enhance an MPO's effectiveness in many ways. In addition, since 2004, the Champaign-Urbana MPO has been tracking data-driven performance measures to monitor progress towards the attainment of specific goals and objectives related to transportation, land use development, safety, multi-modalism, accessibility, connectivity, air quality, and other planning factors delineated in previous LRTP documents. An annual report card has been prepared every year for the last four years to show the results of performance measure progress.

Performance measures are intended for use by MPOs at both broad and focused levels. In general, performance measures can answer questions about whether the performance of components of the transportation system are getting better or worse over time and whether the stated goals of specific transportation investments are being achieved *(Boston Region MPO, The Development of Performance Measures and Performance-Based Planning Memorandum)*.

As part of the LRTP: *Sustainable Choices 2040*, CUUATS staff will identify new performance measures and associated targets to reflect the vision and goals identified in the plan. Monitoring performance measures is an ongoing task for CUUATS staff and *Sustainable Choices 2040* is shaped, in part, by progress achieved toward the goals set in the last two LRTPs.

MAP-21 PERFORMANCE GOALS

1. SAFETY

2. INFRASTRUCTURE CONDITION

3. CONGESTION REDUCTION

4. SYSTEM RELIABILITY

5. FREIGHT MOVEMENT AND ECONOMIC VITALITY

6. ENVIRONMENTAL SUSTAINABILITY

7. REDUCED PROJECT DELIVERY DELAYS

MOVING AHEAD FOR PROGRESS IN THE 21ST CENTURY (MAP-21)

The federal surface transportation authorization legislation, MAP-21, was enacted on July 6, 2012 and took effect on October 1, 2012. MAP-21 requirements for the LRTP are very similar to the previous transportation authorization, SAFETEA-LU, including addressing eight planning factors, analyzing future conditions of the transportation system, analyzing air quality, and developing a fiscally constrained financial plan. Promoting the MAP-21 planning factors (below) is a primary goal for the LRTP.

- 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 accessibility and mobility of people and freight.
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
- Promote efficient system management and operation.
- Emphasize the preservation of the existing transportation system.

STATE OF ILLINOIS TRANSPORTATION PLAN

The Illinois State Transportation Plan *Transforming Transportation for Tomorrow* was adopted in December 2012. The plan represents IDOT's commitment to a safe, sustainable, integrated multimodal transportation system. The plan's policies and goals provide a framework to guide the sustainable development of a single, integrated transportation system; a quality transportation system that is safe, efficient, and reliable; and one that also enhances quality of life and supports the economic prosperity of all its citizens. In addition, the plan outlines investment priorities for the future and will have a significant impact on which projects receive funding accross the state.

The plan was based on technical analysis, public outreach, and an overarching goal to "develop a safe, sustainable Illinois multimodal transportation system." The plan's eight guiding policy factors include:

- Safety for all transportation users.
- Preserving and managing the existing infrastructure.
- Accommodating future growth in population and employment.
- Support of global economic competitiveness.
- Transportation for underserved populations such as the elderly, low-income, and persons with disabilities.
- Protecting the environment.
- Securing adequate funding for maintaining, improving, and ensuring efficient operation of the transportation systems.
- Security to protect the State's valuable assets and ensure the continued operation of the system.

LOCAL TRANSPORTATION PLANS

The following list is a compilation of some of the local and regional reports, documents, and other studies relevant to transportation and development in the region that have contributed to the development of the 2040 vision:

- Walk Champaign, Pedestrian Plan. City of Champaign, in progress.
- Urbana Trails Master Plan. CCRPC, in progress.
- Urbana Bicycle Master Plan. CCRPC, in progress.
- Climate Action Plan, Phase 2, City of Urbana, in progress.
- Village of Mahomet Master Transportation Plan (DRAFT). Gewalt Hamilton Associates, Inc, in progress.
- Champaign County Greenways & Trails Plan: Active Choices. CCRPC, 2014.
- Selected Crash Intersection Locations (SCIL 2007-2011). CUUATS, 2014.
- Transportation Improvement Program: FY 2015-2018. CUUATS, 2014.
- Various Safe Routes to Schools Plans. CCRPC, 2011-2014.
- Champaign Growing Greener Sustainability Plan. City of Champaign, 2013.
- Access Management Guidelines for the Urbanized Area. CUUATS, 2013.
- CUUATS Roundabout Design Guidelines. CUUATS, 2012.
- 2012 Champaign-Urbana Urbanized Area Human Services Transportation Plan (HSTP). CCRPC/CUUATS, 2012.
- 2012 Downtown Urbana Plan. City of Urbana, 2012.
- Climate Action Plan, Phase 1. City of Urbana, 2012.
- Complete Streets Policy. CUUATS, 2012.
- Market at the Square Strategic Plan. City of Urbana, 2011.
- CUUATS Title VI Compliance Report. CCRPC/CUUATS, 2011.
- Champaign Tomorrow: 2011 Comprehensive Plan. City of Champaign, 2011.
- Champaign Trails Plan. City of Champaign/Champaign Park District, 2011.
- Bristol Park Neighborhood Plan. City of Champaign, 2011.
- Campus Commercial Overlay District: Green Street Corridor. City of Champaign, 2010.
- White Street and Springfield Avenue Corridor Analysis. Center for Neighborhood Technology, 2010.
- University Avenue Corridor Study. CBA Inc./CCRPC, 2010.
- Neighborhood Wellness Vision Report. City of Champaign, 2010.
- Champaign County Multi-Jurisdictional Natural Hazard Mitigation Plan. CCRPC, 2009.
- Long Range Transportation Plan: Choices 2035. CCRPC/CUUATS, 2009.
- Savoy Comprehensive Plan Update. Village of Savoy, 2009.
- Downtown Champaign Parking Plan. City of Champaign, 2009.
- Downtown Parking Study, (Urbana). Rich and Associates, Inc., 2008.
- Champaign Moving Forward: Transportation Master Plan. Catalyst Consulting/City of Champaign/LSA, 2008.
- Cunningham Avenue Beautification Report. CBA, Inc./Farnsworth Group/2nd Globe, 2008 (Urbana).
- Urbana Bicycle Master Plan. CCRPC, 2008.
- Boneyard Creek Master Plan. HNTB, 2008.
- City of Urbana Comprehensive Plan. City of Urbana, 2005.
- Champaign-Urbana-Savoy Regional ITS Architecture. CUUATS, 2005.

From top to bottom: Intersection of Taylor Street and Neil Avenue in Champaign, Boneyard Creek in Champaign, Sixth Street in University of Illinois Campus

INTEGRATING FEDERAL, STATE, AND LOCAL PRIORITIES INTO THE LRTP

The performance-based investment decisions and targets required by MAP-21 should be coordinated with those of relevant national, state, and local agencies, including IDOT and public transportation providers, to ensure consistency. Therefore, the vision, goals, objectives, and performance measures being developed for the LRTP: *Sustainable Choices 2040* are a result of considering the seven national goals, IDOT's eight major guiding policy factors, professional planning paradigms, various local planning studies, and input received from the public. In addition to the documented goals and strategies of planning agencies and other relevant institutions, *Sustainable Choices* is being developed in the context of the existing social, financial, and political environment, through which local planning officials and other decision-makers must constantly navigate in a way that respects and supports the overarching framework of democratic governance while striving to fulfill the best interests of the local community that the plan is based on. Some current challenges facing the Champaign-Urbana area, the metropolitan planning process, the state, and the nation include:

- Pressures from continued population and employment growth and concurrent demands on infrastructure capacity and maintenance;
- Community expectations for economic development which are integrally tied to transportation improvements and maintenance;
- Fulfilling important investment commitments in the context of fiscal strain at all levels of government;
- Unresolved transportation funding challenges within national, state, and local political environments.

A SUSTAINABLE VISION FOR CHOICES IN 2040

The LRTP: *Sustainable Choices 2040* has an overall mission to offer sustainable transportation choices within the region that will help balance the economic, environmental, and social aspects of urban growth and development. This overall mission has been developed around six major themes, which are the result of extensive research and data collection (Chapters 2-7) and an ambitious and innovative public outreach campaign (Appendix A). We are relying on the definition of sustainability set forth by the Report of the World Commission on Environment and Development produced by the United Nations in 1987:

> *Sustainability is defined as balancing the economic, environmental, and social aspects of urban growth and development to meet the needs of the present without compromising the ability of future generations to meet their own needs.*

This includes understanding the use and maintenance of the regional transportation system as well as its relationship with issues such as fluctuating energy costs, climate change, environmental preservation, and public health. This overarching vision of sustainability is supported in the transportation realm by planning goals that federal, state, and local area transportation and land use plans share.

Sustainable Choices 2040 Planning Pillars

Safety and Security

- Traffic safety
- Emergency evacuation
- Commodity flows
- Food security

Balanced Development

- Historic preservation
- New construction
- Infill development
- Environmental preservation

Multimodal Connectivity

- Provision and coordination of different transportation modes to get everywhere

Accessibility and Affordability

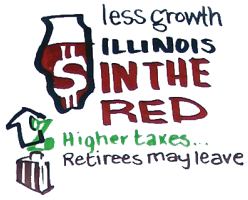
- Equal access
- Equity
- Diversity
- Education

Healthy Neighborhoods

- Public health
- Mixed use, compact development
- Ecology
- Recreation

Resilient Economy

- Diverse economy
- Infrastructure
- UIUC/Parkland College
- Financial stability



2 Plan Overview
HISTORICAL REVIEW

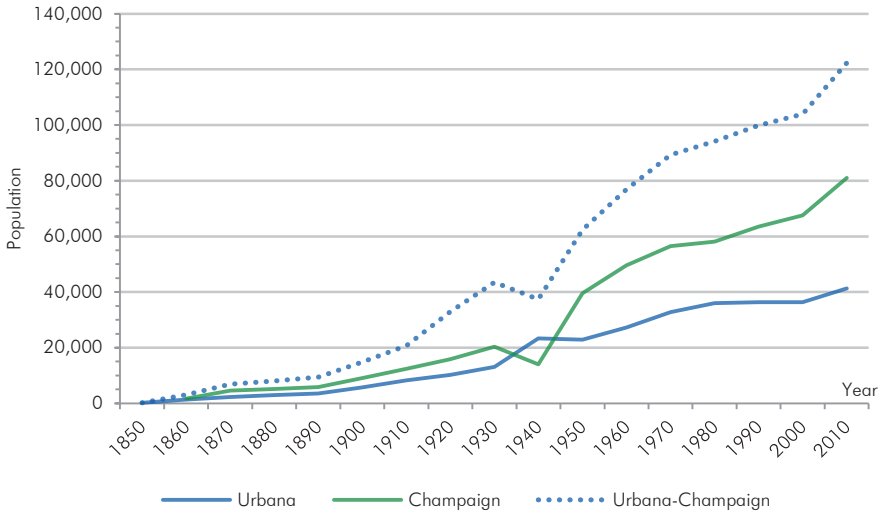
HISTORICAL REVIEW

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. The review is an important part of the current planning process because it establishes the historical development of the urbanized area with respect to the transportation system. The previous plans provide a long-range transportation planning guide to aid local officials in making planning and policy decisions while meeting the Federal Highway Administration's requirements to plan regionally for the Federal-Aid Highway Program.

The growth of the Champaign-Urbana region from its founding in 1833 in Urbana to the middle of the 20th century has included increases in population (Figure 2.1) and physical developments (Figure 2.2). Growth in the region has radiated out from the original center in downtown Urbana and the railroad in downtown Champaign due to growth of the railroad industry and increases in enrollment at the University of Illinois. The University of Illinois is shown in a different color in Figure 2.2 since its growth happened in parallel with that of Champaign and Urbana. Much of the land area of the University was established in the 1800s, although growth to the north, south and west took place in the 1900s.

The transportation system in the Champaign-Urbana urbanized area has grown over time to keep up with population, employment, and housing growth in the cities and the University of Illinois (Figure 2.3). Generally, growth of the urbanized area after the middle of the 20th century has expanded out from the Cities of Champaign and Urbana to encompass more of the outlying villages and agricultural land. The nature of the transportation system has changed over time to meet new transportation needs including the establishment of the railroads beginning in the mid 1800s and the construction of the highways in the 1960s and 1970s.

FIGURE 2.1 CHAMPAIGN-URBANA POPULATION GROWTH (1850-2010)



Source: U.S. Census Bureau

FIGURE 2.2 CHAMPAIGN-URBANA URBANIZED AREA HISTORICAL GROWTH (1830-1970)

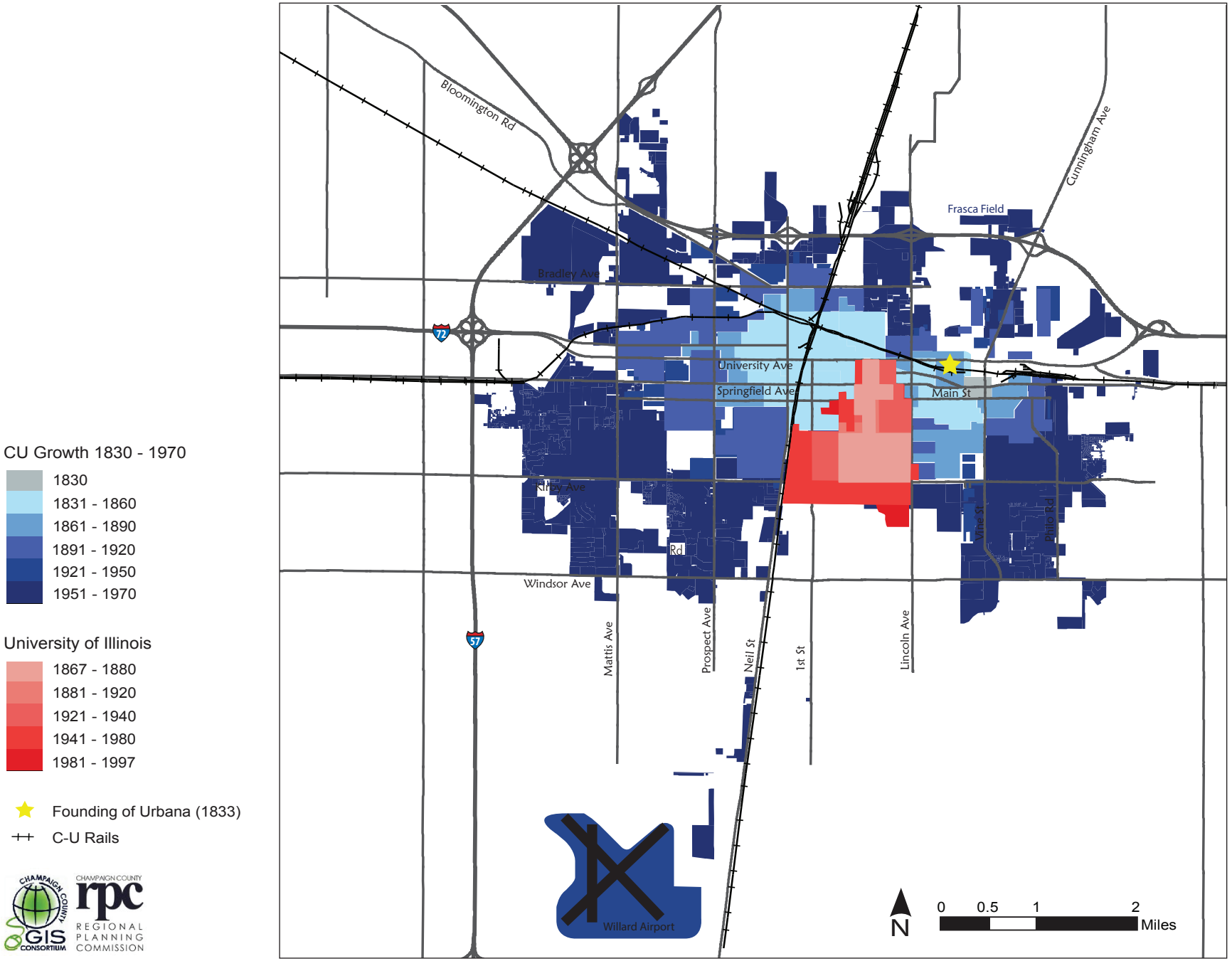
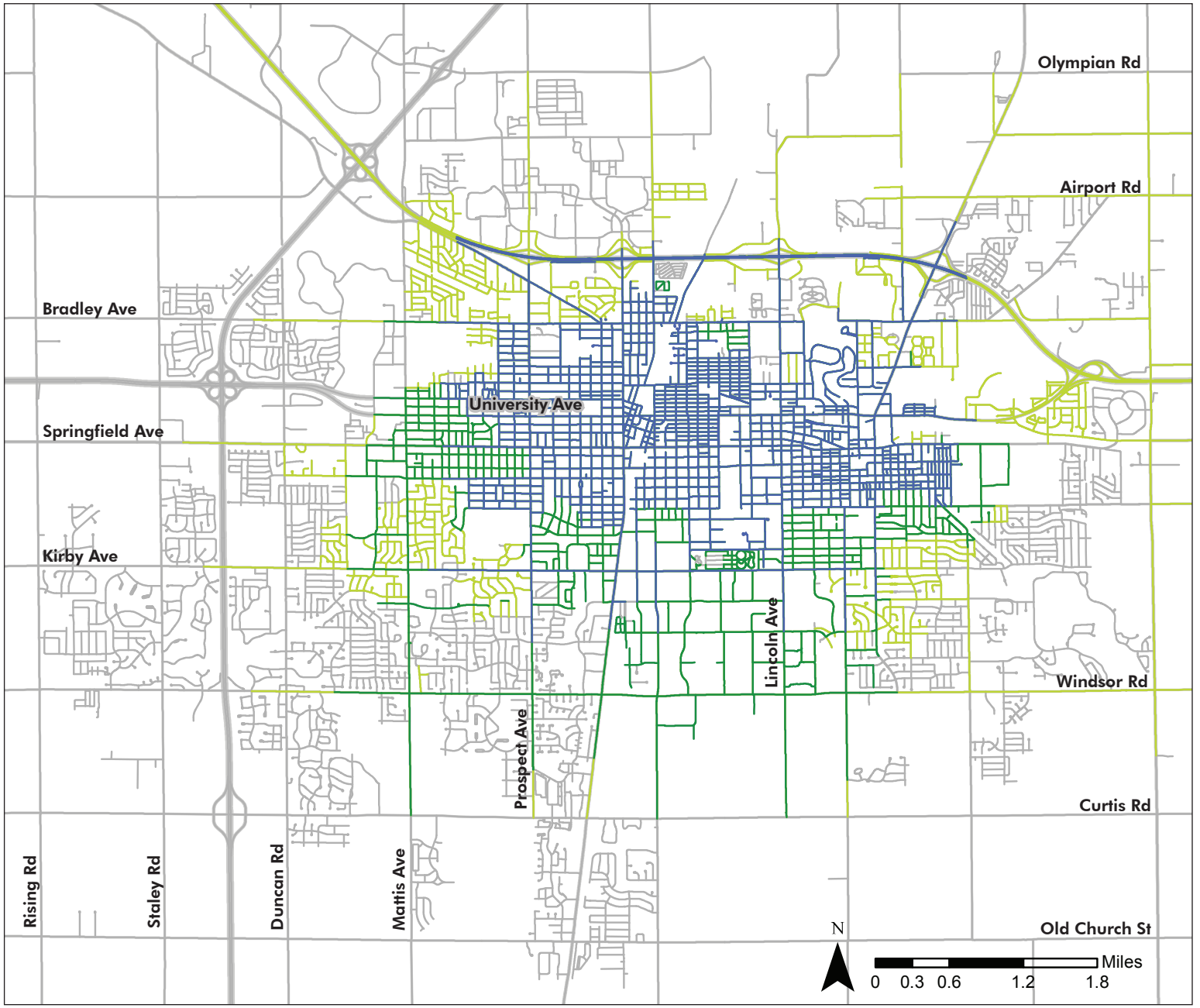


FIGURE 2.3 CHAMPAIGN-URBANA ROAD NETWORK GROWTH (1914-2013)



INTER-URBAN RAIL

Historically there has been a succession of local inter-urban rail services between Urbana and neighboring communities. In 1855 a horse-drawn "omnibus" connected travelers between the county seat of Urbana and the Illinois Central Railroad depot in Champaign. In 1863, the Urbana Railroad Company operated a mule-powered trolley drawn on a rail line between these points. This line was electrified in 1891, and within a few years the route expanded to include service between Urbana, the University of Illinois campus, the Illinois Central depot, Champaign County Fairgrounds, and Eisner Park.

In 1902 William B. McKinley established the first electric inter-urban railway connecting Urbana, Champaign, and Danville. Within a decade this was extended beyond Springfield to St. Louis, Missouri. This line was discontinued in the 1950s.

Champaign Main Street , 1911, http://web.engr.illinois.edu/~friedman/champaign-urbana/Pic11B-02.htm

PRE-1960 ROADWAY PLANNING

By 1960, two major street and highway plans had been completed for Champaign-Urbana. Civic design classes at the University of Illinois prepared the first regional plan, and Swanson Associates, which proposed an efficient transportation network to improve street network irregularities, completed the first comprehensive plan.

PREVIOUS LONG RANGE TRANSPORTATION PLANNING

1960-1970 LRTPs

In 1960, Harland Bartholomew and Associates prepared "A Major Street and Highway Plan for the Champaign-Urbana Urban Area" for the State of Illinois Division of Highways. During the 1960s, Champaign-Urbana experienced rapid urban growth, creating an immediate need for the Long Range Transportation Planning process. In addition to this trend, the Federal-Aid Highway Act of 1962 established the Champaign-Urbana Urbanized Area Transportation Study as a regional planning agency in 1964.

To accommodate the transportation needs of the projected population for the next 20 years, Harland Bartholomew and Associates prepared the first comprehensive transportation plan for CUUATS in 1968-1970. The population of Champaign-Urbana was projected to be 94,236 in 1965 and 137,200 in 1985.

The plan was written to guide and provide for well-coordinated, adequate, and economical transportation solutions considering future expansion and compatibility with the overall comprehensive plan. Complementing its focus on transportation, the plan designated a major thoroughfare system to connect the new and the existing developed areas.

THE LRTP 2035, PUBLISHED IN 2009, ESTABLISHED THE USE OF PERFORMANCE MEASURES TO TRACK PROGRESS TOWARD GOALS AND OBJECTIVES IN ANNUAL REPORT CARDS.

1974 MPO Creation

In 1974, the State of Illinois designated the Champaign County Regional Planning Commission (CCRPC) as the Metropolitan Planning Organization (MPO) for the area to encourage regional planning efforts.

1979, 1982, and 1986 LRTP Updates

Apart from planning for a safe, efficient and economical transportation system, the 1979 plan 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 aimed to accommodate a system that would safely and conveniently encompass a variety of transportation modes and thus enhance the overall quality of life. The plan also included a variety of factors affecting the transportation system in the area, including land use, the development of mass transit plan, vehicle registration, a bikeway plan to accommodate increased biking activity, and transportation funding resources.

Subsequent LRTP updates built on the content developed in the 1979 update. The 1984 update included a list of transportation improvements across the Champaign-Urbana metropolitan planning area. In addition, projects were classified as long-range or short-range and prioritized by level of urgency. The 1986 LRTP update also involved a critical assessment of previous and ongoing transportation proposals.

1994 LRTP + Mobility Plan: *C-U in 2020*

In 1994, CUUATS staff produced a new Long Range Transportation Plan in combination with a Mobility Plan for a 25-year planning horizon. At that time, the MPO included the City of Champaign, the City of Urbana, and the Village of Savoy.

1999 LRTP: *C-U in 2030*

In 1999, CUUATS published the LRTP: *C-U in 2030*, which covered a 30-year period and aimed to plan for the future needs of an estimated population of 203,847 by the year 2030.

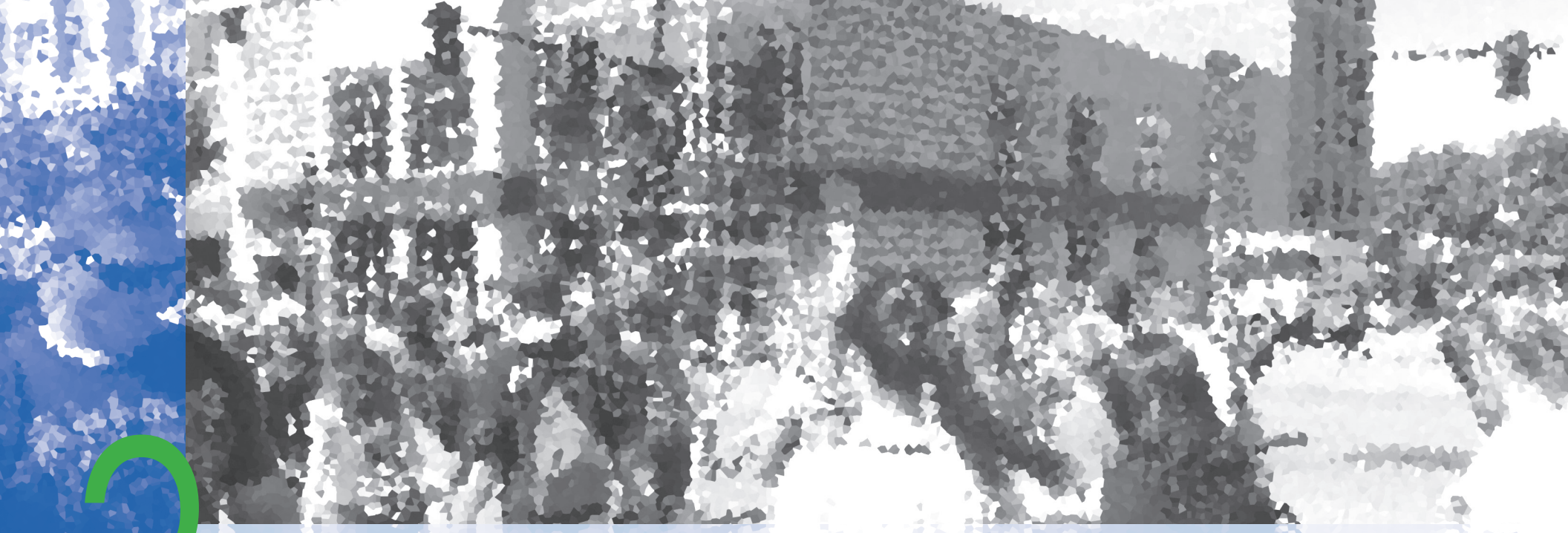
At that time, the mass transit system's primary service was a fixed route and scheduled system with principal transfer locations in downtown Champaign (Illinois Terminal), downtown Urbana (Lincoln Square) and the University of Illinois (Illini Union). The plan called for additional investment in rail and suggested investigating the feasibility of 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.

2004 LRTP: *2025*

CUUATS published the LRTP 2025 in 2004, which included portions of Bondville in the study area for the first time and established the use of performance measures to track progress toward goals and objectives over time.

2009 LRTP: *Choices 2035*

The LRTP, *Choices 2035*, was published in 2009 and futher developed the process of utilizing performance goals in long-range transportation planning by using annual report cards to help evaluate ongoing performance and guide future decision-making for the region.



3 Existing Conditions
DEMOGRAPHICS

DEMOGRAPHICS

The Champaign-Urbana Urbanized Area is a diverse region spanning 47 square miles and containing a population of more than 145,000 people in east-central Illinois. The region is located 135 miles south of Chicago, IL, 120 miles west of Indianapolis, IN, and 180 miles northeast of Saint Louis, MO. Five municipalities are partially or wholly within the Champaign-Urbana Urbanized Area: City of Champaign, City of Urbana, Village of Savoy, Village of Tolono, and Village of Bondville.

In contrast, the Metropolitan Planning Area (MPA) is the 25-year planning area for the long range transportation plan. The MPA spans 179 square miles and includes the Champaign-Urbana Urbanized Area as well as the Village of Mahomet and some rural areas of Champaign County. The MPA is used to determine which areas will develop in a contiguous manner to the urbanized area over the next 25 years, (Figure 3.1).[1]

City of Champaign

The City of Champaign is the most populous and geographically largest municipality in the urbanized area. As of 2010, Champaign had a population of 81,055 and currently covers nearly 23 square miles.

City of Urbana

The City of Urbana is the second most populous and second largest municipality in the urbanized area. As of 2010, Urbana had a population of 41,250 and currently covers nearly 12 square miles.

Village of Savoy

The Village of Savoy is the third most populous and third largest municipality in the urbanized area. As of 2010, Savoy had a population of 7,280 and currently covers three square miles.

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 least populous and smallest of the municipalities in the urbanized area. As of 2010, Bondville had a population of 443 and currently covers 0.3 square miles.

Village of Tolono

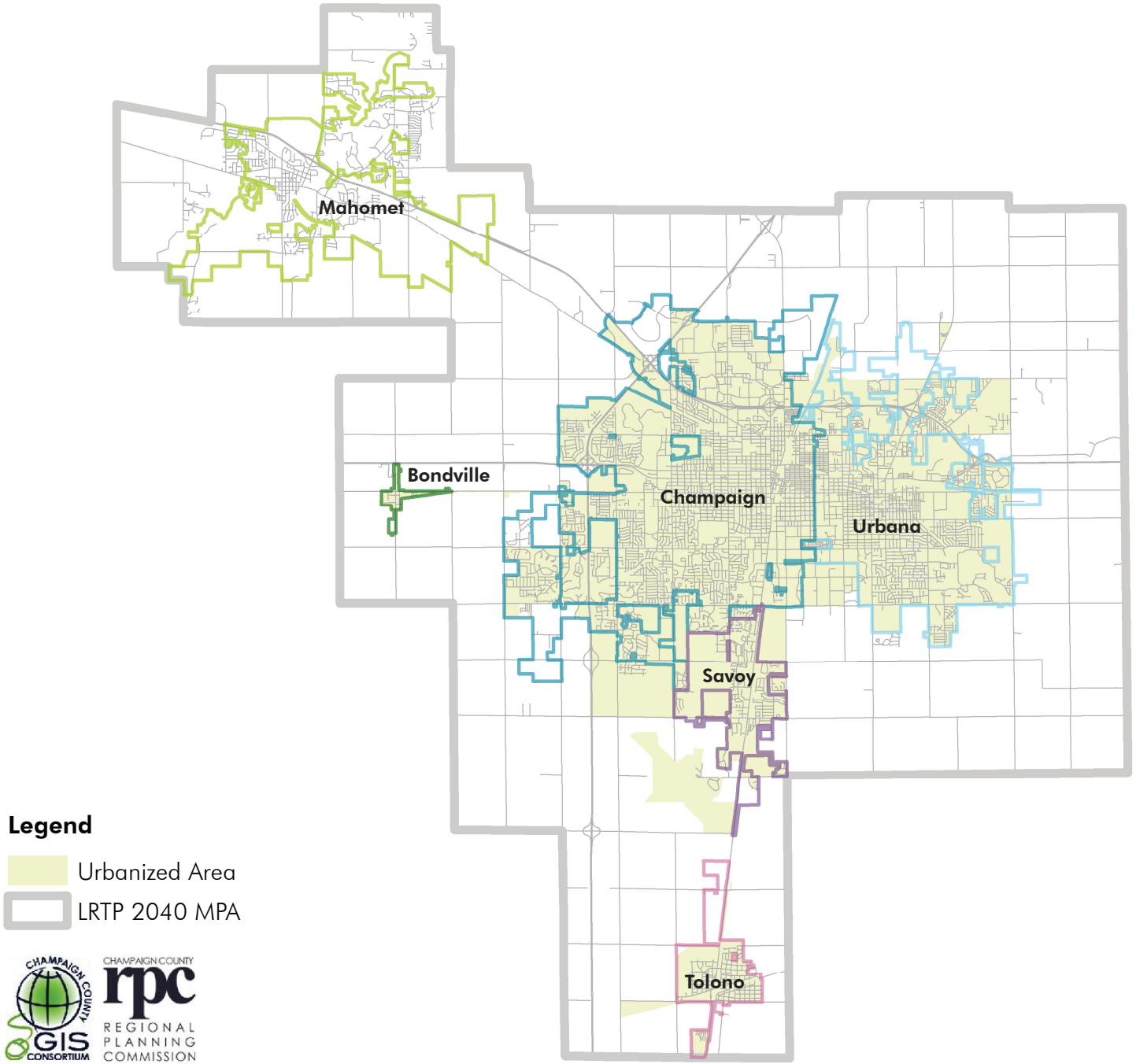
The Village of Tolono was added to the Champaign-Urbana Urbanized Area in 2010. As of 2010, Tolono had a population of 3,447 and currently covers two square miles.

Village of Mahomet

The Village of Mahomet is located approximately ten miles west of the City of Champaign on Interstate 74. As of 2010, Mahomet had a population of 7,259 and currently covers about 7 square miles.

1 The Champaign-Urbana Urbanized Area is designated by the US Census Bureau, based on population and contiguous development. This report refers to the urbanized area defined by the 2010 Decennial Census.

FIGURE 3.1 CHAMPAIGN-URBANA URBANIZED AREA AND METROPOLITAN PLANNING AREA



THE TOTAL POPULATION IN THE CHAMPAIGN-URBANA URBANIZED AREA IN 2010 WAS 145,361.

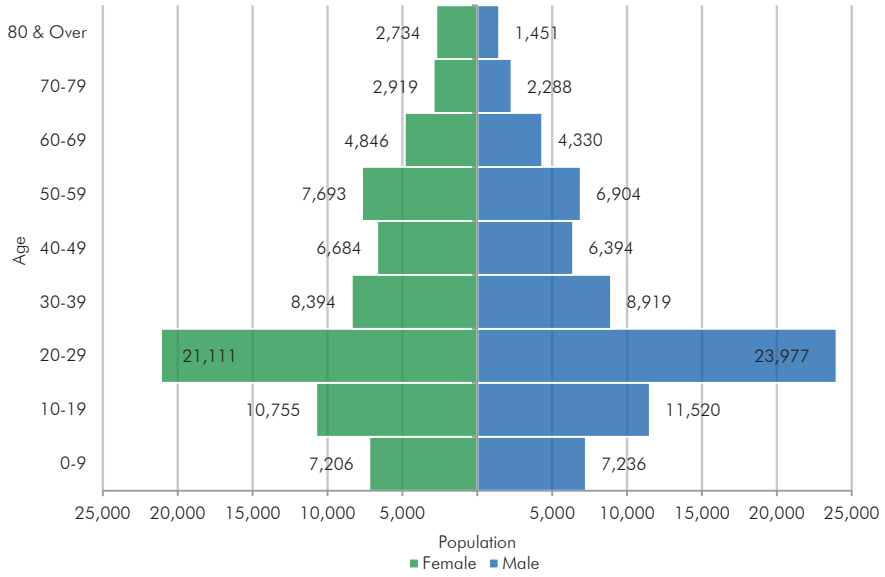
GENERAL POPULATION CHARACTERISTICS

According to the 2010 Census, Champaign County, Illinois has a population of 201,081 people. About 72-percent (145,361) of these residents reside within the Champaign-Urbana Urbanized Area, consisting of 53,944 households and an average household size of 2.2 persons.

Age

The 2010 Census shows that the largest group of residents in the urbanized area is between 20 and 29 years of age (Figure 3.2), which includes students at the University of Illinois at Urbana-Champaign. There are more males in the age groups from 0 to 39 years of age, and more females in the age groups from 40 to 80+ years of age. This trend is generally the same as was seen in the 2000 Census population for the urbanized area.

FIGURE 3.2 CHAMPAIGN-URBANA URBANIZED AREA POPULATION BY AGE (2010)



Source: US Census Bureau, Sex by Age (Table P12) for Champaign, IL Urbanized Area 2010

Race and Ethnicity

The majority of the urbanized area population is white, although the percentage of white population has fallen 5.7 percent since 2000 (Table 3.1). The second largest racial group is black or African Americans, which has increased 3.6 percent since 2000. Asians are the third largest racial group with the highest increase in percentage of the total population since 2000, with 5.4 percent.

The urbanized area and the county show similar trends in Hispanic versus non-Hispanic populations, which are 6 and 94 percent, respectively. For the Hispanic population of the urbanized area, this is a 2.5 percent increase in the percentage of the total population since 2000.

Community Conversations Bus, St. Mary's Chuch, Champaign, October 2013

TABLE 3.1 URBANIZED AREA AND CHAMPAIGN COUNTY RACE AND ETHNICITY (2010)

	2000		2010	
Race	**Urbanized Area**	**County**	**Urbanized Area**	**County**
White Alone	72.9%	78.8%	67.5%	73.4%
Black or African American Alone	14.0%	11.2%	14.8%	12.4%
American Indian and Alaska Native Alone	0.2%	0.2%	0.3%	0.3%
Asian Alone	8.9%	6.5%	11.9%	8.9%
Native Hawaiian and Other Pacific Islander Alone	0.0%	0.0%	0.1%	0.1%
Some Other Race Alone	1.7%	1.3%	2.5%	2.2%
Two or More Races	2.2%	2.0%	3.0%	2.7%
Total	**100.0%**	**100%**	**100.0%**	**100.0%**

	Urbanized		Urbanized	
Ethnicity	**Area**	**County**	**Area**	**County**
Hispanic or Latino	3.5%	2.9%	5.9%	5.3%
Non-Hispanic or Latino	96.5%	97.1%	94.1%	94.7%
Total	**100%**	**100%**	**100.0%**	**100.0%**

Source: US Census Bureau. 2000 & 2010 Decennial Census, (Tables P8 & P9).

EDUCATION, INCOME, POVERTY, AND DISABILITY

According to the 2010 American Community Survey (ACS), nearly 94 percent of the population in the urbanized area has a high school diploma or higher (Table 3.2). Of this population, 50.5 percent has a bachelor's degree or higher. This is a two-percent increase in persons with at least a high school diploma and a three-percent increase of persons with a bachelor's d or higher since 2000. This illustrates that the urbanized area generally has a highly educated population compared to the state and the nation overall due to the presence of the University of Illinois.

TABLE 3.2 EDUCATIONAL ATTAINMENT & POVERTY LEVELS FOR PERSONS 25 YEARS AND OLDER (2010)

Category	Less than High School Graduate	High School Graduate	Some College or Associate's Degree	Bachelor's Degree or Higher
Population (POP)	4,069	11,682	16,357	32,757
% Total POP	6.3%	18.0%	25.2%	50.5%
POP Below Poverty Line	1,404	1,445	2,194	2,688
% Total POP with same Educational Attainment	34.5%	12.4%	13.4%	8.2%

Source: US Census Bureau. ACS 5-Yr Data, 2006-2010 (Table S1701).
Urbanized Area data are an aggregation of Champaign, Urbana, Savoy, Tolono, and Bondville.

Median Income

Median income is a valuable indicator for the transportation options available to residents. However, in a college town where institutional and family grants and loans are commonly used to cover student educational and living expenses, income is not easily measured or compared accross different populations. The U.S. Census defines 'household' income as excluding students living in group quarters, but not those living in households. Table 3.3 indicates that Savoy has the highest household income for the region at $50,000 per year and the highest householder income for the age range 45-65 at nearly $90,000 per year. Generally, householders in the area from 15-24 years of age have the lowest median income due to the large student population, with income generally rising from the 24-44 to the 45-64 age bracket. As householders retire, incomes begin to fall again, although not to the point of householders in the 15-24 age bracket.

TABLE 3.3 MEDIAN HOUSEHOLD INCOME (2010)

		Householders			
Municipality	Household	15-24 Years	24-44 Years	45-65 Years	65+ Years
Champaign	$40,116	$13,031	$48,394	$65,707	$41,448
Urbana	$34,951	$14,513	$36,492	$55,924	$40,625
Savoy	$50,172	$16,352	$62,411	$89,904	$30,785
Tolono	$49,659	$30,329	$59,395	$52,500	$37,639
Bondville	$40,208	-	$25,833	$45,938	$36,042

Source: US Census Bureau. ACS 5-Yr Data, (Table DP03)

Poverty Status by Age

As part of the planning process, concentrations of targeted population groups were identified, including elderly individuals, individuals with disabilities (Table 3.4), and persons with low incomes (Table 3.5). This information is relevant when developing and evaluating transit plans, which requires careful analysis of the mobility needs of the population and potential ridership for transit services.

Between 2000 and 2010, the US Census Bureau changed its methodology for collecting income and poverty data**. Table 3.5 shows that the rate of poverty for each age category was relatively consistent between 2000 and 2010, with an overall increase in the number of people living below the poverty level. Similar to measuring income, poverty levels can be difficult to measure and compare due to the fact that students are sometimes inaccurately defined as 'living below poverty level' because of the difficulty in measuring their non-traditional forms of income and financial support.

TABLE 3.4 URBANIZED AREA POPULATION WITH A DISABILITY (2012)

Subject	Estimate	Percent
Total Civilian Noninstitutionalized Population	144,150	
With a disability	**11,226**	**7.8%**
Under 18 years	24,224	
With a disability	**1,113**	**4.6%**
18 to 64 years	107,343	
With a disability	**5,765**	**5.4%**
65 years and over	12,583	
With a disability	**4,348**	**34.6%**

Source: US Census Bureau. Census 2008-12 ACS

TABLE 3.5 URBANIZED AREA POVERTY STATUS BY AGE

Poverty Status	2000	2010
Percent Below Poverty Level in the Urbanized Area	**21%**	**26%**
Under 5 Years	5%	5%
5 Years	1%	1%
6 to 11 Years	5%	5%
12 to 17 Years	4%	4%
18 to 64 Years	84%	82%
65 to 74 Years	1%	1%
75 Years and Over	1%	2%
	100%*	100%*
Percent Living At or Above the Poverty Level in the Urbanized Area	**79%**	**74%**
Under 5 Years	6%	6%
5 Years	1%	1%
6 to 11 Years	7%	6%
12 to 17 Years	7%	7%
18 to 64 Years	67%	69%
64 to 74 Years	6%	6%
75 Years and Over	5%	5%
	100%*	100%*

Source: US Census Bureau. Decennial Census 2000 and ACS 5-Year Data 2006-2010 (Table B17001). Urbanized Area data are an aggregation of Champaign, Urbana, Savoy, Tolono, and Bondville.

*Due to rounding, totals may not equal 100.

** In a comparison study between Census 2000 income data and the 2000 ACS, income collected in Census 2000 was found to be about 4 percent higher than that in the 2000 ACS. For more information on the differences of income in the ACS and Census 2000, see Income in the American Community Survey: Comparison to Census 2000. (www.census.gov)

Households

Household size is an indicator of population distribution and density within the urbanized area. One-person households grew by nearly 3,000 households (approximately three percent) between 2000 and 2010, which illustrates an increasing prevalence of people living alone in the area (Table 3.6). The remainder of the household sizes generally grew in number but remained consistent in percent of total households, except for 5-person households and 2-person households.

Urban-Rural Ratio

The urbanized area grew from 123,938 people in 2000 to 145,361 people in 2010. The urbanized area also grew by more than eight square miles from 2000 to 2010 with a continued trend of nearly three-percent shift from rural to urban land designation per decade in Champaign County from 1980 to 2010 (Table 3.7).

TABLE 3.6 URBANIZED AREA HOUSEHOLD NUMBER BY SIZE AND YEAR

Household Size	Urbanized Area (2000)	% Total	Urbanized Area (2010)	% Total
1 person household	17,444	35%	20,324	38%
2 person household	16,688	31%	17,268	32%
3 person household	7,087	14%	7,409	14%
4 person household	5,590	11%	5,920	11%
5 person household	2,052	4%	1,957	4%
6 person household	453	1%	663	1%
7+ person household	378	1%	403	1%
Total:	**49,692**	**100%**	**53,944**	**100%**

Source: US Census Bureau. Decennial Census 2000 and 2010 (Table H13).
Urbanized Area data are an aggregation of Champaign, Urbana, Savoy, Tolono, and Bondville.

TABLE 3.7 URBAN-RURAL RATIO (1980-2010)

Region	1980	1990	2000	2010
Urbanized Area	64%	67%	69%	72%
Non-Urbanized Area	36%	33%	31%	28%

Source: US Census Bureau. Decennial Census 1980-2010. SF1 (Table P2).

EMPLOYMENT

Champaign County is a regional employment center because of the presence of educational, health care, and manufacturing employers in the area. According to the Illinois Department of Employment Security, (IDES), the unemployment rate decreased from 8.2 to 8 percent during the period 2009-2011 despite a reduction of over 5,000 workers in the labor force. According to the IDES, the top five employment sectors for 2011 were:

1. Educational Services – 19,120 workers
2. Health Care and Social Assistance – 11,514 workers
3. Retail Trade – 8,996 workers
4. Accommodation and Food Services – 8,606 workers
5. Manufacturing – 7,554 workers

Several of the companies within the top five industries in Champaign County have shown growth since 2009 (Table 3.8). For example, the University of Illinois and Carle have both hired over 300 new employees since 2009. Other companies such as Kraft Foods, Inc., Plastipak Packaging, Inc., and Christie Clinic have experienced a small growth in employees in the same time period. Parkland College and Provena Covenant Medical Center have each lost more than 200 employees since 2009.

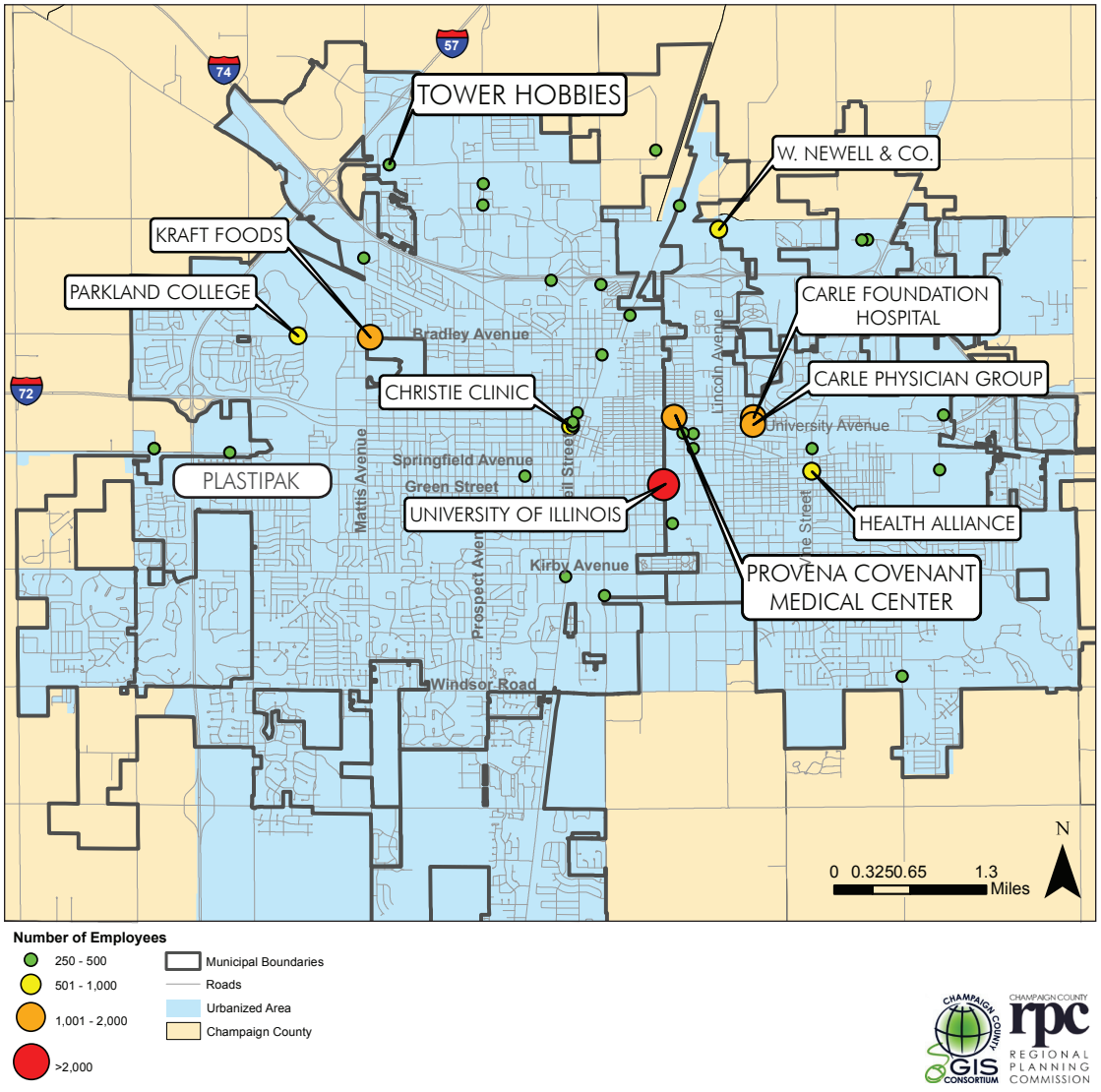
TABLE 3.8 CHAMPAIGN COUNTY TOP EMPLOYERS (2011)

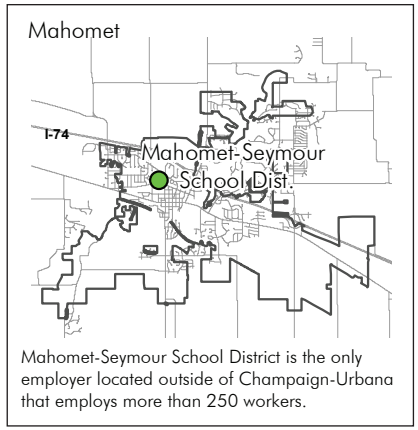
Top 10 County Employers	Number of Employees in 2011	Change Since 2009
University of Illinois at Urbana-Champaign	10,820	+320
Carle	6,000	+331
Champaign Unit #4 School District	1,351	N/A*
Kraft Foods, Inc.	1,350	+25
Parkland College	980	-220
Provena Covenant Medical Center	938	-262
Urbana School District #116	900	N/A*
Champaign County, IL (Admin)	853	N/A*
Plastipak Packaging, Inc.	810	+10
Christie Clinic	750	+10

Source: Champaign County Economic Development Corporation, 2013. *These data were not available for 2009.

One of the most frequent trips made within the Metropolitan Planning Area (MPA) is area residents' journey to work, determined on a large scale by population and employment locations. Consequently, population and employment are critical factors in planning for a more sustainable, equitable, and efficient transportation network, as well as upholding the vision and goals listed in *Sustainable Choices 2040*. Effectively planning for future changes in population and employment can result in many benefits, including reduced vehicle miles travelled (VMT), travel time, and traffic congestion as well as increased accessibility, air quality, and household spending power.

FIGURE 3.3 MAJOR EMPLOYERS WITHIN THE MPA





Mahomet-Seymour School District is the only employer located outside of Champaign-Urbana that employs more than 250 workers.

Figure 3.3 indicates the top ten employment centers within the MPA in 2013.[1] Geographically, the Mahomet-Seymour School District was the only entity outside of Champaign and Urbana that employed more than 250 workers. Moreover, large employment centers tended to cluster toward the central and northern portions of Champaign-Urbana, with the University of Illinois standing as the area's largest employer, followed by Carle Hospital and Physicians Group, and Kraft Foods.[2]

1 2013 employment data was compiled using ArcGIS Business Analyst.

2 Major employment locations vary slightly between Table 3.7 and Figure 3.3. This is a result of multiple locations for both primary education and county government facilities not being classified (here) as one centralized employment facility with regard to population and employment.

TRAVELING IN THE URBANIZED AREA

Mode choice and vehicle availability for workers are important factors used to assess the need for the provision of alternatives to the automobile. These data also provide information on the prevalence of automobiles in the region. In the urbanized area, more than 4,000 people (or seven percent) of the working population do not have access to a personal vehicle. Champaign and Urbana have a higher rate of no-vehicle ownership than the rest of the urbanized area at 7.5 and 8.4 percent, respectively, compared with an average of 7 percent for the entire urbanized area.

Table 3.10 shows the commuter mode for workers in urbanized areas across the Midwest. The Champaign-Urbana urbanized area has the highest percentage of drivers and carpoolers, but also has a high percentage of workers who take public transportation and walk, although the numbers in these categories have decreased for the urbanized area overall since Tolono, Bondville, and the southern portion of Savoy don't have access to public transportation.

TABLE 3.9 ACCESS TO VEHICLES IN THE URBANIZED AREA FOR WORKERS 16 YRS. & OVER (2010)

Municipality	% No Vehicle Available	% One or More Vehicle(s)
Urbanized Area	7.0%	93.0%
Champaign	7.5%	92.5%
Urbana	8.4%	91.6%
Savoy	0.8%	99.2%
Tolono	0.0%	100.0%
Bondville	1.2%	98.8%

Source: US Census Bureau. ACS 5-Yr, 2006-2010 Data (Table S0801).
Urbanized Area data are an aggregation of Champaign, Urbana, Savoy, Tolono, and Bondville.

TABLE 3.10 COMMUTER MODE SHARE IN VARIOUS URBANIZED AREAS (2010)

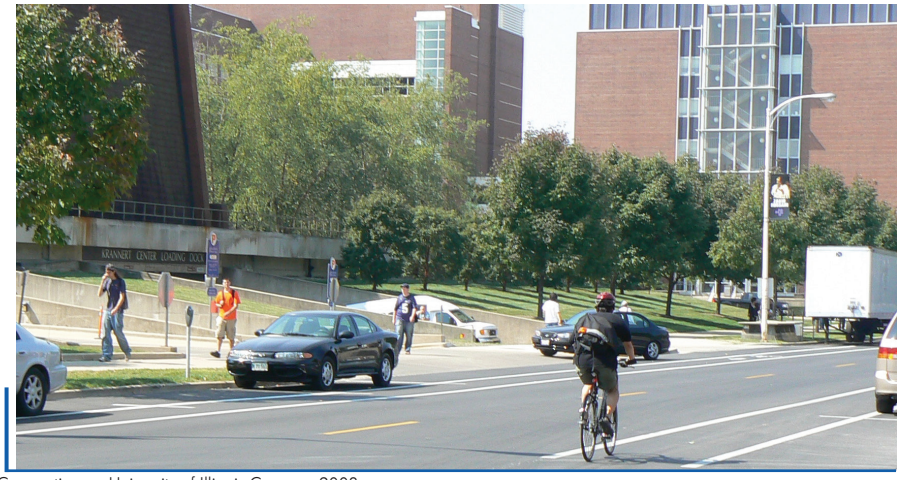
Travel Mode	Champaign-Urbana, IL	Bloomington, IN	State College, PA	Lafayette, IN	Iowa City, IA	Ann Arbor, MI
Drove alone	71.6%	71.2%	55.1%	74.2%	62.5%	72.8%
Carpooled	10.8%	9.3%	9.5%	9.7%	10.5%	8.2%
Public Transit (no taxi)	4.7%	4.2%	6.6%	4.3%	7.9%	4.5%
Walked	6.6%	8.4%	19.6%	7.0%	11.5%	7.5%
Bicycled	2.0%	1.8%	3.5%	1.0%	3.2%	1.6%
Other	0.5%	0.7%	1.1%	0.7%	1.1%	0.8%
Work at home	3.8%	4.4%	4.6%	3.1%	3.3%	4.6%

Source: US Census Bureau. ACS 5-Yr, 2006-2010 Data (Table S08301).
Urbanized Area data are an aggregation of Champaign, Urbana, Savoy, Tolono, and Bondville.

THE AVERAGE COMMUTE TIME IN THE URBANIZED AREA IS LESS THAN 20 MINUTES.

Table 3.11 shows the commuting mode for workers by municipality within the urbanized area. Champaign and Urbana have the highest percentages of workers who use public transportation, walk, or bicycle in the region and the lowest numbers of people who drive. The Cities of Urbana and Champaign, and the University of Illinois have been designated Bicycle Friendly Communities/University by the League of American Bicyclists. In addition, the City of Urbana was ranked 15th among all small cities in the nation (with population between 20,000 and 99,999) in percent of residents who bike or walk to work. Savoy, Tolono, and Bondville have high levels of people who drive alone or carpool to work.

Table 3.12 shows travel time to work for workers in the region. In Champaign, Urbana, and Savoy, a majority of workers have less than a 15-minute commute. In Tolono and Bondville, most workers have a commute between 15 and 29 minutes. Overall, the mean travel time in the urbanized area is less than 20 minutes.



Commuting on University of Illinois Campus, 2008

TABLE 3.11 COMMUTING MODE FOR WORKERS 16 YRS. & OVER BY MUNICIPALITY (2010)

Means of Transportation	Champaign	Urbana	Savoy	Tolono	Bondville
Drove alone	65.3%	51.6%	75.8%	82.5%	82.9%
Carpooled	7.9%	7.7%	11.5%	12.7%	14.4%
Public transportation	6.7%	12.4%	4.6%	0%	0%
Walked	12.4%	17.9%	0.9%	1.7%	0%
Bicycled	2.8%	5.3%	1.1%	0%	0.8%
Taxi, motorcycle, other	1%	0.5%	0.3%	0%	0%
Worked at home	3.9%	4.6%	5.7%	3.1%	1.9%

Source: US Census Bureau. ACS 5-Yr, 2006-2010 Data (Table S0801).

TABLE 3.12 TRAVEL TIME TO WORK FOR WORKERS 16 YRS. & OVER (2010)

Travel Time	Champaign	Urbana	Savoy	Tolono	Bondville
Less than 15 Minutes	53.6%	54.6%	47.2%	25.3%	23.4%
15 to 29 Minutes	37.9%	36.0%	44.4%	53.8%	49.5%
30 to 44 Minutes	4.4%	5.8%	6.8%	13.6%	23.8%
45 to 59 Minutes	2.1%	1.2%	0.6%	3.6%	2.0%
More than 60 Minutes	2.0%	2.4%	1.1%	3.6%	1.2%
Mean Travel Time (minutes)	**15.4**	**14.8**	**15.4**	**20**	**21.6**

Source: US Census Bureau. ACS 5-Yr, 2006-2010 Data (Table S0801).

4 Existing Conditions
LAND USE

LAND USE

Land use and planning principles are critical to understanding the impact of future transportation investments. The coordination of land use and transportation development requires the assessment and evaluation of how land use decisions both affect the transportation system and increase viable options for people to access opportunities, goods, services, and other resources to improve their quality of life. This requires an awareness of the effects that existing and future transportation conditions may have on land use development demand, choices, and patterns.

Measuring land use density over time can indicate the ways in which different municipalities grow, but measuring density alone does not provide a complete picture of the ways in which different municipalities grow and plan for future development. Due to municipal annexations for the purposes of planning and future development, even municipalities with intentions of efficient, compact development could have vast undeveloped acreages within their corporate limits that make density measures appear incongruous with current development practices or future development goals. Population density and residential are both documented in this chapter in order to capture a more accurate picture of how each municipality is developing. For a more in-depth picture of local growth practices and policies, see planning documents specific to each municipality.

Effective coordination of land use and transportation planning and development can produce policies, principles, and strategies intended to preserve and enhance valued natural and cultural resources and facilitate healthy, sustainable communities and neighborhoods. This type of coordination can also foster an efficient balance of mixed uses, such as housing, education, employment, recreation, retail, and service opportunities, to maximize the benefits of geographic proximity.

POPULATION DENSITY

Population density is compared for all cities and villages within the Metropolitan Planning Area (MPA) over a 20-year time span. The analysis was performed through a measure of gross municipal density for the years 1990, 2000, and 2010 using Decennial Census data. On average, municipal population density within the MPA decreased by about 200 people per square mile between 1990 and 2010. The largest decreases were observed in Champaign, Urbana, and Mahomet, with approximately 650, 575, and 275 fewer people per square mile, respectively. A smaller density decrease of 35 people per square mile was observed in Tolono, while Bondville's density grew by 286 and Savoy remained relatively constant with an increase of 4 people per square mile. Historic data from 1990 to 2010 are shown in Figure 4.1.

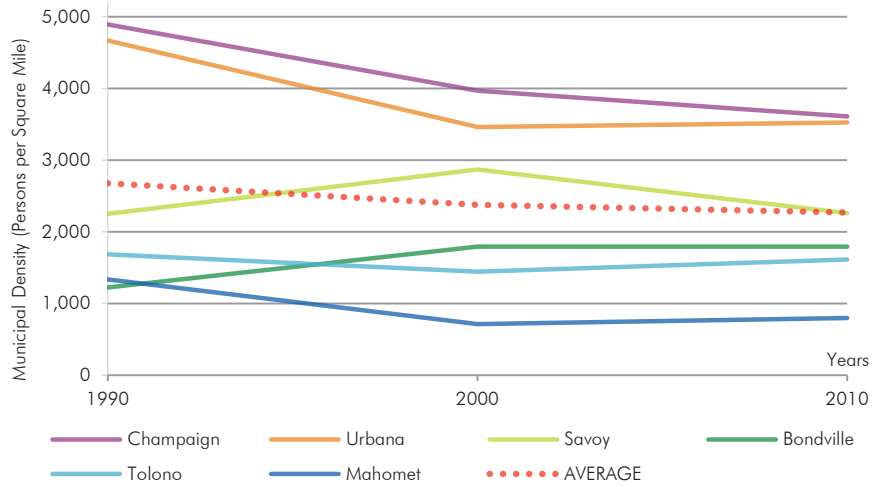
Residential population density was compared for Champaign, Urbana, Bondville and Savoy in the urbanized area through a measure of gross residential density for the years 2007-2011 using data from RPC's State of the County 2010 Report, the Champaign County Tax Assessor's parcel data, the 2010 Decennial Census and the American Community Survey. This information was not available for Tolono and Mahomet, but will be tracked and compiled annually as these municipalities' participation in regional transportation planning within the MPA evolves.

Residential density change from 2007 to 2012 is shown in Figure 4.2. Notably, there was significant land area increase from 2007 to 2008 in Champaign, Urbana and Savoy which was a contributing factor to the indicated decline in the density. Residential densities in each municipality have increased overall since 2008.

ACREAGE PER LAND USE CATEGORY

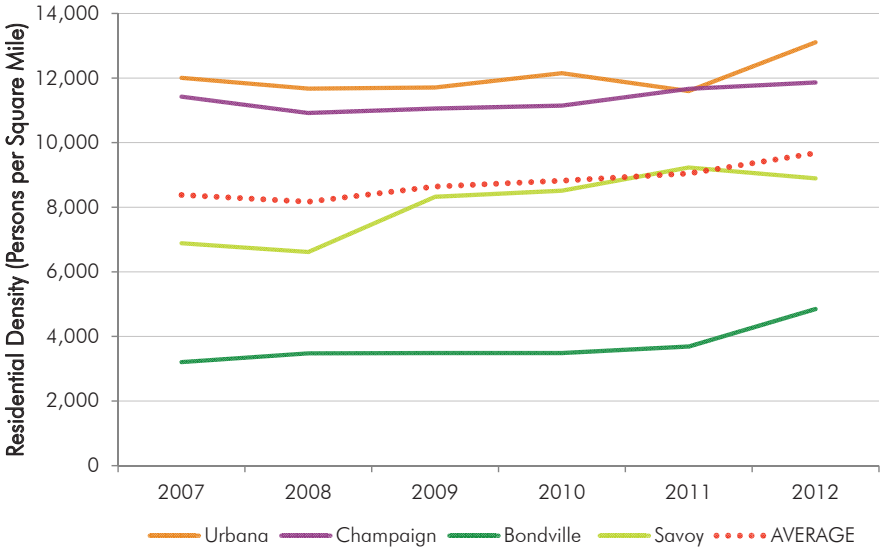
Agriculture remains the biggest land use within the MPA, although there was an estimated reduction of 7.6 percent of agricultural land acreage between 2009 and 2012. The Private Open Space classification between 2009 and 2011 is inconsistent, which makes the comparison between them difficult. Public Open Space has doubled since 2009 – partially due to a significant amount of Private Open Space acreage being converted to Public Open Space. Other land uses have not experienced a significant change since 2009, with the exception of Utilities and Other land use categories, whose definitions have changed since 2009, which makes comparisons to previous years difficult.

FIGURE 4.1 POPULATION DENSITY CHANGE OVER TIME (1990-2010)



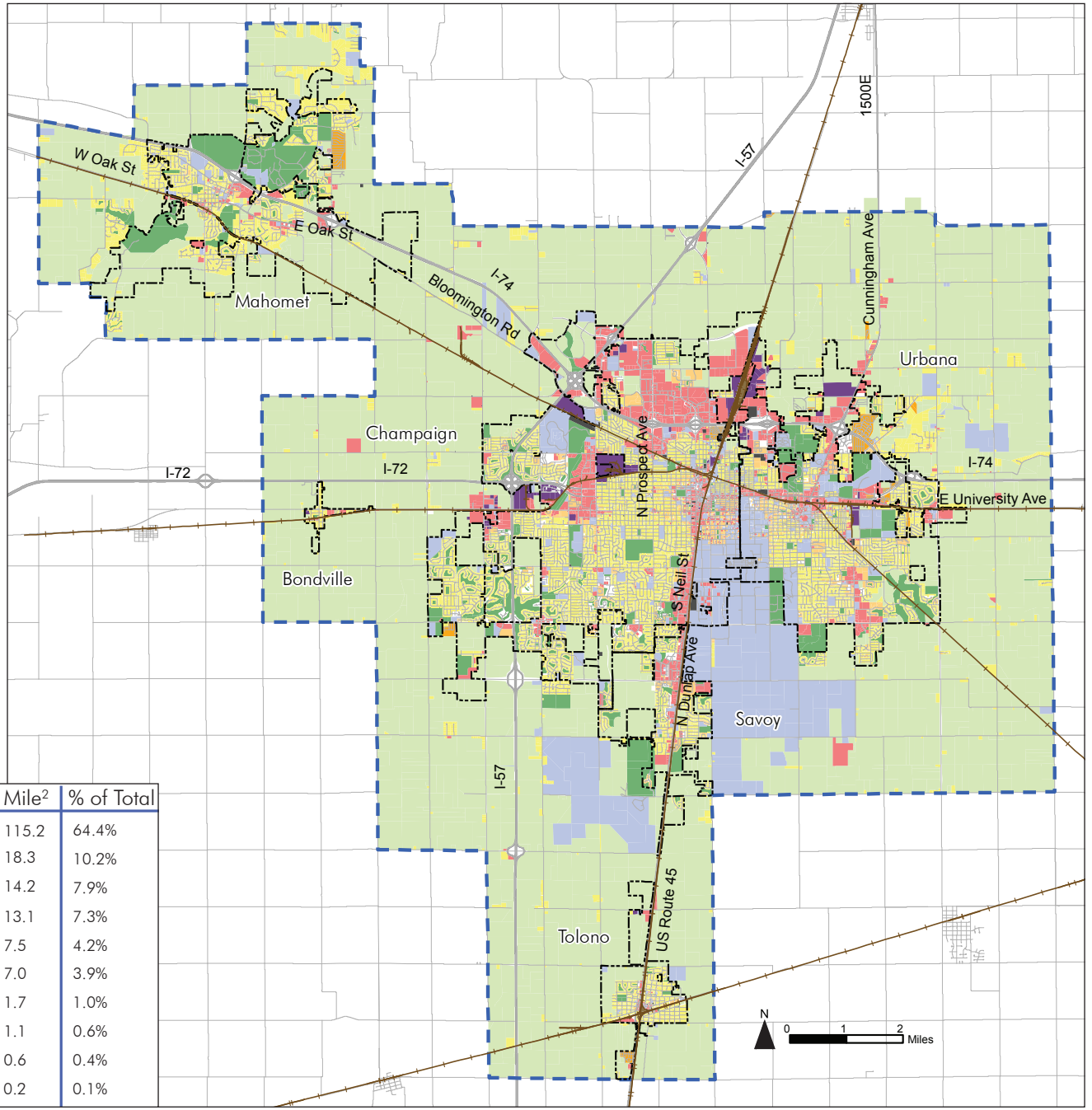
Source: 2010 Decennial Census

FIGURE 4.2 RESIDENTIAL DENSITY CHANGE OVER TIME (2007-2011)



Source: State of the County 2010 Report, Champaign County Regional Planning Commission; Champaign County Tax Assessor; 2010 Decennial Census; 2007-2011 American Community Survey Parcel-Level Land Use

FIGURE 4.3 PARCEL-LEVEL LAND USE



LRTP Planning Boundary
Municipalities
Roadways
Railroads

Land Use	Mile²	% of Total
Agriculture	115.2	64.4%
Single Family Residential	18.3	10.2%
Government, Education & Churches	14.2	7.9%
Other (e.g. roadway)	13.1	7.3%
Open Space	7.5	4.2%
Commercial	7.0	3.9%
Multi-Family Residential	1.7	1.0%
Industrial	1.1	0.6%
Mobile Homes	0.6	0.4%
Utilities	0.2	0.1%

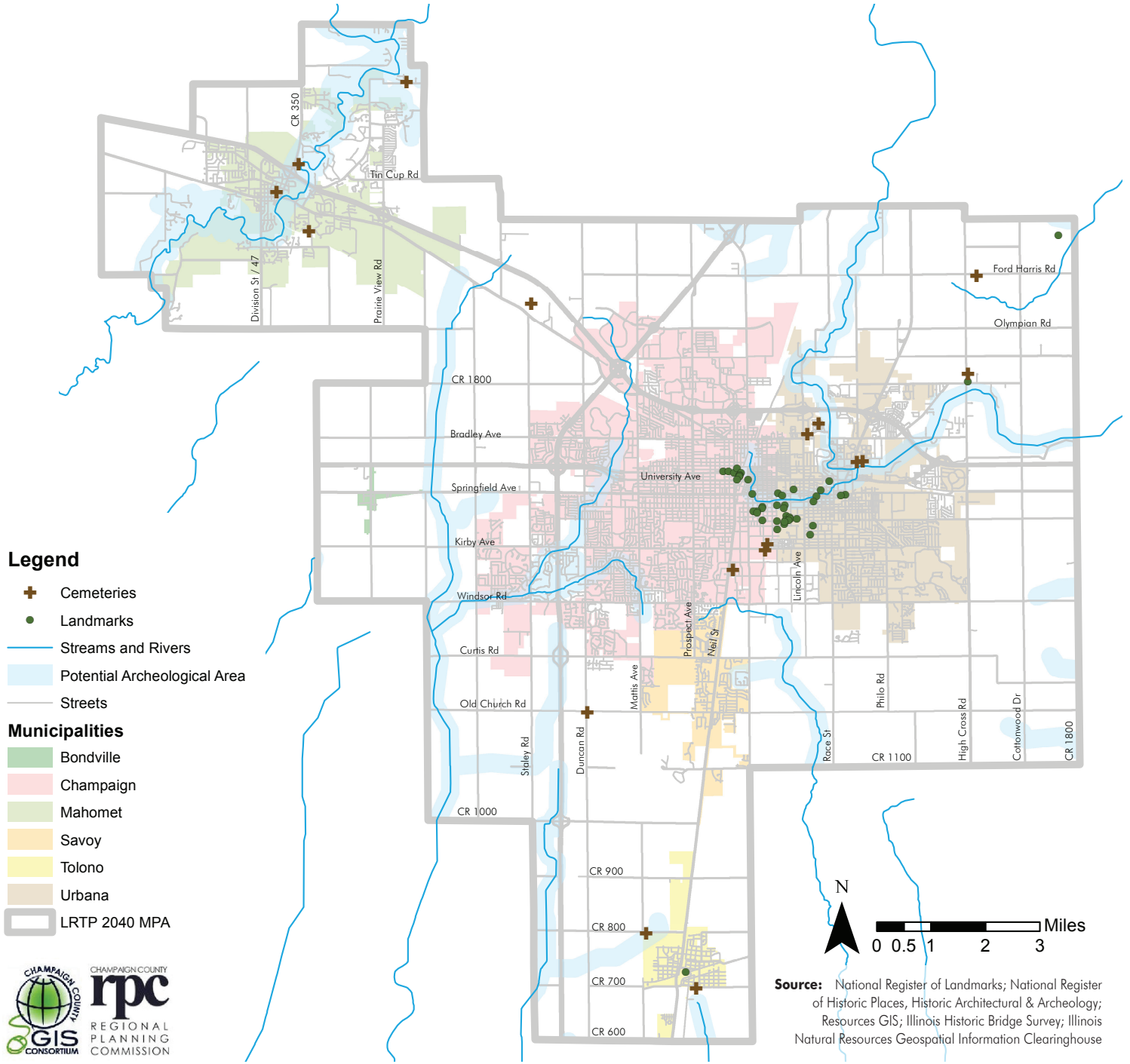
Source: Champaign County Tax Assessor - Parcel Data

ARCHEOLOGICAL AND HISTORICAL SITES

Cultural, historical, and archeological resources in the MPA include significant buildings, sites, districts, structures, and objects. Figure 4.4 displays locations and types of archeological and historical resources – the majority of which are found within or near the University of Illinois campus, downtown Champaign, and downtown Urbana. With regard to transportation and development, locations of any new development needs to take measures to avoid adverse impacts such as damage, destruction, or removal of these features. Furthermore, transportation-related development should seek to preserve the larger setting of these structures when the setting is a significant element of the property.

From top to bottom: Cinema in Urbana, opened in 1941; Astronomical Observatory at the University of Illinois, designed by Architect Charles A. Gunn in 1896; Virginia Theater in Champaign, opened in 1921

FIGURE 4.4 ARCHEOLOGICAL AND HISTORICAL SITES



Source: National Register of Landmarks; National Register of Historic Places, Historic Architectural & Archeology; Resources GIS; Illinois Historic Bridge Survey; Illinois Natural Resources Geospatial Information Clearinghouse

5 Existing Conditions ENVIRONMENT

ENVIRONMENT

It is critical to consider the natural environment when accounting for the short- and long-term impacts of transportation decisions. In connection with new approaches to how we maintain and enhance the livability of our region, MAP-21 reconfirms the need to enhance the performance of transportation systems while protecting and enhancing the natural environment as one of its primary goals. Managing environmental resources as a group of strategic assets that are crucial to municipal goals, important to ecosystem health, and beneficial to the region is key to successful regional management. Key environmental assets may be described as follows:

- Clean air: essential to both human and ecosystem health.
- Rivers and other water bodies: provide drinking water, recreation, and act as natural pollution filters.
- Biodiversity: essential for food, materials, improved quality of life, and increases the region's resilience to environmental change.
- Forests: serve as watersheds, habitats, carbon sinks, leisure amenities, and tourist destinations. If managed sustainably, forests are also a source of energy and building materials.
- Wetlands: filter and process stormwater and waste as well as acting as a nursery for aquatic life.

The natural environment provides the region with several ecosystem services which are fundamental to urban livability. In considering environmental resources, these benefits may be managed and increased by planning transportation networks in a way that preserves, unifies, and invests in these natural systems.

AIR QUALITY

The State of Illinois' Environmental Protection Act serves to monitor and control the concentrations of six airborne pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), particulate matter (PM10 and PM2.5), ozone (O_3), and sulfur dioxide (SO_2). Additionally, ozone concentration data pertaining to the urbanized area has been acquired from the Illinois State Water Survey's (ISWS) Bondville monitoring site. In the past, ozone data was obtained from a monitoring station located at B. T. Washington Elementary School in Champaign. However, the old school building, along with the monitoring station, were removed in 2010. The EPA has not provided any information regarding the installation of additional monitoring stations in the future.

Particulate matter, both PM10 and PM2.5, refers to a measurement of air particle size: 10 micrometers and 2.5 micrometers respectively. Contamination at these levels is typically the result of chemical reactions such as vehicular combustion, power generation, and certain industrial processes. Major components measured by the Illinois State EPA include sulfur dioxide, carbon monoxide, and nitrogen dioxide. The exact chemistry is complex, and particle formation is dependent on other pollutants and atmospheric conditions. In the context of the Metropolitan Planning Area (MPA), it is important to note that ammonia from surrounding agricultural sources such as fertilizer and animal feed operations contributes to the formation of sulfurous and nitrogenous particulate matter that exists in the atmosphere such as ammonium sulfate and ammonium nitrate[1].

1 The Particle Pollution Report: Current Understanding of Air Quality and Emissions through 2003. Neil Frank. 2006. The Chemical Composition of PM2.5 to support PM Implementation. AQAG/AQAD USEPA. Pomporn Chantara. 2012. PM10 and Its Chemical Composition. Chiang Mai University.

Ground level ozone is not emitted directly into the air but is rather the result of chemical reactions between the natural environment and factors such motor vehicle exhaust, gasoline vapors, and industrial and utility emissions. Ozone is likely to reach elevated levels on hot, sunny days in urban environments. It can also be transported long distances by wind. For this reason, even rural areas have the potential to experience high ozone levels[2].

Previously, motor vehicles were the leading contributor of **lead emissions** into the air. As a result of the EPA's regulatory efforts to reduce lead in on-road motor vehicle gasoline, air emissions of lead from the transportation sector, particularly the automotive sector, have greatly declined over the past two decades. Today, the leading cause of lead pollution has shifted to air travel - specifically piston-engine aircraft operating on leaded aviation gasoline. Likewise, stationary sources such as waste incinerators and utilities also contribute to lead emissions within the MPA[3].

Table 5.1 provides a summary of each pollutant measured by the Illinois Environmental Protection Agency (EPA), alongside current national standards. "Primary Standards" refer to air quality levels required to protect public health with an adequate margin of safety. "Secondary Standards," also known as "welfare standards," refer to air quality levels required to safeguard visibility, comfort, animals, and property from the unfavorable effects of poor air quality. An additional primary standard for Sulfur Dioxide (SO_2) of 75 parts per billion (ppb) for the 1-hour averaging time was added to the final EPA rule, as of June 2, 2010.

TABLE 5.1 AMBIENT AIR QUALITY STANDARDS (2011)

		Standard	
Pollutant	**Averaging time**	**Primary**	**Secondary**
Particulate Matter 10 micrometers (PM10)	24-hour	150 $\mu g/m^3$	Same as Primary
Particulate Matter 2.5 micrometers (PM2.5)	Yearly Average	15.0 $\mu g/m^3$	Same as Primary
	24-hour	35 $\mu g/m^3$	Same as Primary
Sulfur Dioxide (SO_2)	1-hour	75 ppb	None
	3-hour	None	0.5 ppm
Carbon Monoxide (CO)	1-hour	35 ppm	None
	8-hour	9 ppm	None
Nitrogen Dioxide (NO_2)	Yearly Average	53 ppb	Same as Primary
	1-hour	100 ppb	None
Ozone (O_3)	1-hour	0.12 ppm	Same as Primary
	8-hour	0.075 ppm	Same as Primary
Lead (P_b)	Rolling 3-Month Mean	0.15 $\mu g/m^3$	Same as Primary

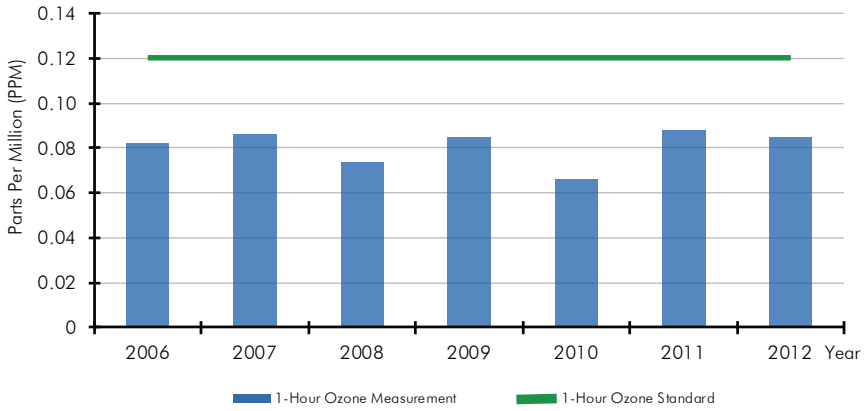
Source: http://www.epa.state.il.us/air/air-quality-report/2011/air-quality-report-2011.pdf

2 http://www.epa.gov/airquality/ozonepollution/basic.html

3 http://www.epa.gov/airquality/lead/

According to the Illinois EPA, the Champaign-Urbana Urbanized Area has maintained an overall "attainment status" for locally measured air pollutants, despite mixed results within the region. Attainment status denotes that air quality in a particular region meets federal air quality standards. Although Particulate Matter (Table 5.2) and Ozone 1-hour pollutant levels (Figure 5.1) continued to decrease and were safely below state standards, Ozone 8-hour level measurements (Figure 5.2) were above the state standard for the second year in a row. As a result, air quality should be improved to below attainment status for the entire MPA in part by the reduction of overall Vehicle Miles Traveled (VMT). Also, it would be important to install additional, strategically placed monitoring stations to adequately track and monitor progress.

FIGURE 5.1 ANNUAL 1-HOUR OZONE READINGS (AVERAGE OF THE FOUR HIGHEST READINGS)



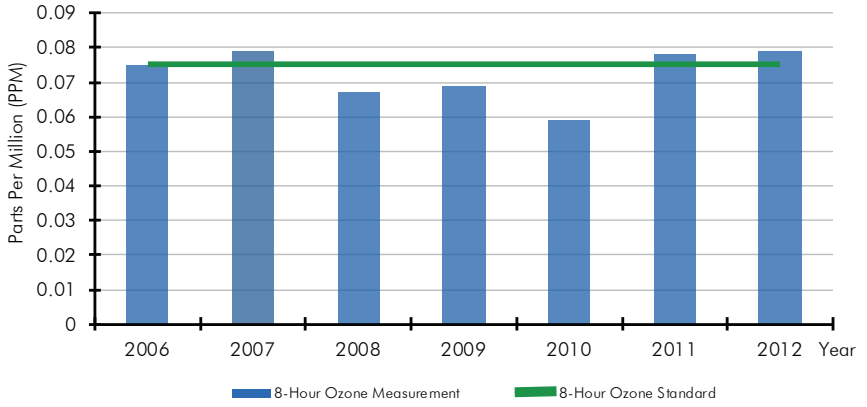
Source: http://www.epa.state.il.us/air/air-quality-report/index.html- 2010 Report Data provided by the Annual Air Quality Reports for Illinois, Bondville and Champaign Stations

TABLE 5.2 URBANIZED AREA PARTICULATE MATTER COUNTS (2006 – 2012)

	Ozone			Particulate Matter, Fine (PM2.5)
	Number of Days Greater Than:			Yearly Average
Year	>.12ppm	>.08ppm	>.075ppm	(micrograms per cubic meter)
2006	0	0	N/A	12.1
2007	0	0	1	12.7
2008	0	0	0	10.7
2009	0	0	0	10.5
2010	0	0	0	Not Available
2011	0	2	2	10.6
2012	0	0	4	9.7

Source: http://www.epa.state.il.us/air/air-quality-report/index.html- 2010 Report Data provided by the Annual Air Quality Reports for Illinois, Bondville and Champaign Stations

FIGURE 5.2 ANNUAL 8-HOUR OZONE READINGS (AVERAGE OF THE FOUR HIGHEST READINGS)



Source: http://www.epa.state.il.us/air/air-quality-report/index.html- 2010 Report Data provided by the Annual Air Quality Reports for Illinois, Bondville and Champaign Stations

WATER QUALITY

Water quality information is based on the Illinois Environmental Protection Agency's (IEPA) Biannual Integrated Water Quality Report and Section 303d Lists. These documents offer information related to the condition of surface water in Illinois. These surface water assessments are based primarily on biological, water, physical habitat, and fish-tissue data collected from monitoring programs across the state. Each designated water use is measured by whether or not the given use is supported. Within the MPA, three uses have been observed for various water body segments: Aquatic Life, Primary Contact, and Fish Consumption. Respectively, these uses indicate the presence of aquatic life, human contact for recreational use such as swimming and water skiing, and the ability to safely consume fish. For each applicable designated use, a support level of "Fully Supporting" or "Not Supporting" is given. "Fully Supporting" means that the designated use is presently attained, while "Not Supporting" means the use is not attained.

Water quality in the region has had mixed results over the past four years (Table 5.3). Portions of the Saline Branch, Embarras River, and Kaskaskia River have either maintained or improved their water quality over the study period. Another portion of the Kaskaskia River went from "Fully Supporting" to "Not Supporting" aquatic life. This trend, coupled with the continued non-support of designated uses in six other streams, rivers, and lakes does not bode well for water quality in the region.

The Mahomet Aquifer provides the Champaign-Urbana urbanized area with a high-quality source of water for residential, municipal, commercial, and industrial consumption. The aquifer is located in east-central Illinois with a service area extending from the Indiana state line to the Illinois River. According to the 2012 Petition to Designate the Mahomet Aquifer as a Sole Source Aquifer, an estimated 513,700 people live within the Mahomet Aquifer service area and 509,000 people (or 99%) are served by the aquifer. A 2009 report from the Illinois State Water Survey shows significant drawndown trends in the Mahomet Aquifer though no shortages are yet predicted[1].

TABLE 5.3 WATER QUALITY CHANGE (2008-2012)

Name	Segment ID	Designated Uses	Use Support 2008	Use Support 2012
Saline Branch	IL_BPJC-06	Aquatic Life	Not Supporting	Fully Supporting
	IL_BPJC-08	Aquatic Life	Not Supporting	Not Supporting
Union Dr Branch	IL_BPJM-01	Aquatic Life	Not Assessed	Not Assessed
Boneyard Creek	IL_BPJCA	Aquatic Life	Not Supporting	Not Supporting
Embarras River	IL_BE-14	Aquatic Life	Not Supporting	Fully Supporting
		Primary Contact	Not Supporting	Not Supporting
Kaskaskia River	IL_O-35	Aquatic Life	Fully Supporting	Fully Supporting
		Fish Consumption	Not Supporting	Not Supporting
	IL_O-37	Aquatic Life	Fully Supporting	Not Supporting
		Fish Consumption	Not Supporting	Not Supporting
Copper Slough	IL_OZYA	Aquatic Life	Fully Supporting	Not Supporting
Phinney Branch	IL_OZYB	Aquatic Life	Not Assessed	Not Assessed

Source: IEPA Integrated Water Quality Report, 2012

1 Roadcap, G.S. and H.A. Wehrmann, 2009. Impact of Future Water Demand on the Mahomet Aquifer: Preliminary Summary of Groundwater Flow Modeling Results, Illinois State Water Survey, Institute of Natural Resource Sustainability, University of Illinois at Urbana-Champaign, Champaign, March 2009.

ECOLOGICAL FRAMEWORK

It is important to consider where development of infrastructure for transportation and other land uses will take place because local species often rely on sensitive natural areas like grasslands, woodlands and wetlands. In June 2013, there were 13 endangered and nine threatened species living in Champaign County, according to the Illinois Natural Heritage Database (Table 5.4). In 2011, land cover within the metropolitan planning area consisted of 80,492 acres of grassland or agricultural use, 30,148 acres of urban landscape, 3,461 acres of woodlands, and 545 acres of wetlands (Figure 5.3).

Information on woodlands, urban areas, grasslands, and agricultural uses was obtained from aerial photography taken in 2011. Wetland information for the Champaign-Urbana Urbanized Area is based on data from the United States Fish and Wildlife Service (USFWS) National Wetland Inventory classification system, as well as from local agencies. In order to track preservation (or exploitation) of natural systems over time, land cover acreage should be mapped every five years during the development of the LRTP to better account for environmental maintenance efforts. Wetlands, in particular, greatly assist in retaining storm water during times of heavy precipitation and work to reduce the effects of regional flooding in addition to providing habitat for specific types of vegetation and animal species not found in other environments.

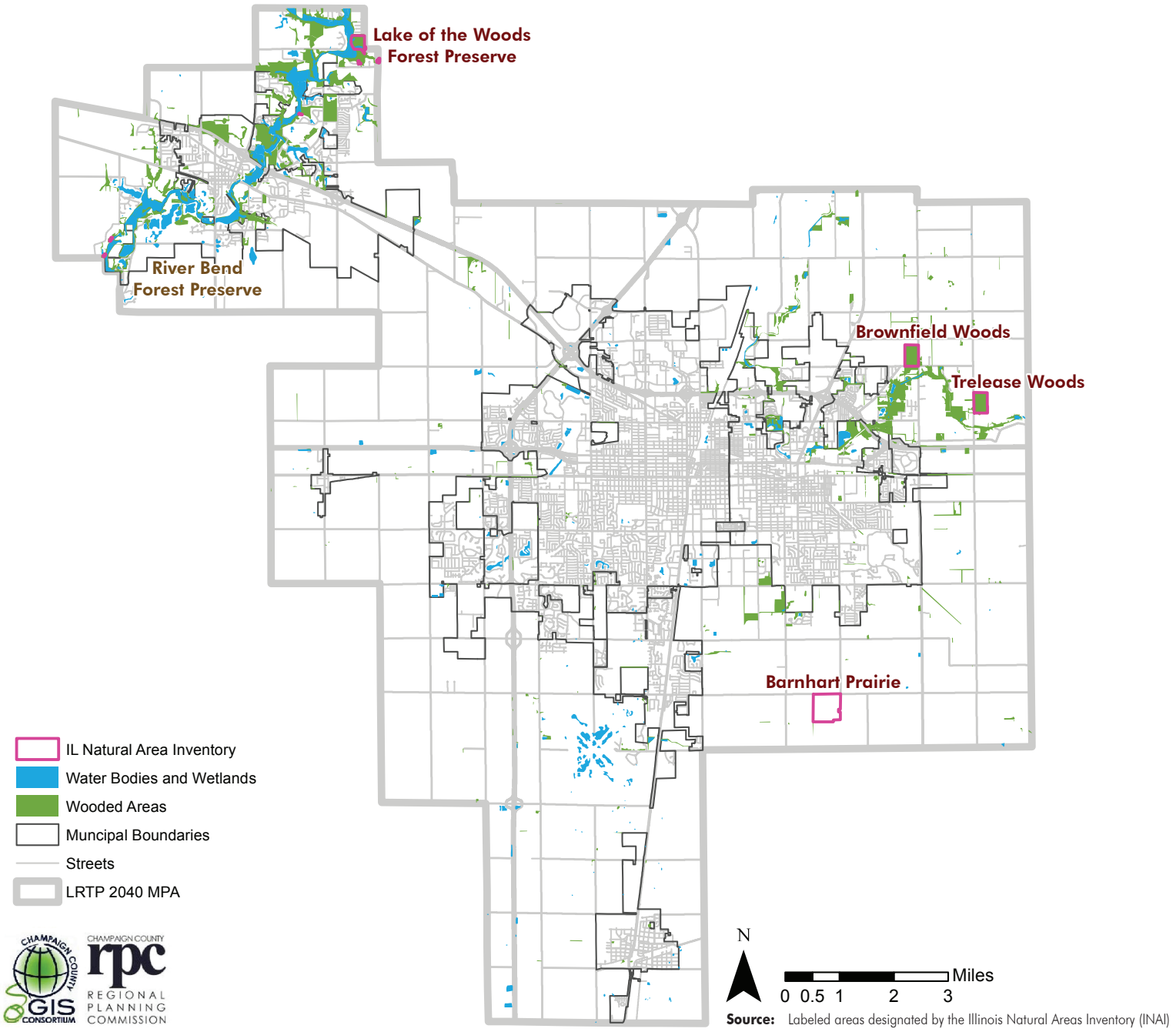
TABLE 5.4 THREATENED & ENDANGERED SPECIES IN CHAMPAIGN COUNTY (2013)

Scientific Name	Common Name	State Protection	Occurence	Last Observed
Bartramia longicauda	Upland Sandpiper	Endangered	2	1999
Circus cyaneus	Northern Harrier	Endangered	1	1994
Emydoidea blandingii	Blanding's Turtle	Endangered	1	5/1/1953
Epioblasma rangiana	Northern Riffleshell	Endangered	1	8/8/2012
Etheostoma camurum	Bluebreast Darter	Endangered	1	8/13/2012
Hybopsis amblops	Bigeye Chub	Endangered	4	8/29/2012
Hybopsis amnis	Pallid Shiner	Endangered	2	8/18/1928
Lampsilis fasciola	Wavy-rayed Lampmussel	Endangered	3	7/25/2006
Lanius ludovicianus	Loggerhead Shrike	Endangered	1	5/23/1990
Myotis sodalis	Indiana Bat	Endangered	1	7/1/2010
Phlox pilosa ssp. Sangamonensis	Sangamon Phlox	Endangered	5	7/5/2012
Simpsonaias ambigua	Salamander Mussel	Endangered	1	8/16/2000
Tyto alba	Barn Owl	Endangered	1	8/2/2005
Alasmidonta viridis	Slippershell	Threatened	2	10/12/2010
Ammocrypta pellucidum	Eastern Sand Darter	Threatened	2	8/27/2012
Cyclonaias tuberculata	Purple Wartyback	Threatened	2	8/24/2011
Elliptio dilatata	Spike	Threatened	2	8/20/1988
Ixobrychus exilis	Least Bittern	Threatened	1	8/1/1993
Necturus maculosus	Mudpuppy	Threatened	3	6/4/2012
Spermophilus franklinii	Franklin's Ground Squirrel	Threatened	4	6/22/2010
Tomanthera auriculata	Ear-leafed Foxglove	Threatened	1	9/19/1933
Villosa lienosa	Little Spectaclecase	Threatened	3	8/19/2011

Total Number of Species = 22 (13 Endangered, 9 Threatened)

Source: Illinois Natural Heritage Database

FIGURE 5.3 NATURAL AREAS IN THE MPA



Source: Labeled areas designated by the Illinois Natural Areas Inventory (INAI)

6 Existing Conditions
PUBLIC HEALTH

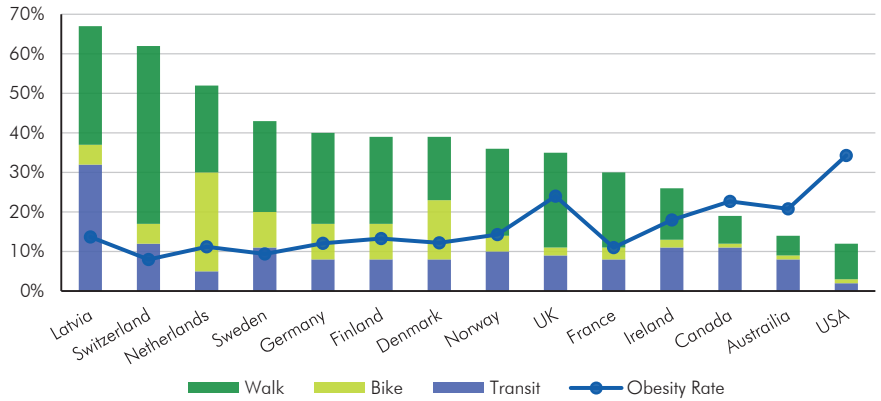
PUBLIC HEALTH

CUUATS aims to increase understanding about the different ways physiological, social, and environmental health is connected to the transportation system by including public health data in the long range transportation planning process. Transportation systems have well-documented connections to public health through the ways they encourage or discourage different transportation mode choices and land use decisions. For instance, transportation mode choices can impact people's ability to get recommended levels of daily physical activity for good health. A 2004 study published in the American Journal of Preventative Medicine shows that as the reliance on cars increases, so does the likelihood of obesity[1]. By choosing more active forms of transportation, such as walking or biking, individuals can increase their amount of physical activity and therefore reduce their risk of obesity (see Figure 6.1).

Figure 6.2 shows that the rates of two health conditions closely tied to low levels of physical activity, obesity and diabetes, have risen sharply in the United States since 1995. Those are just two of several health impacts connected with the transportation system as a result of individual mode choice, exposure to vehicle emissions, and/or accessibility between neighborhoods and community resources. Such resources include jobs, schools, grocery stores, and cultural opportunities. As physical activity and related aspects of physiological, social, and environmental health have declined over time, it is important to consider how transportation mode choices impact local community health.

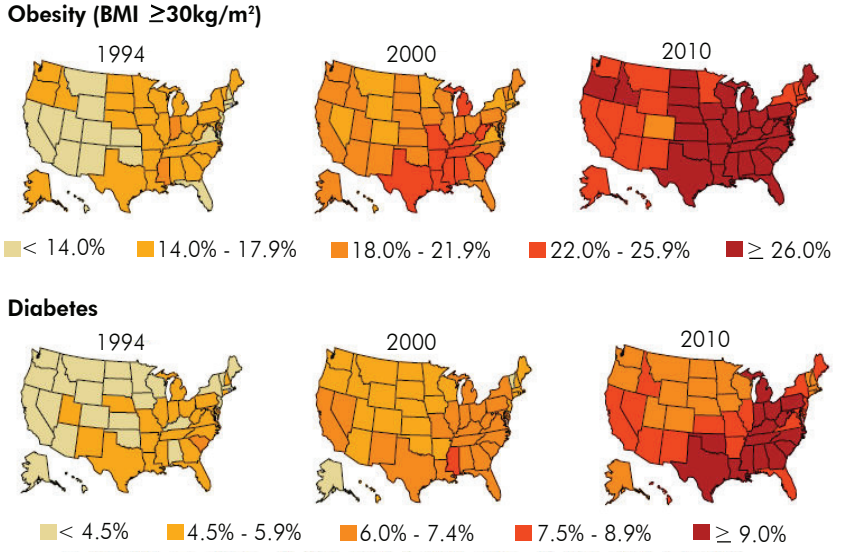
1 Lawrence D. Frank, Martin A. Andresen, Thomas L. Schmid. (2004). Obesity relationships with community design, physical activity, and time spent in cars. American Journal of Preventive Medicine, 27 (2).

FIGURE 6.1 CORRELATION BETWEEN OBESITY AND TRANSPORTATION MODES



Source: PolicyLink, Prevention Institute, and Convergence Partnership. 2009. Healthy, Equitable Transportation Policy.

FIGURE 6.2 PREVALENCE OF OBESITY AND DIABETES IN THE US

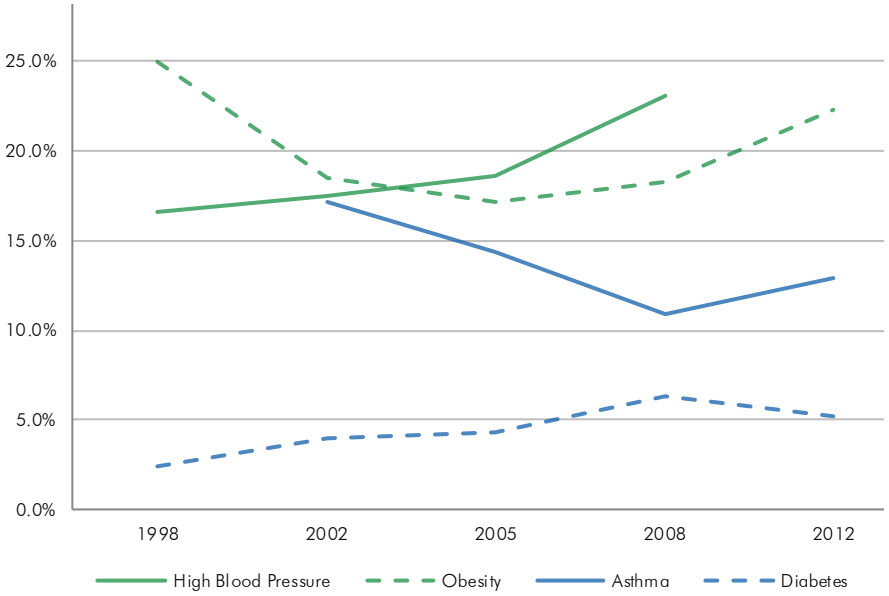


Source: CDC's Division of Diabetes Translation. National Diabetes Surveillance System.

The Champaign-Urbana Urbanized Area, like most communities in the United States, is considered auto-centric, which means that not only do most people rely on automobiles for getting around, a significant amount of financial and environmental resources are devoted to building and maintaining roads and other infrastructure to accommodate cars. As referenced in the *Motor Vehicles* section of Chapter 7, approximately 72 percent of the workers in the urbanized area drove alone to work in 2010, which did not include time spent driving alone to places other than work like school, the supermarket, restaurants, etc. In addition to reducing physical activity, air pollutants that result from car emissions can impact local health. The *Environment* chapter of this document describes that, while the air pollutants measured in the urbanized area met federal air quality standards, ozone level measurements were above the state standard for the second year in a row.

Figure 6.3 demonstrates levels of four different illnesses in Champaign County that are impacted by the local transportation system and mode choices. Blood pressure and diabetes both rose significantly from 1998 to 2008, and both conditions could be improved by increased physical activity (data was not available for blood pressure in 2012). In order to create a more sustainable transportation system by 2040 with more active mode choices for residents to offset the negative health impacts associated with such a dominant reliance on automobile ownership, improving and expanding the infrastructure for walking, biking, and public transit will be considered.

FIGURE 6.3 CHAMPAIGN COUNTY BEHAVIORAL RISK FACTORS



Source: Illinois Behavioral Risk Factor Surveillance System, http://app.idph.state.il.us/brfss/statedata.asp

Scientific evidence in the public health literature has firmly established the relationship between transportation mode choice and public health. In a 2010 report entitled *The Hidden Health Costs of Transportation* prepared for the American Public Health Association by Urban Design 4 Health, Inc., the authors cite several studies demonstrating differences between car-based communities and communities that facilitate more active modes of transportation through better support and infrastructure for walking, biking, and public transit.

Residents in communities with more options for active transportation show significant physiological, social, and environmental improvements over residents in car-based communities. Physiological improvements include higher individual levels of physical activity as well as lower body weight. Active transportation systems combined with fewer cars on the road can also lead to social improvements such as fewer traffic injuries and increased mobility for residents who do not own or have access to a car. For the eight percent of Champaign County residents who do not own or have access to a car, public transportation is an important connection to jobs, school, family and friends, food, recreation, and medical care - all of which are essential for social well-being and good health. Environmental improvements include lower rates of air pollution, which can trigger asthma attacks.

The U.S. Department of Health and Human Services recommends that adults age 18-64 get at least 150 minutes of physical activity a week. For kids the recommendation is even higher: kids ages 6-17 should get at least 60 minutes of physical activity every day to grow and maintain a healthy body - a recommendation which CUUATS is already working to address through the Champaign-Urbana Safe Routes to School Project.

The Champaign-Urbana Safe Routes to School Project is a national program administered locally by a coalition of stakeholders in which CUUATS planners work on coordinating plans, programming events, and assisting local agencies with improving infrastructure so that kids can get safely to and from school while connecting with their neighborhood, improving their health, and decreasing the traffic and air pollution that comes from cars. Since 2004, CUUATS staff has worked with 23 area schools to facilitate sustainable and active transportation for school children through activities that include administering and analyzing surveys, creating safe walking route maps, and creating Safe Routes to School Plans.

Yankee Ridge Bike to School Day, Urbana, 2013, photo courtesy of C-U Safe Routes to School Project

RESIDENTS IN COMMUNITIES WITH MORE OPTIONS FOR ACTIVE TRANSPORTATION SHOW SIGNIFICANT PHYSIOLOGICAL, SOCIAL, AND ENVIRONMENTAL IMPROVEMENTS OVER RESIDENTS IN CAR-BASED COMMUNITIES.

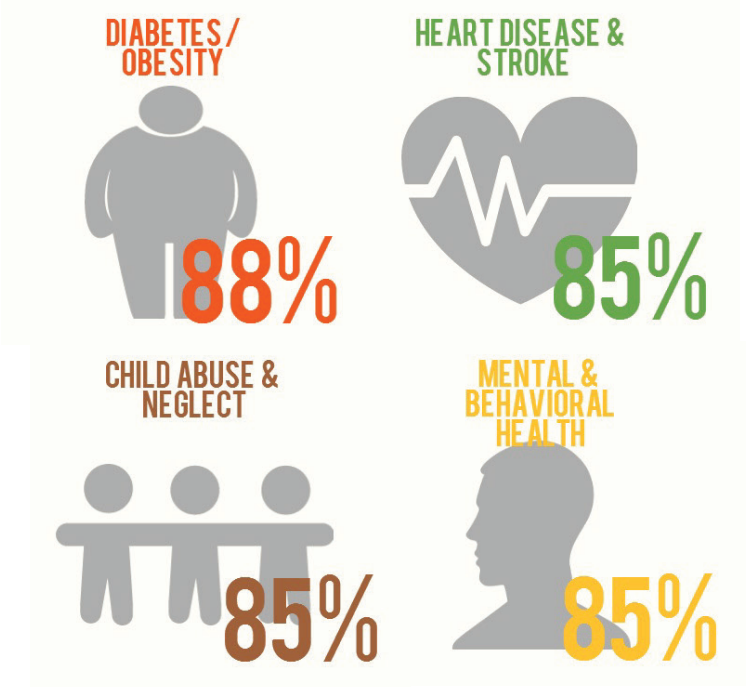
HEALTH IMPACT ASSESSMENT

CUUATS staff recently completed an extensive Health Impact Assessment (HIA) to analyze the impact of transportation and the built environment on population health in the Champaign-Urbana area. HIA is a policy analysis tool that can be used to formalize public health considerations in planning processes. The most direct impact of the built environment on health is in regard to levels of physical activity, which are closely linked to obesity. Diabetes/obesity has been identified as one of the top four health concerns in the Champaign County community by the 2014-2016 Community Health Improvement Plan, coordinated by the Champaign-Urbana Public Health District (CUPHD) (Figure 6.4). Moreover, obesity has been strongly linked to heart diseases, various types of cancer, and other cardiovascular diseases. As such, the HIA was designed to establish a robust relationship between the built environment and the local obesity rate.

The analysis revealed that there were significant correlations between obesity and built environment variables such as density, service accessibility, transit connectivity, active transportation infrastructure, and more. Obesity rates were generally lower in neighborhoods that had higher population density, better land use mix, higher accessibility to jobs and services, and better transit connectivity. Based on the results of the HIA, a health index was developed that was used to rate the built environment variables of different planning areas in terms of their impact on levels of physical activity and local health. Figure 6.5 is the summary health index map, where the higher scores represent locations with more built environment features that are correlated with higher physical activity and lower obesity. The detailed report outlining the methodologies and results of the Champaign-Urbana HIA can be found in Appendix B.

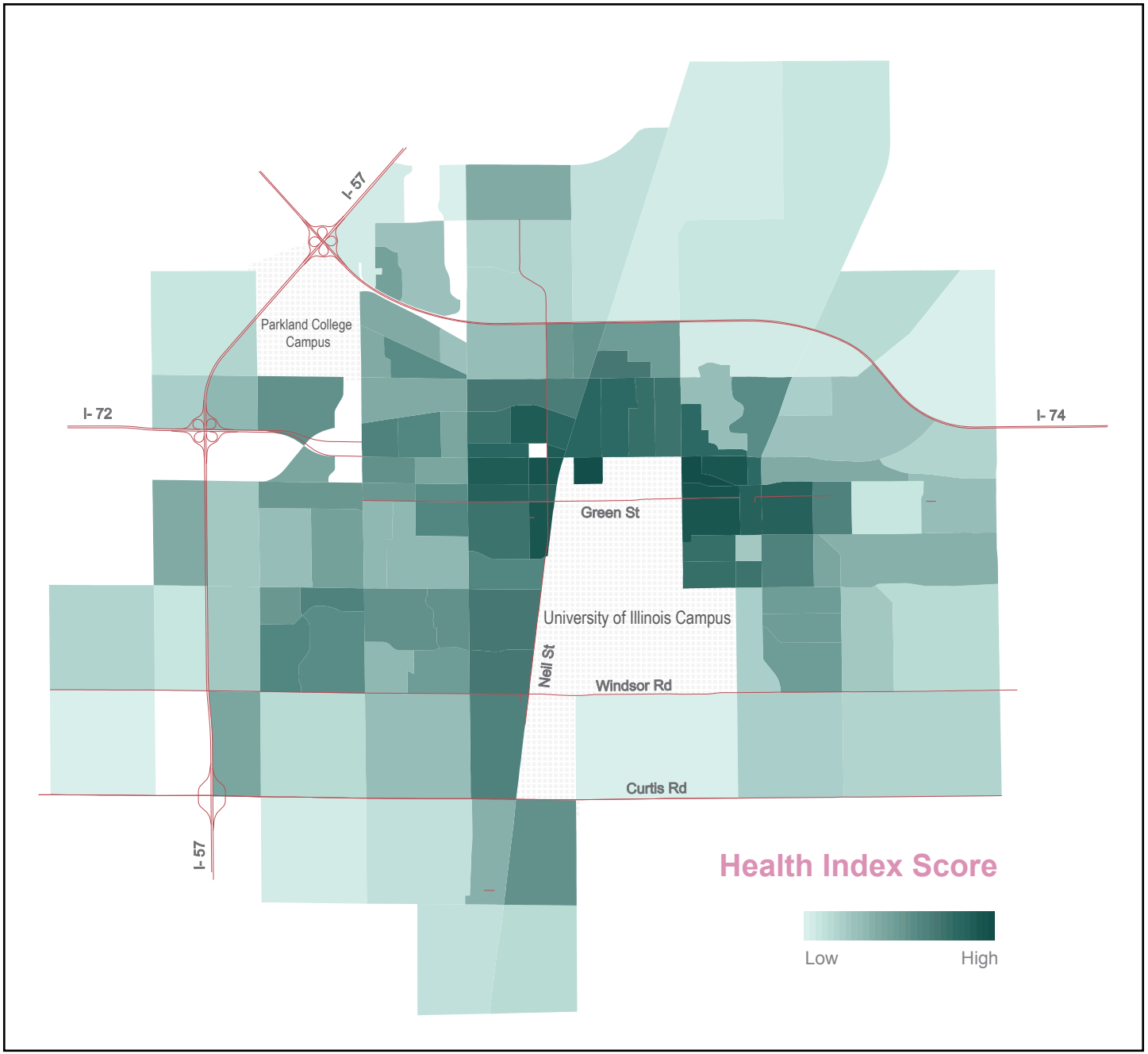
FIGURE 6.4 TOP COMMUNITY HEALTH PRIORITIES

When participants were asked to rank the community's major health issues, the top four priorities were:



Source: Community Health Improvement Plan, Champaign County, Illinois, 2014-2016, CUPHD

FIGURE 6.5 HEALTH INDEX SCORE BASED ON THE CHAMPAIGN-URBANA HIA



Source: Champaign-Urbana Health Impact Assessment, CUUATS, 2014

An important limitation related to studying the relationships between different health conditions and the transportation system is that correlations do not necessarily prove causation. Many illnesses and health conditions reveal themselves in different ways in different people and result from intersections of multiple factors and risk modifiers. The findings of this study should not be interpreted as asserting that the transportation system is the only factor that determines health outcomes in the community. At the same time, scientific evidence asserts that even small increases in active transportation could lead to significant decreases in chronic disease and increases in overall public health, which makes this a unique opportunity for CUUATS to facilitate positive change in the health of the community.

LOCAL ACCESSIBILITY AND MOBILITY ANALYSIS

Similar in scope to the HIA, CUUATS staff recently completed the Local Accessibility and Mobility Analysis (LAMA) that attempts to characterize the accessibility and mobility of different planning areas in the Champaign-Urbana urbanized area. This was a qualitative analysis that sought to evaluate the availability of choices related primarily to travel behavior in different neighborhoods. The general conclusion of the analysis was that the combination of mobility and accessibility has a significant impact on travel behavior and transportation costs. Residents living in neighborhoods that have high accessibility to various services (e.g. jobs, grocery stores, and other services), and high mobility (measured in terms of availability of bus routes, bike lanes, sidewalks, etc.) were more likely to use active modes of transportation and have lower transportation costs. As shown in the HIA, neighborhoods with high accessibility and high mobility had significantly lower rates of obesity.

Mobility and Accessibility Indices

Though individual variables provide a rich body of information about the physical characteristics of an area, a long list of variable values can be difficult to understand and interpret. Indices offer a way of condensing multiple variables into a more digestible format.

In order to assess mobility and accessibility at the neighborhood level, the built environment and transportation variables were categorized into the two indices documented on the following page: a mobility index and an accessibility index with the point values displayed in parentheses.

The mobility index collected variables related to the four local modes of transportation: car, walking, bicycle and bus. These variables were combined to assess how easily residents could move around the neighborhood using the four modes.

The accessibility index brought together variables related to the proximity of key destinations, such as employment centers, schools, grocery stores, parks and service businesses. It also assessed the overall land use patterns in the neighborhood for compatibility with access to these destinations.

As with any form of simplification, the mobility and accessibility indices represent a particular set of assumptions and priorities. In general, variables were weighted equally (in points) in each category, except where one was judged to be a more reliable indicator of the mode or destination type.

The maps that follow show the combined index scores. Darker colors indicate higher scores. A detailed report outlining the methodologies and results of LAMA can be found in Appendix C.

FIGURE 6.6 LAMA MOBILITY INDEX

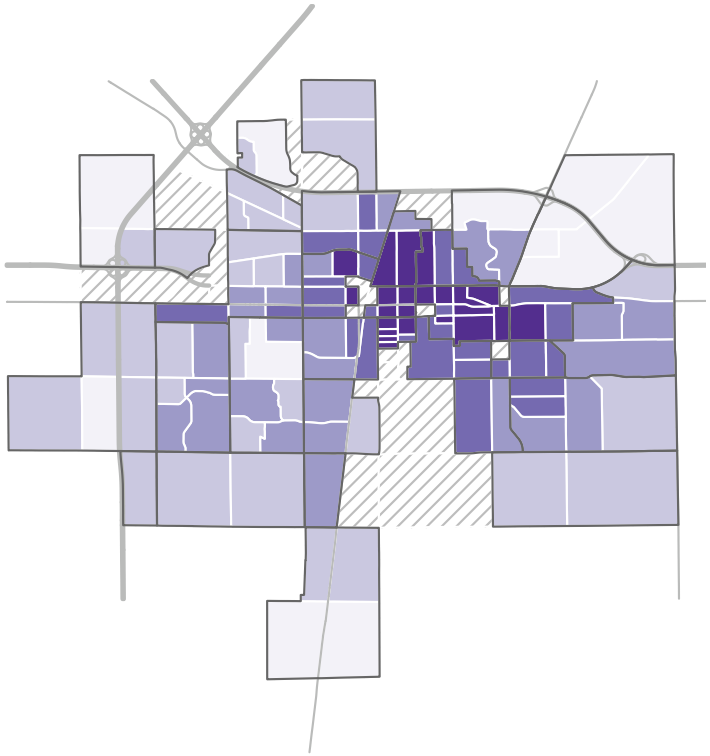
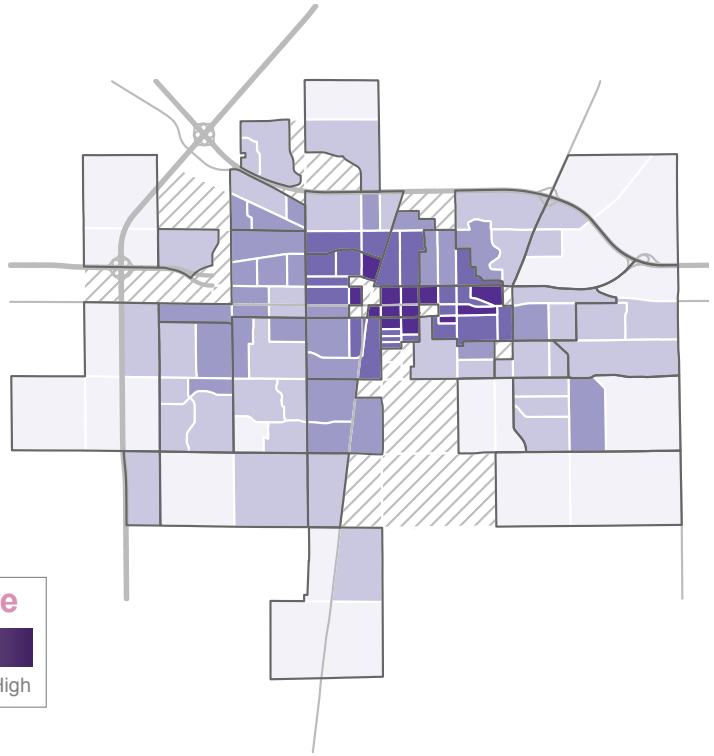
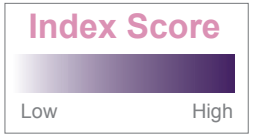


FIGURE 6.7 LAMA ACCESSIBILITY INDEX





Mobility Index (60)

- Street Network (15)
  - Intersection Density (5)
  - Median Block Perimeter (5)
  - Street Connectivity (5)
- Pedestrian Network (15)
  - Sidewalk Coverage (5)
  - Sidewalk Connectivity (5)
  - Streetlight Coverage (5)
- Bicycle Network (15)
  - Bike Facility Coverage (6)
  - Bike Facility Access (9)
- Transit Network (15)
  - Transit Connectivity Index (15)

Accessibility Index (40)

- Land Use (10)
  - Residential Density (5)
  - Land Use Mix (5)
- Employment and Education (10)
  - Employment Access (5)
  - School Access (5)
- Food and Recreation (10)
  - Grocery Store Access (5)
  - Park Access (5)
- Services (10)
  - Service Diversity (5)
  - Service Density (5)

7 Existing Conditions TRANSPORTATION

TRANSPORTATION

This section of the LRTP: *Sustainable Choices 2040* will detail infrastructure, safety, and mode use for the following modes of transportation within the urbanized and metro planning areas:

- Pedestrians and persons with disabilities
- Bicycles
- Bus transit
- Motor vehicles
- Rail and freight
- Airplanes

Understanding how the transportation system currently works with regard to the quantity of the infrastructure and frequency of use, planners can better assess how the system should evolve into the future. Furthermore, providing active transportation options and multimodal access to different parts of the region is paramount to developing healthy neighborhoods and improving population health.

The data in this section of the LRTP were collected by the Champaign County Regional Planning Commission (CCRPC), Champaign-Urbana Urbanized Area Transportation Study (CUUATS), CUUATS member agencies, the Illinois Department of Transportation and U.S. Department of Transportation, and the U.S. Census Bureau.

The following sections will provide detailed information on the existing conditions for each transportation mode within the transportation system, as well as relevant information regarding infrastructure, safety, ridership, mode share, and security where data are available.

The transportation system of the Champaign-Urbana Metropolitan Area includes these major infrastructure elements:

- Miles of Sidewalks 817.9
- Accessible Pedestrian Signals 31
- Miles of Bicycle Infrastructure 86.27
- Traffic Signals 163
- CUMTD Buses 102 buses (55 hybrids)
- CUMTD Routes 52
- CUMTD Bus Stops 2,500
- Miles of Roadway 1,013
- Rail Passenger Routes 3
- Rail Freight Carriers 3
- Commercial Airports 1
- Private Airports 1

TABLE 7.1 COMMUTING MODE FOR WORKERS 16 YRS AND OLDER (2010)

Mode	Champaign	Urbana	Savoy	Bondville	Mahomet	Tolono
Drove Alone	65.3	51.6	75.8	82.9	82.8	82.5
Carpooled	7.9	7.7	11.5	14.4	10.7	12.7
Public Transportation	6.7	12.4	4.6	0.0	0.2	0.0
Walked	12.4	17.9	0.9	0.0	1.6	1.7
Bicycled	2.8	5.3	1.1	0.8	1.0	0.0
Taxi, Motorcycle, Other	1.0	0.5	0.3	0.0	0.0	0.0
Worked at Home	3.9	4.6	5.7	1.9	3.6	3.1

Source: Census, ACS 5-Yr, 2006-2010

PEDESTRIANS AND PERSONS WITH DISABILITIES

People have a greater tendency to travel by walking when a route is safe, convenient, accessible, and a relatively short distance. When people choose to travel without a car, they not only improve their health, but they also create less noise, pollution, and traffic than a car and gain the opportunity to enjoy their surroundings at a slower pace. Approximately seven percent of the workers in the urbanized area walk to work each day, in addition to many children, seniors and college students who walk to school and perform errands by walking each day.

There are 797 miles of sidewalks in the urbanized area, and 818[1] miles in the metropolitan planning area (Figure 7.1). Since there is not a complete inventory of sidewalk infrastructure at this time, this plan only assesses and documents the sidewalk network in the urbanized area to better understand issues of mobility, accessibility, and connectivity.

Pedestrian Safety

Accessible pedestrian signals provide an audible or other non-visual cue about the WALK and DON'T WALK intervals at signalized intersections to visually impaired pedestrians. Overall, there are 31 accessible pedestrian signals in the urbanized area, which is 19 percent of the 163 total traffic signals in the region. Table 7.2 shows that the urbanized area has increased the total number of accessible pedestrian signals by 82 percent since 2009. A continued increase in accessible pedestrian signals over time helps ensure the safety of all pedestrians in crosswalks across the urbanized area.

TABLE 7.2 ACCESSIBLE PEDESTRIAN SIGNALS IN THE URBANIZED AREA (2009, 2012)

Jurisdiction*	2009	2012	Percent Change
Champaign	7	13	86%
Urbana	10	14	40%
University of Illinois	0	4	-
Total	**17**	**31**	**82%**

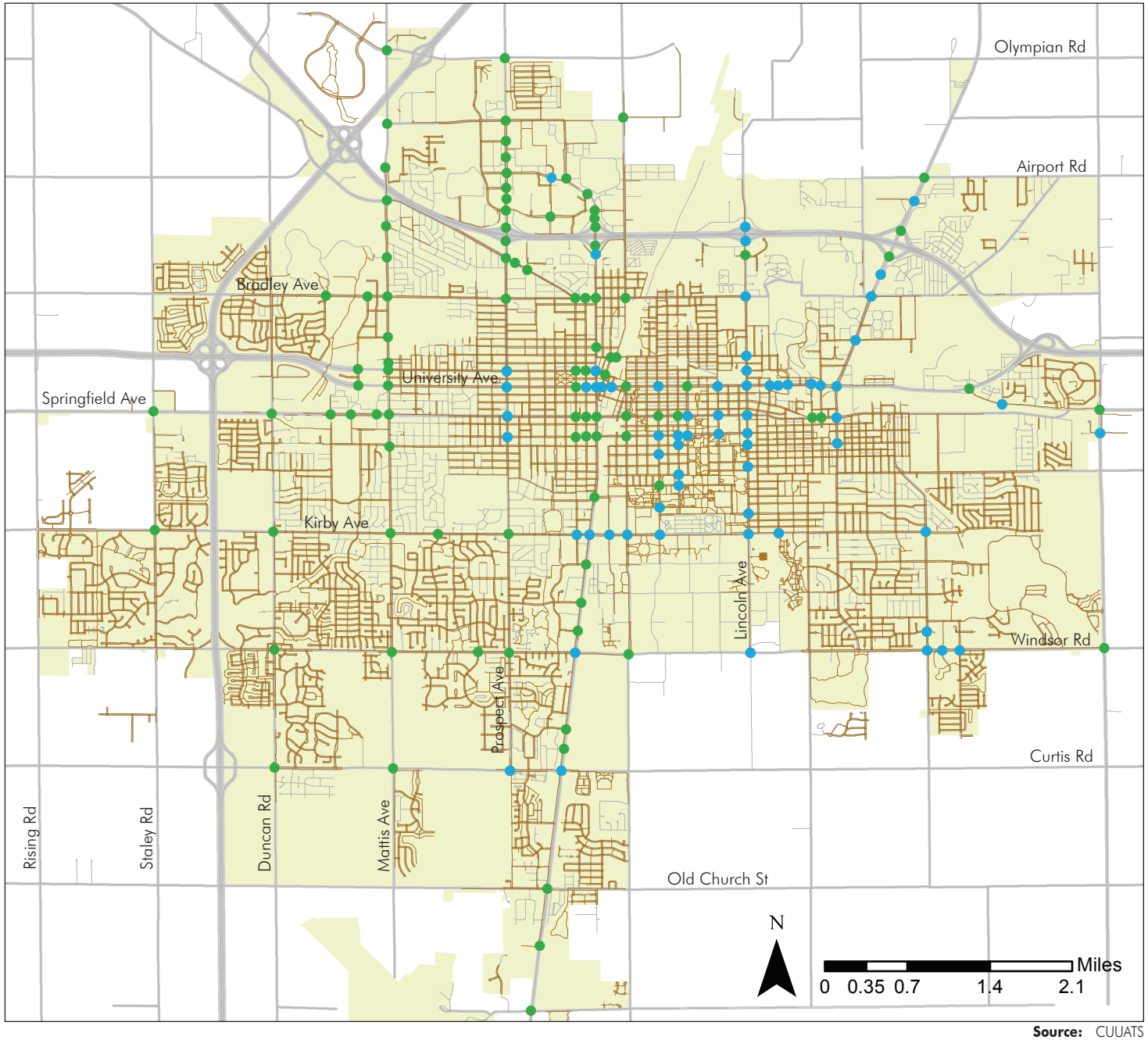
*There are currently no accessible pedestrian signals in Savoy, Bondville, Mahomet, or Tolono.

Source: CUUATS APS Database

APS on the SE corner of Race Street and Main Street in Urbana, 2014

1 Does not include Mahomet, Tolono, or a majority of the sidewalks outside of the urbanized area

FIGURE 7.1 TRAFFIC SIGNALS, APS, AND SIDEWALK INFRASTRUCTURE IN THE MPA (2012)



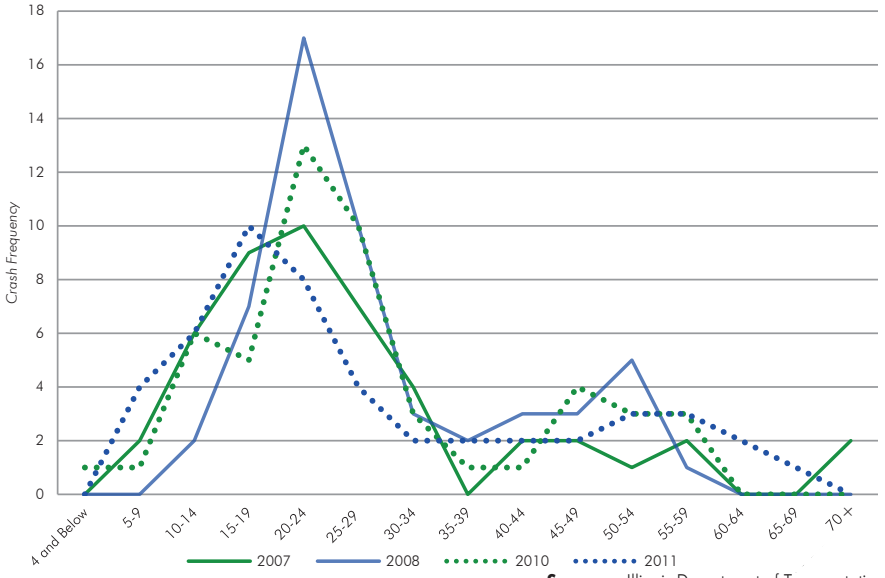
Source: CUUATS

TRANSPORTATION EDUCATION AND ENFORCEMENT ACTIVITIES SHOULD BE CONTINUALLY SUPPORTED IN THE REGION, PARTICULARLY IN THE UNIVERSITY DISTRICT WHERE THE POPULATION IS CONSTANTLY CHANGING, TO ENHANCE THE SAFETY OF ALL ROAD USERS.

Pedestrians and people with disabilities are generally the most vulnerable road users because of their lack of protection and relatively slow speed when compared to other modes of travel. In 2011, 4,432 pedestrians were killed in the United States in traffic crashes, and national statistics show that 19.4 percent of pedestrian deaths in 2011 occurred at intersections according to the 2013 Fatality Analysis Reporting System.

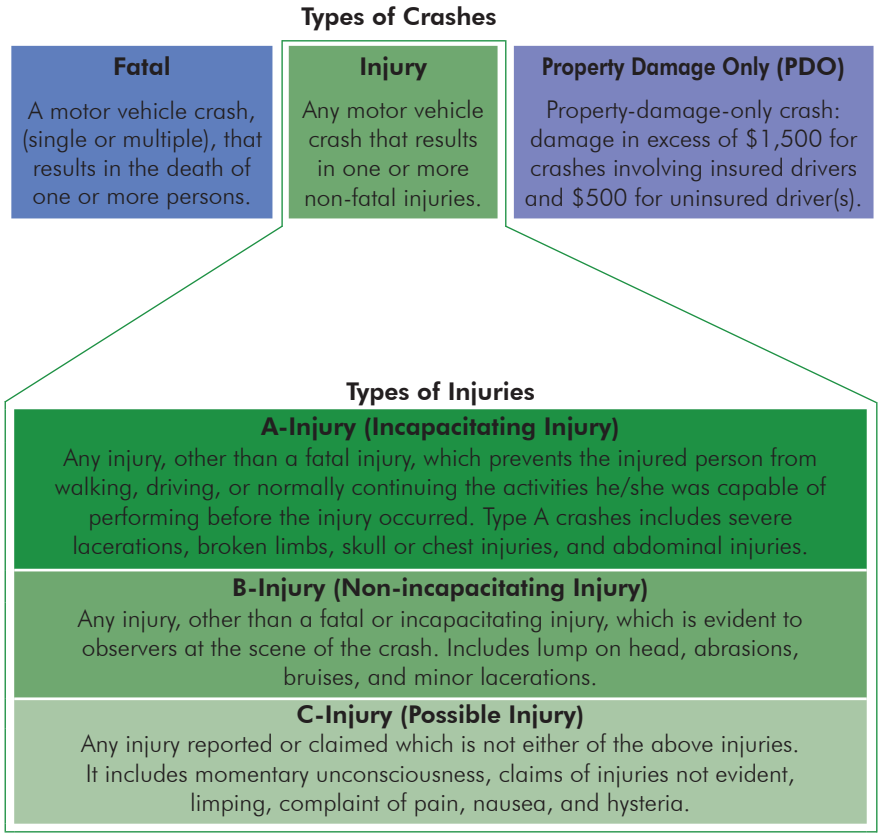
Figure 7.2 displays the age distribution of pedestrians involved in traffic crashes between 2007 and 2011. The chart shows that 52.5 percent of pedestrians involved in traffic crashes during the study period were under the age of 25. Targeting this age group may be one strategy to support efforts to decrease motor vehicle crashes with pedestrians.

FIGURE 7.2 PERCENT PEDESTRIAN CRASHES BY AGE AND YEAR (IN CHAMPAIGN-URBANA)



Source: Illinois Department of Transportation

FIGURE 7.3 TYPES OF CRASHES AND INJURIES



Source: Illinois Department of Transportation

FIGURE 7.4 PEDESTRIAN CRASH FREQUENCY BY INTERSECTION IN CHAMPAIGN-URBANA

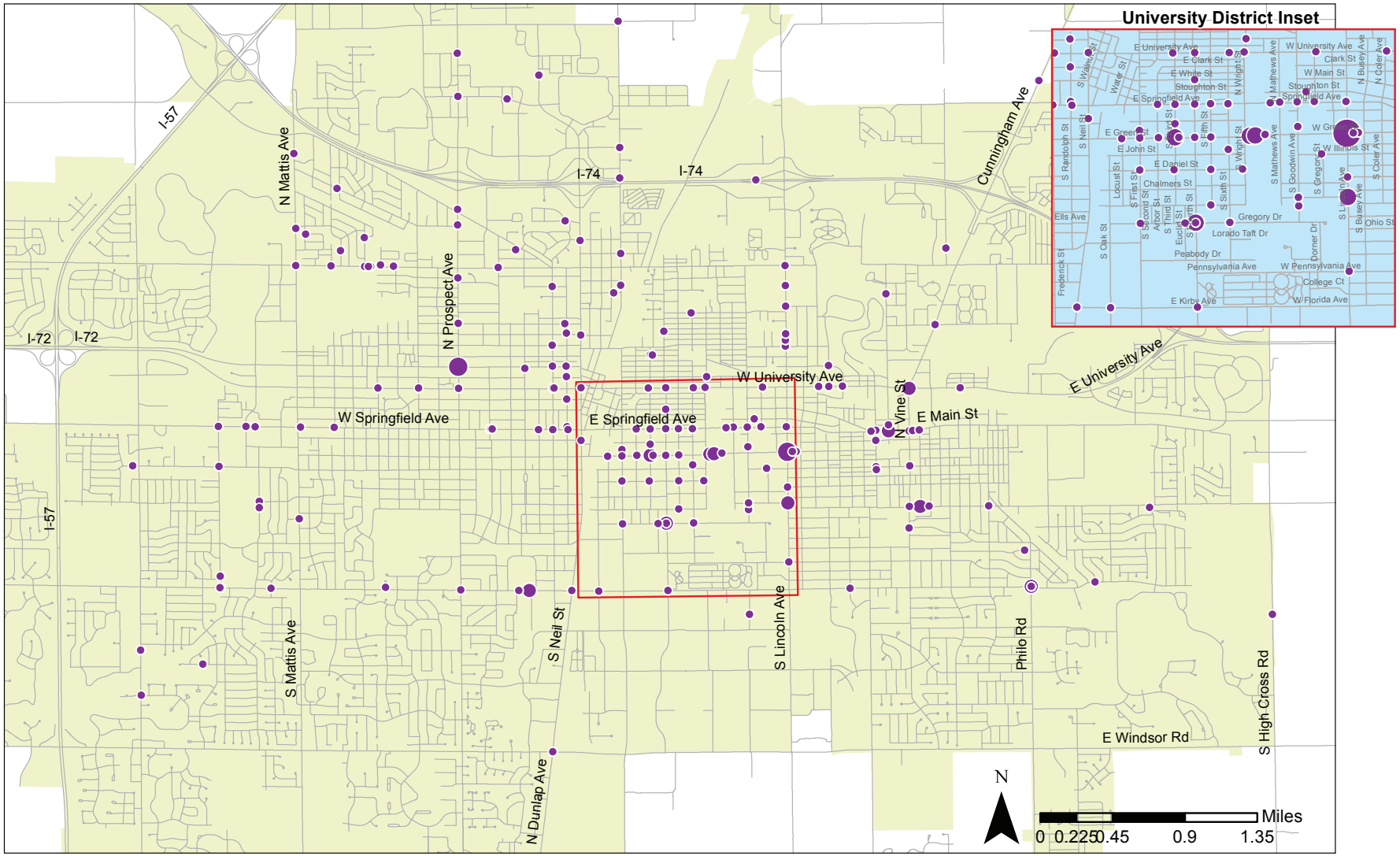


Figure 7.4 shows pedestrian crash frequency by intersection in Champaign and Urbana. As the figure illustrates, a high frequency of pedestrian crashes are concentrated in the University of Illinois District, which is in accordance with the high percentage of college-age students being involved in crashes, as demostrated in Figure 7.2. Pedestrian safety is a recurring issue for the region because of the constantly changing population on the University of Illinois campus. Education and enforcement activities should be continually supported in the region, particularly on campus, to enhance the safety of all road users.

Table 7.3 illustrates pedestrian crashes with motor vehicles in Champaign-Urbana reported over a five-year period between 2007 and 2011. The IDOT categories for crashes and injuries used in the charts are defined in Figure 7.3. It can be seen on Table 7.3 that total pedestrian injuries have increased since 2009, though the number of fatalities has remained about the same. The number of crashes in each injury severity category has also increased since 2009, except for the least severe injuries.

TABLE 7.3 PEDESTRIAN CRASHES IN CHAMPAIGN-URBANA (2007-2011)

				Injury Severity		
Year	Total Crashes	Fatalities	Total Injuries	A	B	C
2007	44	3	43	12	19	12
2008	37	0	36	10	20	6
2009	38	2	39	8	19	12
2010	38	3	34	10	13	11
2011	47	2	48	19	23	6

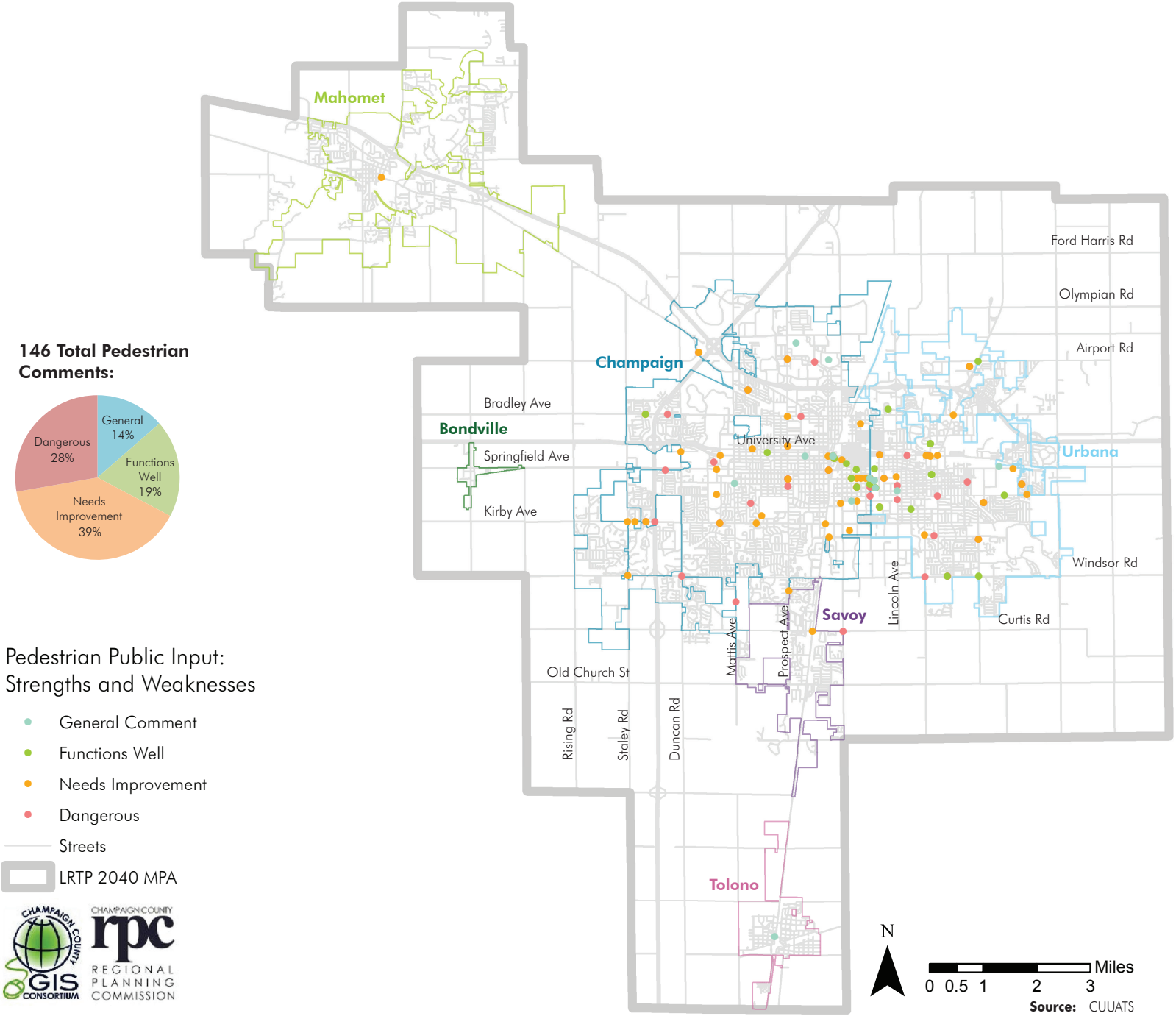
Source: Illinois Department of Transportation

PUBLIC INPUT - PEDESTRIANS

The comments that referenced the pedestrian system (including walking, wheelchairs, or motorized chairs) focused mostly on sidewalks and safety. Respondents made a point to comment on sidewalks, paths, and points of accessibility they appreciated and described as "functioning well," but also pointed out many locations where sidewalks were non-existent, not accessible, and/or poorly lit. This was the transportation mode with the highest percentage of comments described as "dangerous." As such, respondents were most concerned about protection from cars while walking in certain neighborhoods where there are no sidewalks or sidewalks in poor conditions that can force pedestrians and people in wheelchairs to use the street. In terms of the overall transportation system, pedestrians are more vulnerable than bikers, cars, or buses because they are slower and relatively unprotected in the event of a collision. Comments from people with disabilities indicate that lack of American Disabilities Act (ADA) compliance is an issue on public sidewalks, as well as in and around public and commercial buildings in the region.

Figure 7.5 shows the pedestrian comments that were able to be mapped. The majority of comments labelled as "functioning well" are concentrated in the core of the urbanized area, where respondents indicated an appreciation for walking in locations where there are other pedestrians and activities as well as multimodal connectivity to various destinations.

FIGURE 7.5 PUBLIC INPUT: PEDESTRIANS



BICYCLES

Bicycles are faster than walking, require less money and space to operate than a car, and can improve physical health and wellness. People will choose to bike if infrastructure like well-designed bike lanes or wide shoulders are in place to ensure that their trips are safe and convenient. Biking is an important alternative to commuting by car and can help connect people to other transportation modes like transit routes. According to the 2010 American Community Survey, approximately two percent of the workers in the urbanized area ride a bicycle to work, not including people who use a bicycle to get to school or run errands.

To accommodate bicyclists, 86 miles of bicycle facilities have been constructed in the metropolitan planning area (MPA). These facilities include shared-use paths (side paths and off-street paths), bike paths, on-street bike lanes, and shared-lane markings also known as "sharrows." The existing regional bicycle facilities have been catalogued and assessed in the Champaign County Greenways & Trails Plan Update 2013. As is shown in Table 7.4, a 44 percent increase in the mileage of bicycle facilities in the MPA took place between 2009 and 2012, with an increase in total mileage each year since 2009. Capitalizing on this trend through further expansion of both bicycle and trail facilities, especially near afforable housing, will support the creation of healthier neighborhoods and regional connections for active transportation users within the urbanized area.

Figure 7.6 shows the geographic distribution of bicycle facilities in the MPA. As the map illustrates, the majority of the bicycle facilities are located in Champaign, Urbana and Savoy. Mahomet also has bike infrastructure that, if extended east, could play a key role in connecting Champaign to Mahomet in the future.

According to the Greenways & Trails Plan Update, access to pedestrian and bicycle facilities in the MPA is highest in Urbana, followed by Champaign and Savoy. Table 7.5 shows the accessibility for walkable/bikeable and bikeable households for the region. A quarter of a mile is considered walkable/bikeable and a half of a mile is considered bikeable.

TABLE 7.4 MILES OF BICYCLE FACILITIES IN THE MPA

Facility Type	2009	2010	2011	2012	2009-12 Change
Shared-Use Path (sidepath & off-street)	42.82	44.12	45.46	57.12	33 %
Divided Shared-Use Path	4.6	4.6	4.6	5.01	9 %
Bike Path	7.9	7.9	7.9	7.72	-2 %
Bike Lanes (on-street)	4.73	11.8	13.06	14.01	296 %
Sharrows	0	1.44	1.67	2.41	-
Total	**60.05**	**69.86**	**72.68**	**86.27**	**44 %**

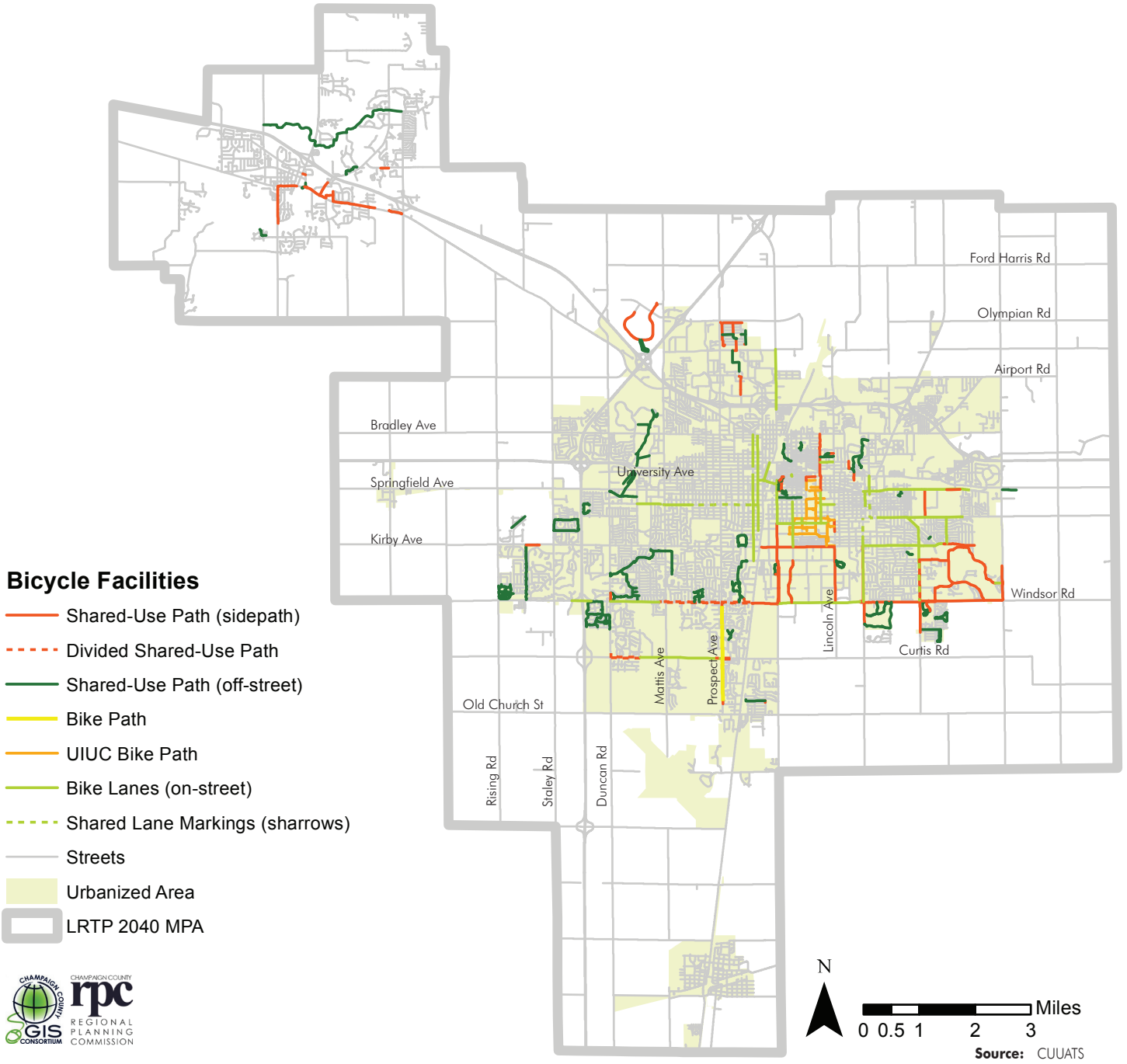
Source: Champaign County Greenways and Trails Plan: Active Choices, 2014

TABLE 7.5 TRAIL INFRASTRUCTURE ACCESSIBILITY BY PLACE BY HOUSEHOLD

Municipality	Percent Walkable & Bikeable	Percent Bikeable
Champaign	45%	69%
Urbana	71%	96%
Savoy	48%	83%
Mahomet	51%	80%

Source: CUUATS

FIGURE 7.6 BICYCLE FACILITIES IN THE METROPOLITAN PLANNING AREA



Bicycle Safety

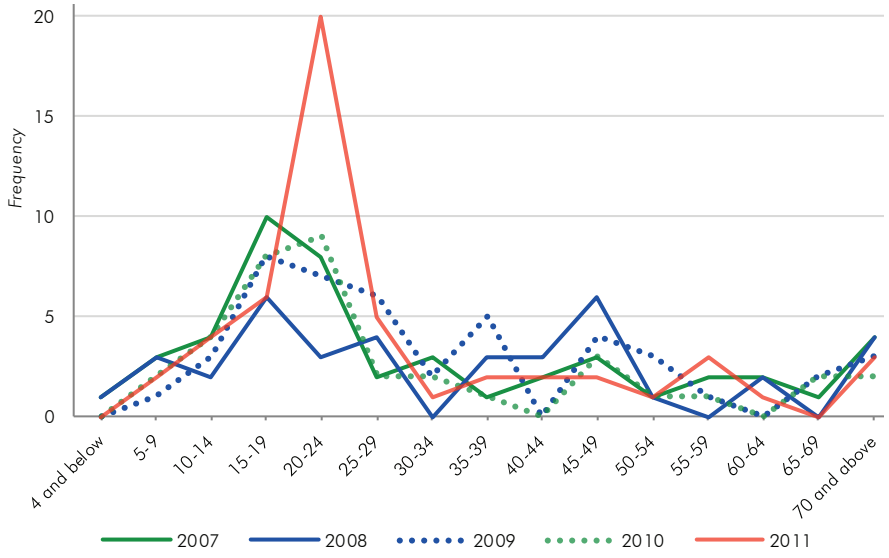
Bicyclists are vulnerable road users whose collisions with motor vehicles often result in serious injury or even death. In 2010, 618 bicyclists were killed and an additional 52,000 bicyclists were injured in motor vehicle crashes nationwide. National statistics show that nearly 31 percent of bicycle fatalities in 2011 occurred at intersections. Table 7.6 shows the total number of crashes, fatalities, and injuries due to bicycle-vehicle crashes for Champaign-Urbana between 2007 and 2011. Injury severity is described as A, B, and C, which represent the most severe, moderately severe, and least severe injuries, respectively. Total crashes and injuries have decreased over the study period, although the number of fatalities has remained constant. The number of A injuries, the most severe, have increased since 2007, although B and C injuries have decreased. Figure 7.7 and Figure 7.8 highlight the propensity of university students to be involved in bicycle crashes: Figure 7.7 shows bicycle crashes by age and Figure 7.8 shows the frequency of bicycle crashed by intersection.

TABLE 7.6 BICYCLE CRASHES IN CHAMPAIGN-URBANA (2007-2011)

				Injury Severity		
Year	Total Crashes	Fatalities	Total Injuries	A	B	C
2007	53	0	54	5	36	13
2008	54	0	47	11	21	15
2009	60	1	58	13	31	14
2010	51	0	48	8	26	14
2011	50	1	46	9	31	6

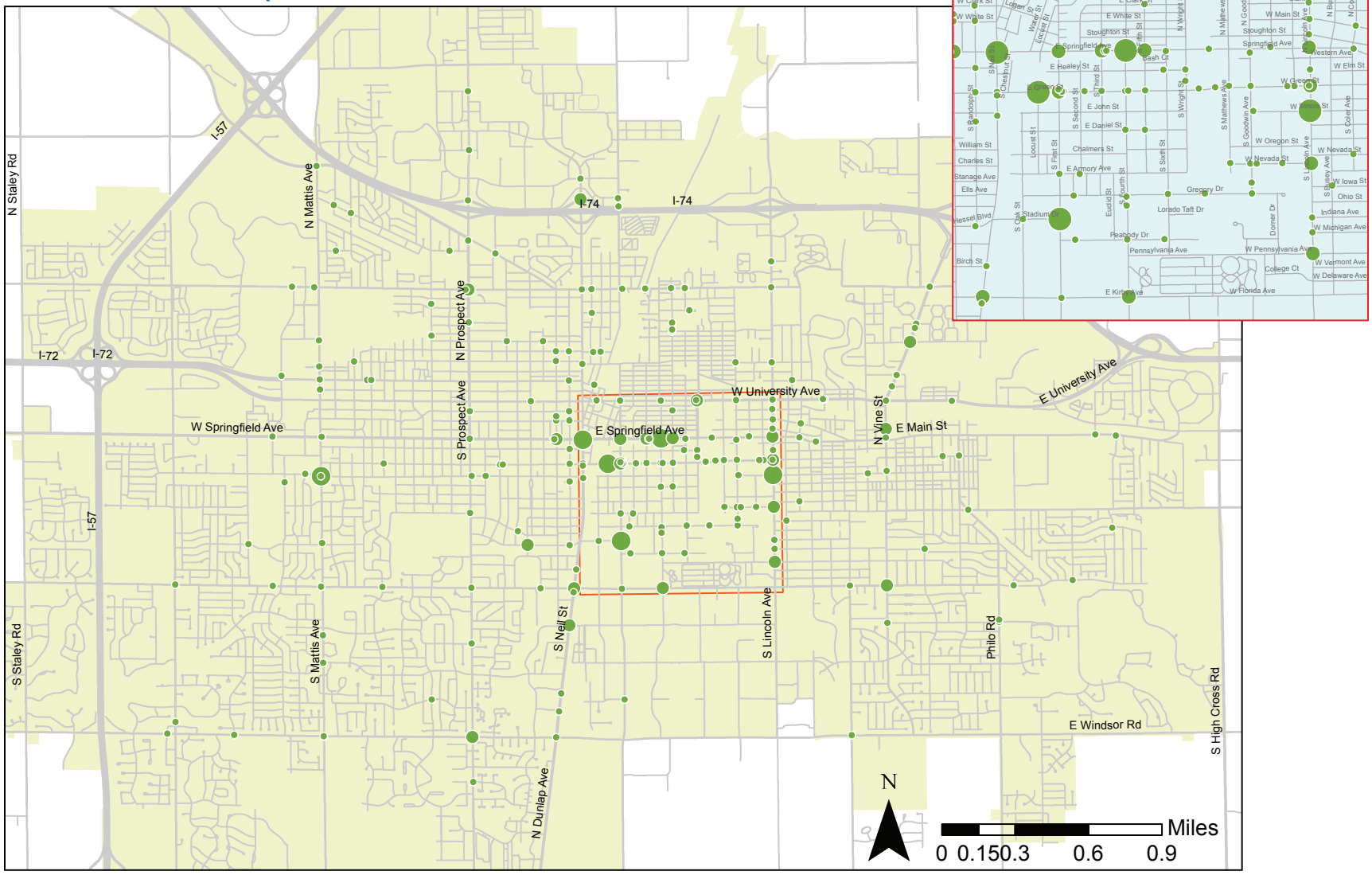
Source: Illinois Department of Transportation

FIGURE 7.7 PERCENT OF BICYCLE CRASHES BY AGE OF BICYCLISTS BY YEAR



Source: Illinois Department of Transportation

FIGURE 7.8 BICYCLE CRASH FREQUENCY BY INTERSECTION IN CHAMPAIGN-URBANA



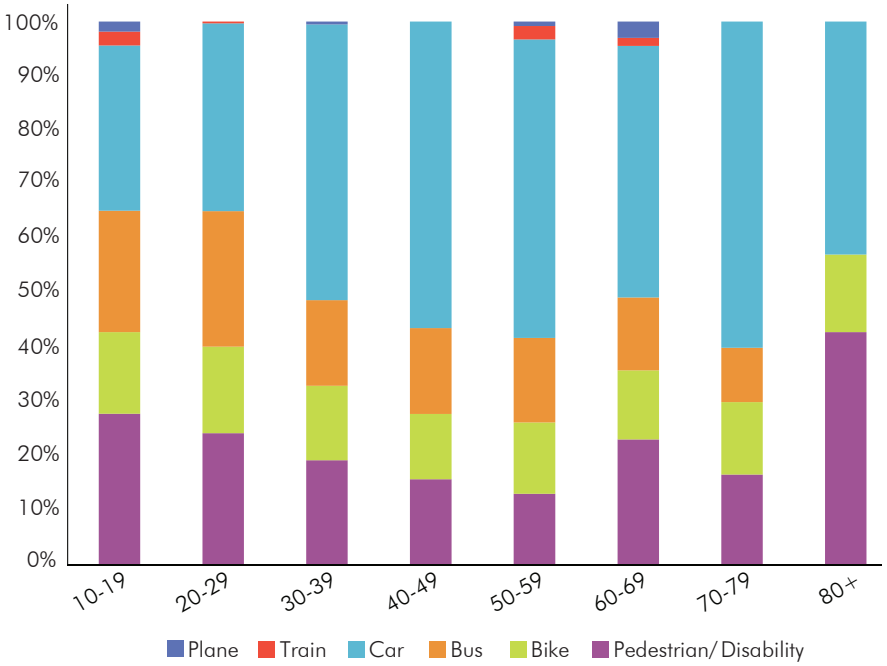
Source: SCIL Report 2007-2011

PUBLIC INPUT: BICYCLES

Like pedestrians, bikers are much more vulnerable than cars or buses in the event of a collision. The largest portion of comments regarding the bicycle network, about 40 percent, are in reference to locations that "need improvement" in terms of making biking safer from car traffic by adding more bike lines and/or improving the connectivity of existing bike lanes and paths. A common complaint among cyclists and motorists alike was that it can be difficult to share the road, especially when bikers or drivers don't follow the same rules of the road. Bicycling is the only transportation mode that is consistently used by an average of 15 percent of all respondents in every age group (Figure 7.9). Figure 7.10 shows the bike comments that were able to be mapped.

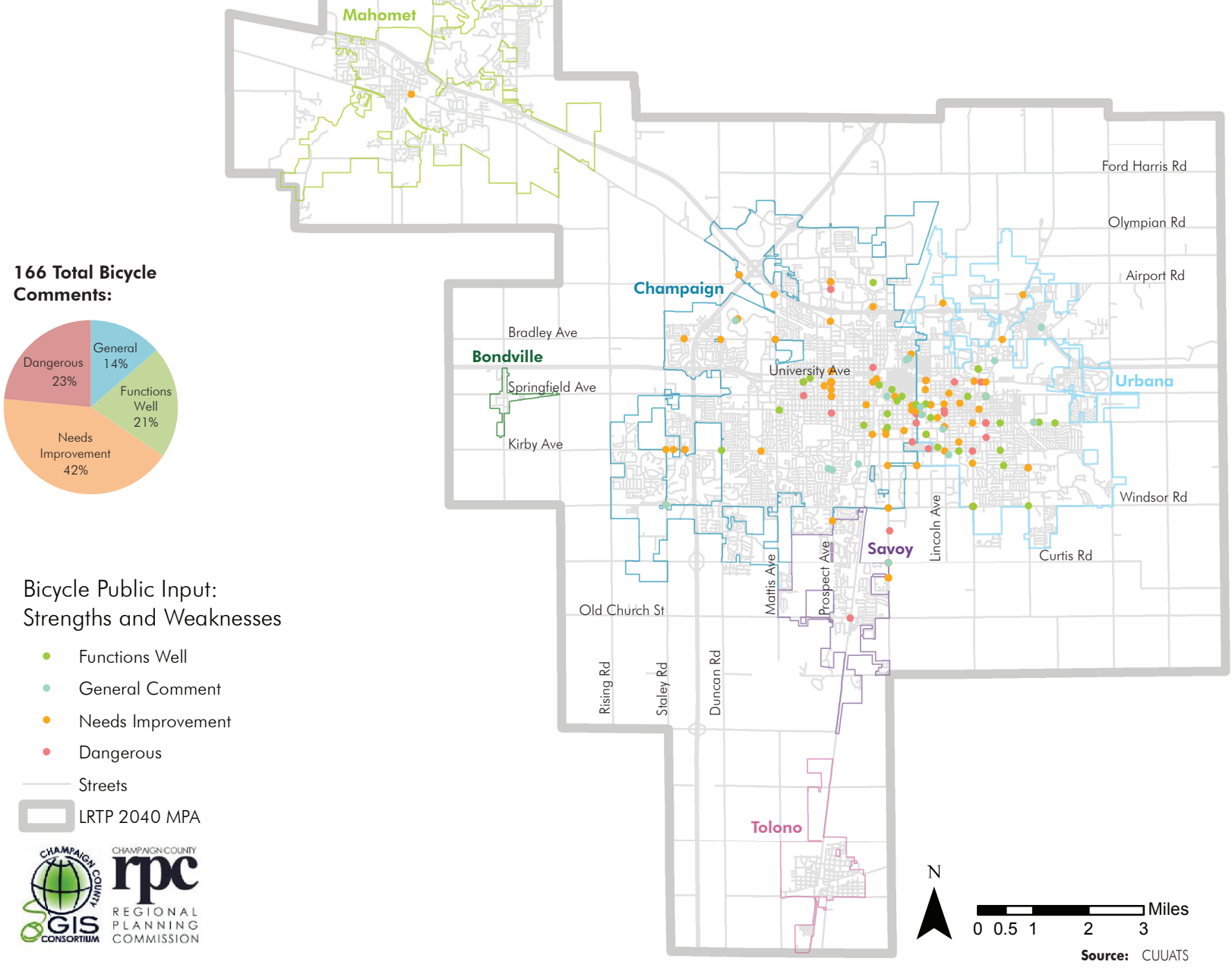
Race Street and Main Street, Urbana, 2014

FIGURE 7.9 COMMUNITY CONVERSATIONS BUS, WEEKLY MODE USE BY AGE



Source: CUUATS

FIGURE 7.10 PUBLIC INPUT: BICYCLES



TRANSIT

Buses are an excellent and inexpensive option for traveling around the Champaign-Urbana community and across the region. Buses are able to accommodate more people than automobiles with fewer resources, and as more people use this type of transportation, traffic may decrease for other transportation modes. Buses also connect pedestrians, persons with disabilities, and bicyclists to long-distance destinations around town.

Bus Transit

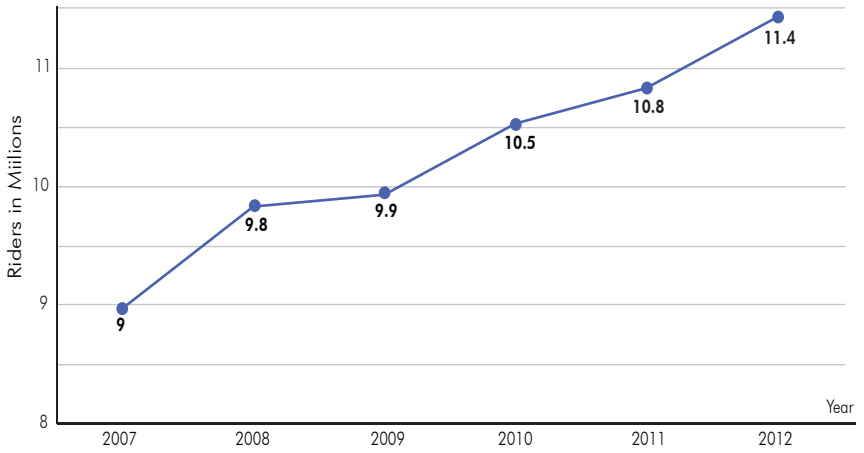
The Champaign-Urbana Mass Transit District (C-U MTD) is the public transportation agency that services the urbanized area (Figure 7.11). In addition to being affordable and convenient, the C-U MTD provides mobility for the many people who cannot drive or choose not to drive, including the eight percent of Champaign-Urbana's households that do not have access to a car.

C-U MTD currently operates 52 routes with more than 2,500 fixed-stops, including 683 with signs and 88 with shelters. C-U MTD also operates deviated fixed-routes and demand-response services that pick up passengers by reservation at designated locations within a specified service area. SafeRides is a night van service covering parts of the University of Illinois campus upon request. C-U MTD also operates ADA paratransit service in compliance with the Americans with Disabilities Act.

As of 2013, the price for a regular, annual bus pass is $72, down from $235 in 2008. A one-way ride with a free transfer is $1, while DASH passes for senior citizens and persons with disabilities remain free, as do rides for children under 46 inches in height. All eligible University of Illinois students, faculty, and staff have unlimited access to C-U MTD service with their valid University-issued ID card. University students pay a mandatory fee each semester for this unlimited access.

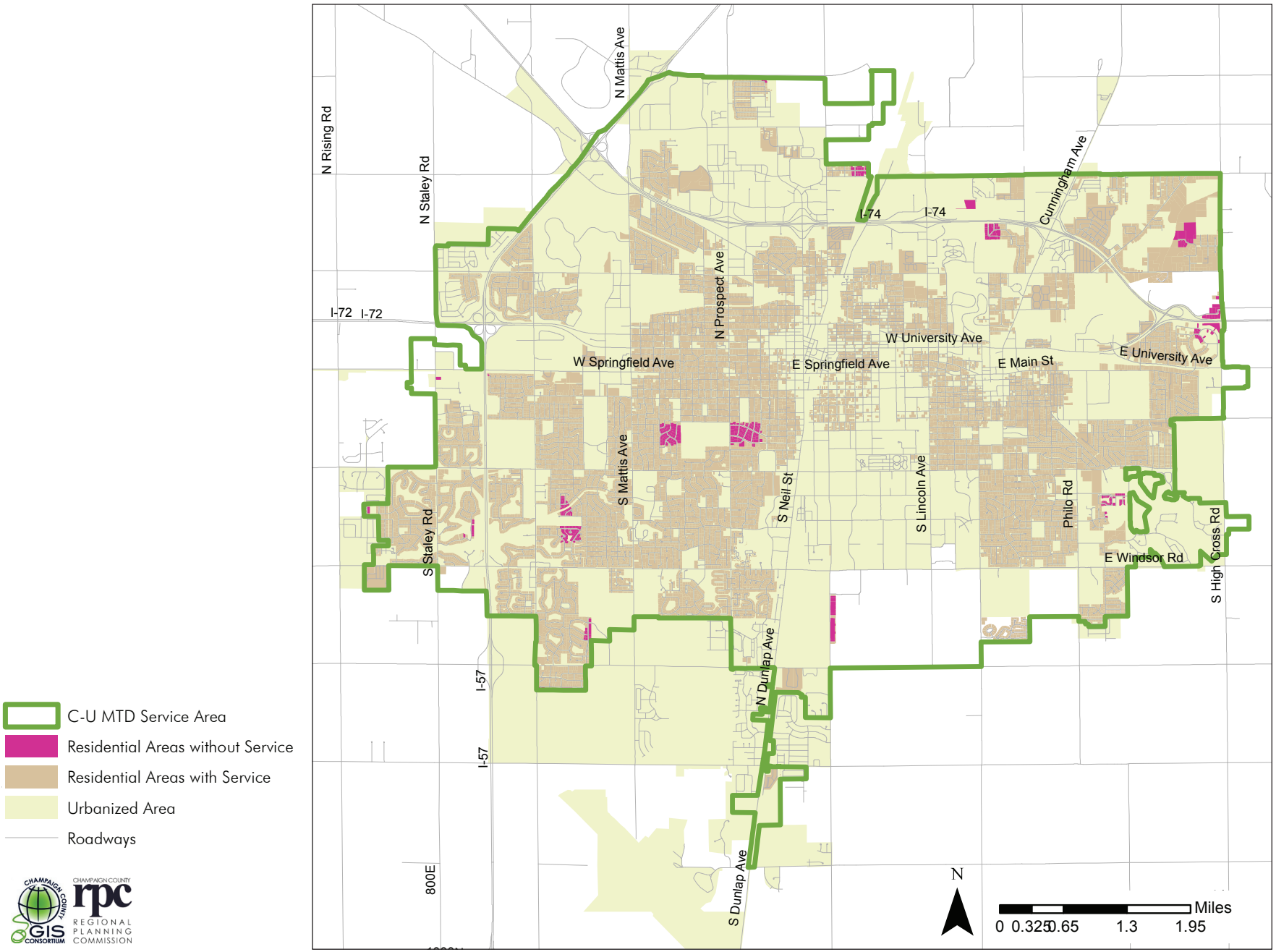
In February 2007, C-U MTD switched to a more accurate, computer-based counting system located in each bus to track ridership. For the purposes of consistency and accuracy, this report will use ridership data starting in February 2007. The recent rise in gas prices; the reduction in the annual pass price; expanded routes and service; efforts to promote biking, walking and transit; and an overall change in the perception of public transportation have collectively led to higher ridership numbers for C-U MTD from 2008 to the present. Comparing 2007 to 2012, there has been an increase of 2.4 million rides per year (Figure 7.10).

FIGURE 7.11 C-U MTD ANNUAL RIDERSHIP (2007-2012)



Source: C-U MTD

FIGURE 7.12 DISTRICT OF RESIDENTIAL SERVICE WITHIN THE C-U MTD SERVICE AREA (2012)



Source: C-U MTD

Approximately 4.9 percent of workers over the age of 16 take public transportation to work each day across the United States. In comparison, in Champaign and Urbana, nearly 9.5 percent of workers in the same age range take the bus to work each day. In contrast, the entire MPA has a lower rate of 4.7 percent of workers who use transit to commute to work, due to the fact that the villages of Bondville, Mahomet, and Tolono are outside the C-U MTD service area. In order to increase mobility and the use of buses for commuters in the ubanized area, the C-U MTD service area should be expanded to be coterminous with the urbanized area as much as possible.

Along with analyzing ridership, CUUATS staff assessed the acreage of residential parcels within 1/4 mile of C-U MTD weekday bus stops to understand how comprehensive the transit coverage is within C-U MTD's current service area. Staff analyzed coverage within the transit service area boundary because the boundary is constantly updated as new annexations are brought into the C-U MTD service area, making it easier to track coverage over time.

C-U MTD covered 97.4 percent of the total residential areas in its service area in 2012. Figure 7.12 shows the geographic distribution of the residences with and without service in the service area. Table 7.7 shows the percentage of single-family and multi-family residential areas within 1/4 mile of a weekday transit route. The table indicates that coverage for single-family residential land uses has increased more than 10 percent and coverage for multi-family residential land uses has increased almost 5 percent since 2009. The C-U MTD service area has an overall average coverage of just over 98 percent of all residential land uses in 2012.

TABLE 7.7 C-U MTD COVERAGE OF RESIDENCES IN THE SERVICE AREA BY TYPE (2009 & 2012)

	Percent of Total		
Category	2009	2012	Change 2009 - 2012
Single-Family Residential	86.6%	97.0%	+10.4%
Multi-Family Residential	94.7%	99.5%	+4.8%

Source: CUUATS

In 2013, 55 percent of C-U MTD's fleet was hybrid diesel-electric, up from 9 percent in 2009. These vehicles consume 25 percent less fuel than diesel-only vehicles and help reduce noise pollution[1]. The use of hybrid buses not only improves fuel efficiency, but helps with the reduction of greenhouse gases in the urbanized area. Table 7.8 shows the growth of C-U MTD's hybrid bus fleet between 2009 and 2013.

TABLE 7.8 C-U MTD BUS FLEET BY BUS TYPE

	Standard Diesel		Diesel-Electric Hybrid		
Year	Number	Percent of Total	Number	Percent of Total	Total Buses
2009	89	90%	9	9%	**98**
2010	89	90%	9	9%	**98**
2011	70	69%	32	31%	**102**
2012	57	56%	45	44%	**102**
2013	47	46%	55	54%	**102**

Source: C-U MTD

1 C-U MTD. *Benefits of Public Transportation*, August 2013.

Human Services Transportation

Human services transportation providers help meet the transportation needs of the elderly, individuals with disabilities, and persons and families with low income(s). Often, these individuals and families have four types of limitations that preclude them from driving:

- Physical: old age, blindness, paralysis, developmental disabilities, acute illness, etc.
- Financial: Unable to purchase or rent a personal vehicle
- Legal: Too young, loss of driver's license, or driver's license not obtained
- Self-imposed: Choose not to own or drive a vehicle

In order to meet the needs of these populations, general public, human services, student, and private transportation services are available. Transportation providers are detailed in Table 7.9.

Despite the numerous human services transportation providers in the region, many opportunities exist to improve how the urbanized area transportation system functions. In terms of accessibility, there are issues concerning ease of use, underserved and unserved areas, and a lack of centralized information. In terms of availability, issues of scheduling and temporal limitations are present. The reliability of the system is also an issue because of the frequency of service, in addition to restrictions that result from program eligibility requirements and trip purposes. More detailed information can be found in the C-U Urbanized Area Human Services Transportation Plan.

TABLE 7.9 URBANIZED AREA HUMAN SERVICES TRANSPORTATION PROVIDERS

Type	Services	Organization
General Public	Urban Transit	Champaign-Urbana Mass Transit District (C-U MTD)
	Rural Transit	CRIS Rural Mass Transit District (C-CARTS)
Human Services	Medical Vans	Carle Arrow Ambulance
		PRO Ambulance
		Rantoul UC Express
	Specialized	Provena Covenant Medical Center / Faith in Action
		Champaign-Urbana Rehabilitation Center
		Carle Hospital
		American Cancer Society
	Persons with Disabilities	Developmental Services Center (DSC)
		Disability Resources & Educational Services (DRES)
		Pace, Inc.
	Senior	Circle of Friends Adult Day Center
		Champaign County Nursing Home Adult Day Care
		Inman Place Shuttles
		Canterbury Ridge Retirement & Assisted Living
	Other	American Legion Post 88
Student	School Districts	First Student (Contracted)
		Various Districts (Individual Yellow Bus Programs)
		Head Start (Savoy & Rantoul Only)
	Public Transportation	C-U MTD (Contract with Champaign CUSD 4, Urbana SD 116 & University of Illinois)
Private	Inner City	Amtrak
	Taxis	Various Taxi Companies
	Other	American Airlines

Source: CUUATS

Intercity Bus System

A variety of intercity transportation options are available in the urbanized area, 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. Buses provide more opportunities for intercity travel compared to air and passenger rail (Table 7.10 and Table 7.11). Between 2009 and 2012, bus service for 16 in-state and 9 out-of-state destinations was lost due to the closure of a bus transport company.

C-CARTS Transit Vehicle, 2014

TABLE 7.10 INTERCITY DESTINATIONS WITHIN ILLINOIS (2012)

Destination	Intercity Buses	Willard Airport	Amtrak
Bloomington -Normal, IL	X		X
Carbondale, IL	X		X
Centralia, IL			X
Chicago, IL	X	X	X
Danville, IL	X		X
Decatur, IL	X		
Du Quoin, IL			X
Effingham, IL	X		X
Freeport, IL	X		
Galena, IL	X		
Galesburg, IL	X		X
Gilman, IL			X
Homewood, IL			X
Kankakee, IL	X		X
La Salle, IL	X		
Marion, IL	X		
Markham, IL	X		
Matteson, IL	X		
Mattoon, IL	X		X
Moline, IL	X		X
Monmouth, IL	X		
Naperville, IL	X		
Normal, IL	X		
Peoria, IL	X		X
Quincy, IL	X		
Rantoul, IL			X
Rockford, IL	X		
Rock Island, IL	X		X
Springfield, IL	X		
Stockton, IL	X		

Source: 2012 Champaign-Urbana Urbanized Area Human Services Transportation Plan

TABLE 7.11 INTERCITY DESTINATIONS OUTSIDE OF ILLINOIS (2012)

Destination	Intercity Buses	Willard Airport	Amtrak
Atlanta, GA	X		
Atlantic, IA	X		
Bartlesville, OK	X		
Bedford, IN	X		
Bethany, MO	X		
Birmingham, AL	X		
Brookhaven, MS	X		X
Brush, CO	X		
Burlington,IA	X		
Cedar Rapids, IA	X		
Chanute, KS	X		
Chickasha, OK	X		
Coffeyville, KS	X		
Columbus, OH	X		
Dallas/Fort Worth, TX	X	X	
Davenport, IA	X		X
Denver, CO	X		
Des Moines, IA	X		
Elkhart, IN	X		
Evansville, IN	X		
Fairfield, IA	X		
Fort Morgan, CO	X		
Fulton, KY			X
Grand Island, NE	X		
Greenwood, MS			X
Hammond, LA			X
Iola, KS	X		
Indianapolis, IN	X		X
Iowa City, IA	X		
Jackson, MS	X		X
Kearney, NE	X		
Knoxville, TN	X		
Kokomo, IN	X		
Lamoni, IA	X		
Lawton, OK	X		
Lexington, NE	X		
Lincoln, NE	X		
Loogootee, IN	X		
Martinsville, IN	X		
McComb, MS	X		X
Milwaukee, WI	X		
Monroe, IA	X		
Mt. Pleasant, IA	X		
Muscatine, IA	X		
Newbern-Dyersberg, TN			X
New Orleans, LA	X		X
North Platte, NE	X		
Ogallala, NE	X		
Oklahoma City, OK	X		
Omaha, NE	X		
Orleans, IN	X		
Osceola, IA	X		
Oskaloosa, IA	X		
Ottumwa, IA	X		
Peru, IN	X		
Princeton, IN	X		
Rochester, IN	X		
South Bend, IN	X		
St. Louis, MO	X		
Sterling, CO	X		
Tulsa, OK	X		
Vincennes, IN	X		
Washington, IN	X		
Wichita Falls Jolly, TX	X		
Yazoo City, MS	X		X

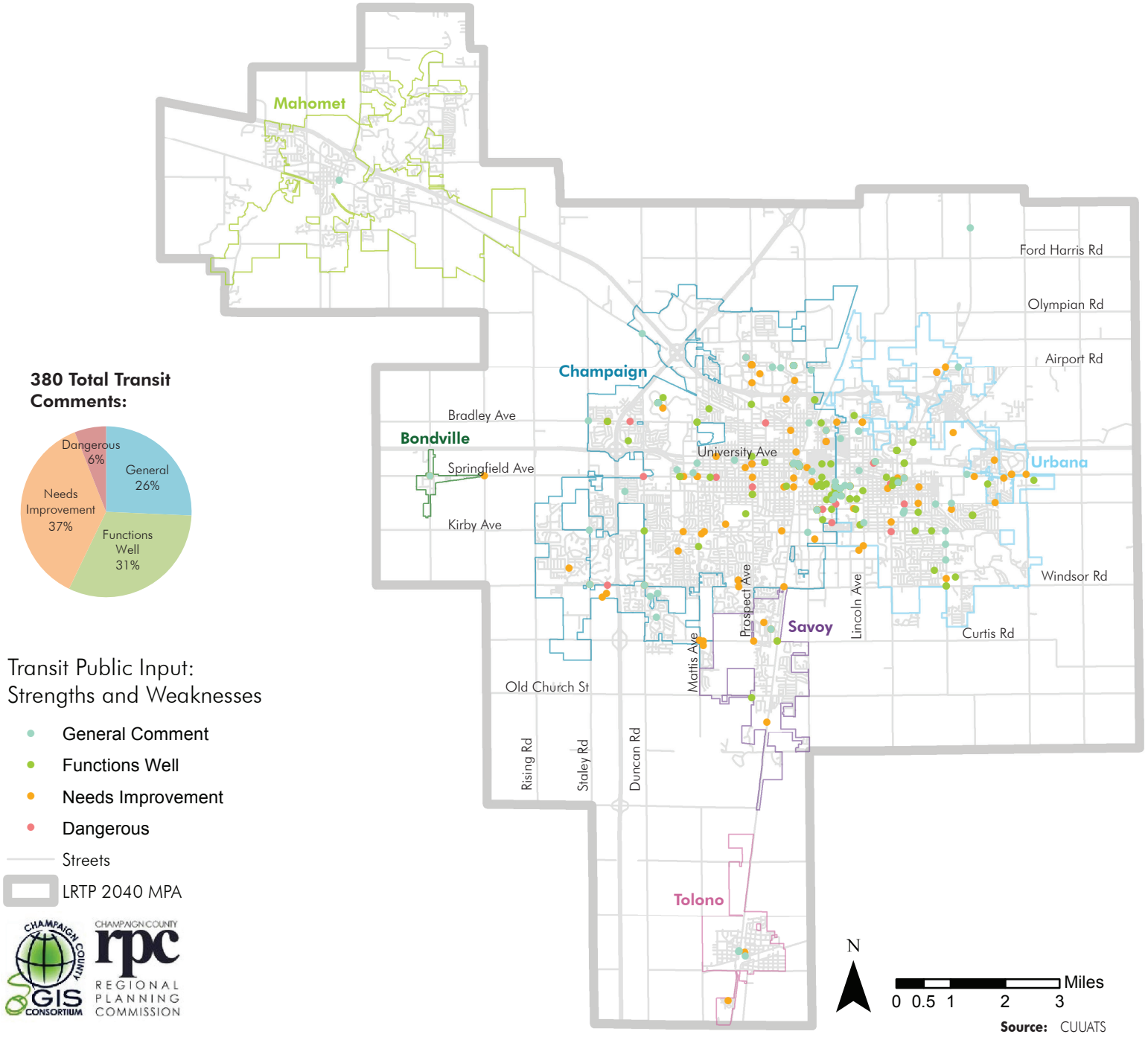
Source: 2012 Champaign-Urbana Urbanized Area Human Services Transportation Plan

PUBLIC INPUT: TRANSIT

Of the comments received regarding transit in the community, only five percent refer to the network as "dangerous." There were just as many comments that referred to the system as "functions well" as there were comments referring to areas that "need improvement," whereas the "needs improvement" category outweighed the "functions well" category in all other modes. In general, respondents appreciate the transit system and the accessibility it offers to different populations and different regions in the urbanized area. Many suggestions for improvement include wanting more bus service: adding additional routes or stops at new locations and extending service hours. In addition, several respondents requested more direct routes to locations as a way to reduce travel times, citing long travel times as the main reason for not riding the bus more often. Other suggestions include improving accessibility and safety when boarding at certain locations. Figure 7.13 shows the transit system comments that were able to be mapped.

From top to bottom: University of Illinois campus, Champaign Illinois Terminal, University of Illinois campus, 2012

FIGURE 7.13 PUBLIC INPUT: TRANSIT



AUTOMOBILES

Automobiles are convenient for allowing people to travel freely and connect them to long-distance destinations within and outside the community. However, high purchase, maintenance, and fuel costs can make owning and operating an automobile more expensive than other options, underscoring the potential for multimodal transportation choices (i.e. car-sharing, public transit, bicycling, walking) to reduce transportation costs and increase household spending power. Moreover, automobile conditions like traffic congestion, pollution, and noise are not accounted for by individual drivers, but are experienced by all people within the community. According to the 2010 American Community Survey, approximately 72 percent of the workers in the urbanized area drive to work alone each day and nearly 11 percent carpool. This does not include the tens of thousands who drive to school or to run errands each day in the urbanized area as well. Road infrastructure is well-established for automobiles, but requires regular maintenance to maintain a high level of service.

Annual Vehicle Registrations

The number of vehicles registered in Champaign County provides a rough estimate of the number of drivers in the area[1] (Table 7.12). These motor vehicles are a large part of the transportation system and use the roadways in the region each day. Motor vehicles include passenger cars and trucks, motorcycles, B trucks*, and other** vehicles, including TA trailers, fiscal trucks, recreational vehicles, and more. The total number of registered vehicles in the County has fallen by almost 10,000 between 2010 and 2012 with most of the decrease happening in the All Other category.

TABLE 7.12 CHAMPAIGN COUNTY ANNUAL VEHICLE REGISTRATIONS (2009-2012)

Year	Passenger Car/Truck	B Truck*	Motorcycle	All Other**	Total	Annual Change
1995	90,530	20,284	3,822	17,967	132,603	-
2000	96,038	21,901	3,268	21,996	143,203	8.0%
2005	94,715	21,740	4,022	21,563	142,040	-0.8%
2010	99,128	21,640	5,461	33,430	159,659	12.4%
2013	98,997	21,013	5,504	24,114	149,628	-6.2%

*B truck: weight = 8,000 pounds or less

**All Other: TA Trailer, weight =3,000 lbs or lesss; Fiscal truck, weight = more than 8,000 lbs, and "other" category from Illinois Vehicle Registration records.

Source: http://www.cyberdriveillinois.com/departments/vehicles/statistics/home.html

1 Many of the drivers in the area are college students at the University of Illinois. Although many of these students are from Illinois, many may not have Illinois registrations if they live out of state.

Figure 7.14 shows the functional classification of the roadways in the Metropolitan Planning Area (MPA) and urbanized area. IDOT classifies the roadways throughout the state to help describe levels of mobility and accessibility within each category.

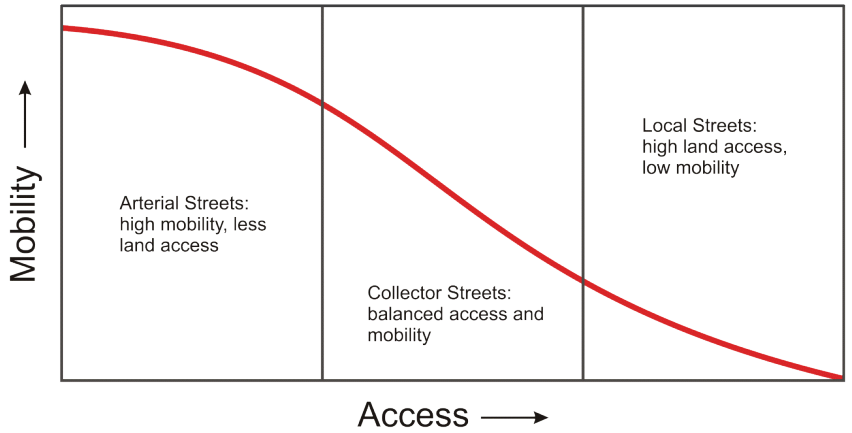
- Interstates have the highest level of mobility and the lowest level of accessibility. Interstates and other principal arterials serve trips through urban areas and long-distance trips between urban areas.
- Minor arterials serve shorter trips between traffic generators within urban areas; they have 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 streets are lower-volume roadways that provide direct land access but are not designed to serve through-traffic.

Figure 7.15 shows the distribution of functional classification categories in the MPA. 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. Currently, there are approximately 1,013 miles of roadways in the MPA and 630 miles of roadways in the urbanized area including parts of Champaign, Urbana, Savoy, Tolono and Bondville.

Roadways Average Daily Traffic

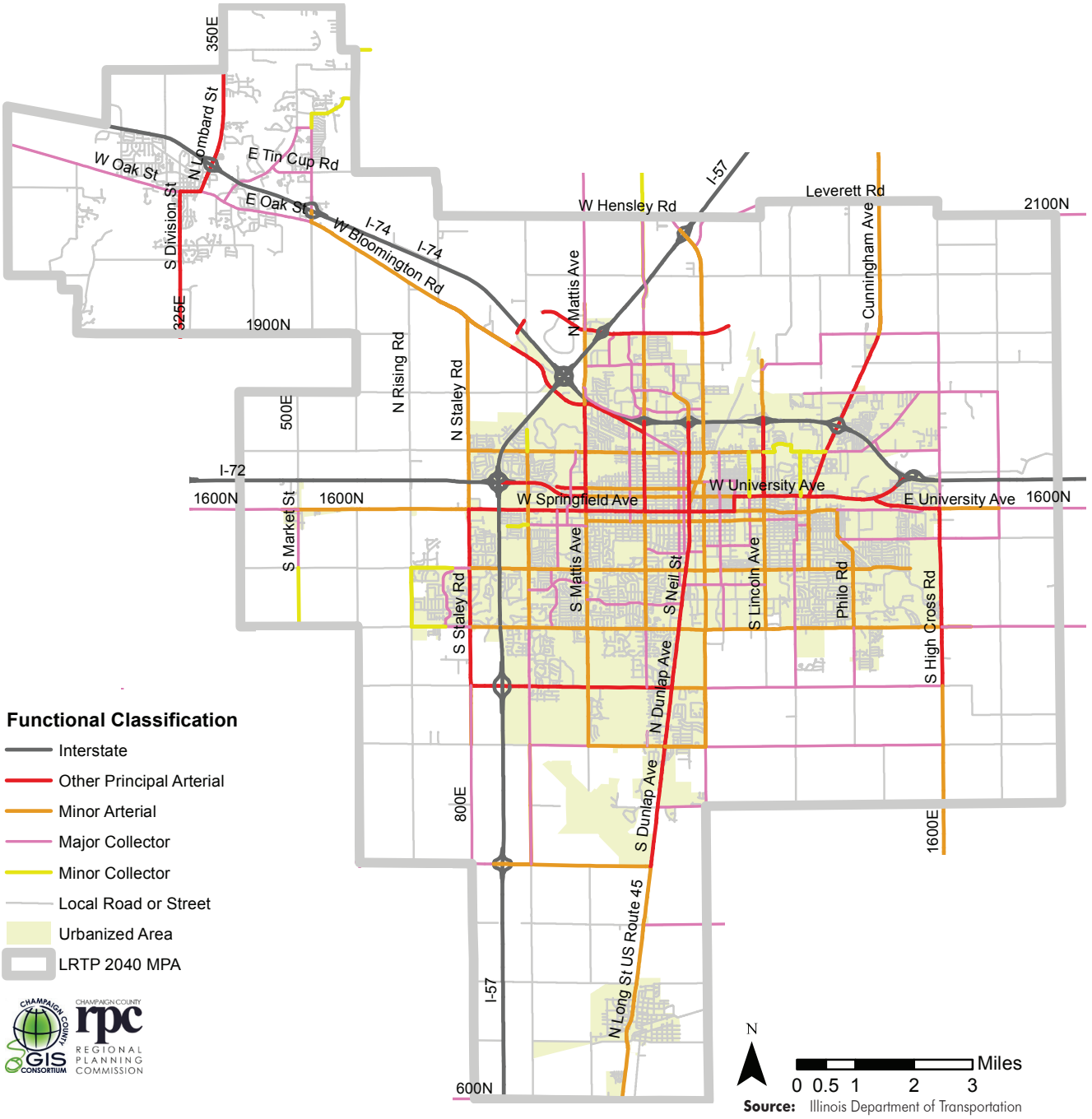
IDOT provides average daily traffic data for interstates and selected major arterials and collectors in the MPA. Figure 7.16 shows the 2011 average daily traffic (ADT) ranges for the selected roadways in the metro area. The interstates have the highest ADT followed by major arterials like Prospect Avenue, Neil Street, University Avenue, Mattis Avenue, and Cunningham Avenue. Smaller segments of Springfield Avenue and Bradley Avenue also have relatively high ADT volumes. The five busiest roadways in the MPA are Prospect Avenue, Mattis Avenue, Cunningham Avenue, Neil Street, and University Avenue. These roads act as gateways into the urbanized area and see heavy traffic from local use within the urbanized area.

FIGURE 7.14 ACCESS/MOBILITY RELATIONSHIP FOR FUNCTIONAL CLASSIFICATION



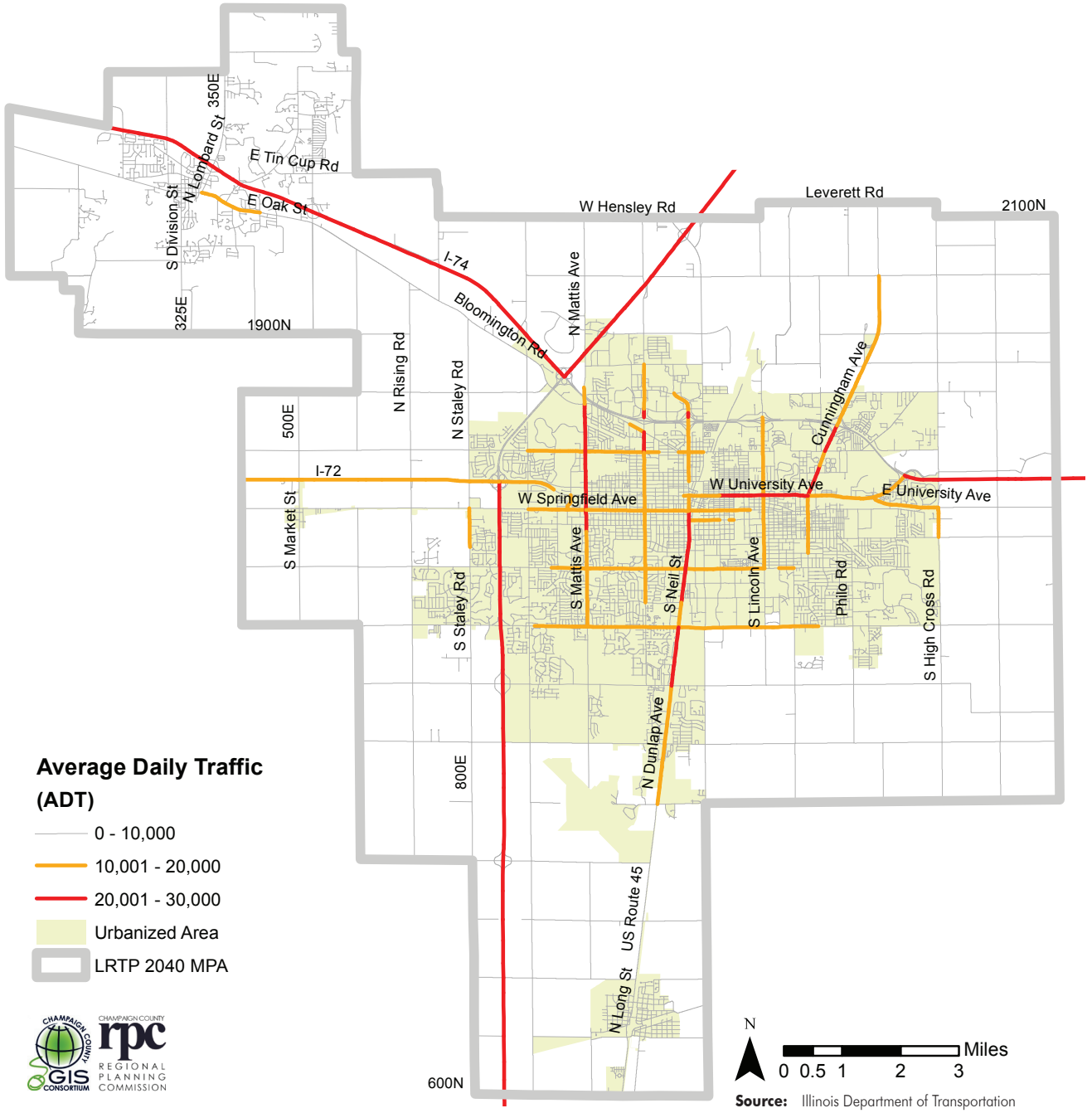
Source: Federal Highway Administration

FIGURE 7.15 FUNCTIONAL CLASSIFICATION (2013)



Source: Illinois Department of Transportation

FIGURE 7.16 AVERAGE DAILY TRAFFIC FOR THE METRO PLANNING & URBANIZED AREAS (2011)



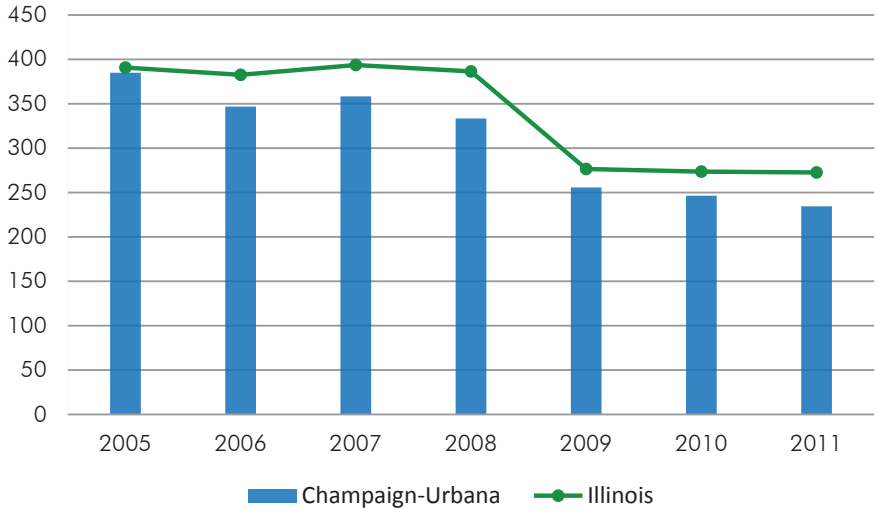
Source: Illinois Department of Transportation

TABLE 7.13 VMT AND TOTAL CRASH RATE IN CHAMPAIGN-URBANA

Year	Daily VMT (Thousands)	Yearly VMT (Millions)	Crashes per 100M VMT Champaign-Urbana	Crashes per 100M VMT Illinois
2007	2,335	852.3	358.3	393.6
2008	2,368	864.3	333.4	386.5
2009	2,426	885.9	255.7	276.5
2010	2,425	885.5	246.4	273.6
2011	2,372	866.1	234.5	272.6

Source: Illinois Department of Transportation

FIGURE 7.17 TOTAL CRASHES PER 100 MILLION VMT



Source: Illinois Department of Transportation

VMT and Total Crash Rate in Champaign-Urbana

The number of crashes in the urbanized area per the total vehicle miles traveled (VMT) is an important index for crash analysis. The VMT[1] reflects the total number of vehicle miles traveled in the region and the number of crashes provides information about crashes that took place between automobiles and other modes of transportation.

The VMT data were obtained from the IDOT's annually published Illinois Travel Statistics. Table 7.13 shows the VMT information for the Champaign-Urbana area. Table 7.13 and Figure 7.17 show that the number of crashes per 100 million VMT in Champaign-Urbana has been decreasing since 2008 and is consistently lower than the statewide rates.

Downtown Champaign, 2012

1 As per the definition, VMT includes all vehicles, but non-motorized travel is not included.

Traffic Crash Fatalities

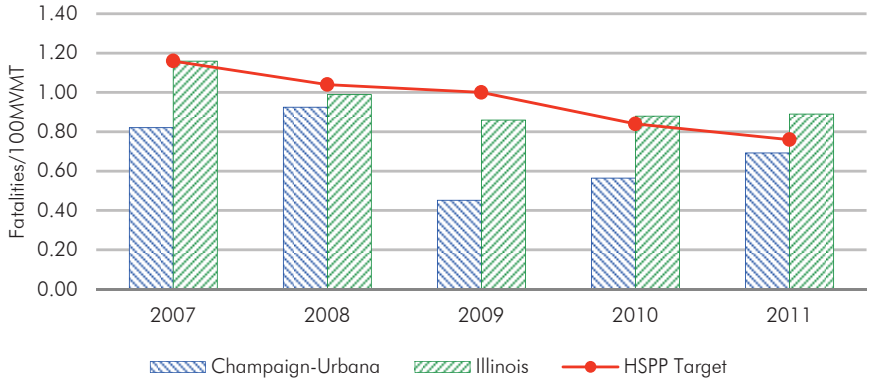
Figure 7.18 shows fatalities per 100 million VMT from 2007 to 2011 in Champaign and Urbana, the corresponding values for the State of Illinois, and the statewide goal for fatalities per million VMT proposed by IDOT's Division of Traffic Safety in the Highway Safety Performance Plan (HSPP) each year. The HSPP for FY 2011 established a goal of reducing the statewide fatality rate (per 100 million VMT) from 0.86 in year 2009 to 0.84 by year 2010 and 0.76 by 2011. The Champaign-Urbana fatality rate for each study year met the HSPP goal.

Figure 7.19 shows the traffic crash fatalities in Champaign and Urbana from 2007 to 2011. The figure indicates that the total fatalities reached the lowest point in 2009. In the same year, no fatalities were reported in the City of Champaign. Though the number of fatalities increased for 2010 and 2011, the number of fatalities in those years were lower than 2007 and 2008. Figure 7.20 identifies the fatal automobile crash locations in the area from 2007-2011.

Corridor Crash Analysis

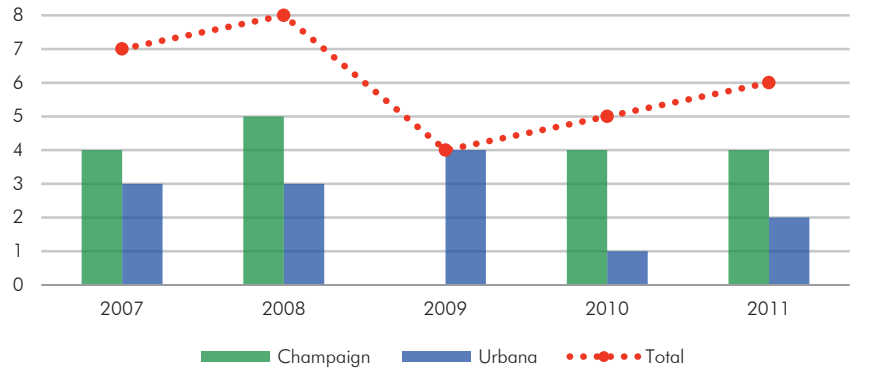
Identifying and analyzing crashes along the key corridors in the region helps improve corridor safety and promote efficient traffic flow. The traffic crashes along the five major east-west and six north-south corridors in Champaign-Urbana are summarized in this section. Table 7.14 provides the total number of crashes, injuries, and fatalities along major corridors. Table 7.15 and Table 7.16 show the change in the number of severe crashes and fatal crashes on the corridors over the five-year study period.

FIGURE 7.18 TRAFFIC FATALITIES PER 100 MILLION VMT



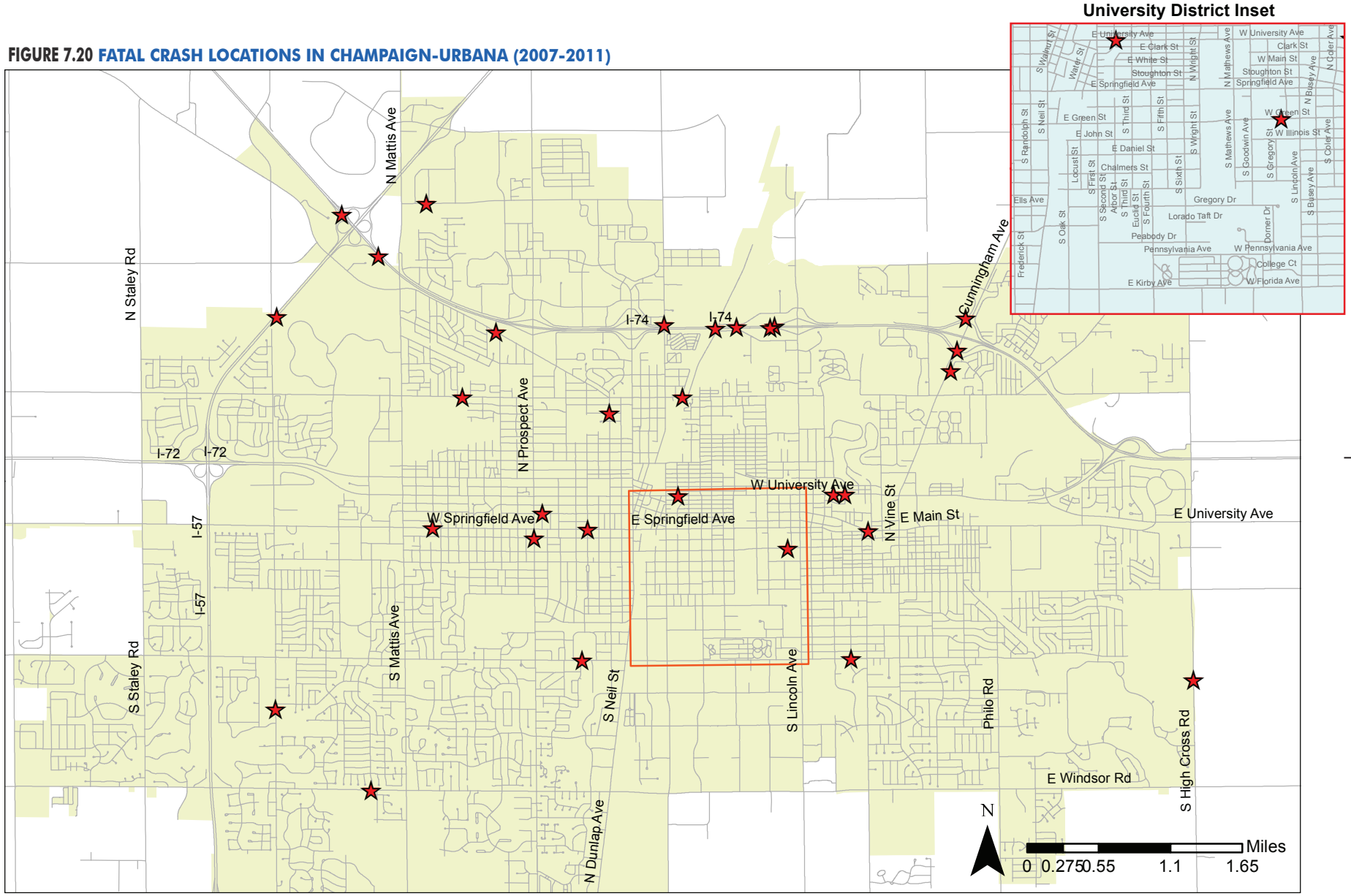
Source: Illinois Department of Transportation

FIGURE 7.19 TRAFFIC FATALITIES IN CHAMPAIGN-URBANA (2007-2011)



Source: Illinois Department of Transportation

FIGURE 7.20 FATAL CRASH LOCATIONS IN CHAMPAIGN-URBANA (2007-2011)



Source: SCIL Report 2007-2011

TABLE 7.14 CRASHES ON MAJOR CORRIDORS, CHAMPAIGN-URBANA (2007-2011)

East-West Corridor						
Roadway	Crashes	Injuries	Fatalities	A-Injury Crashes	B-Injury Crashes	C-Injury Crashes
Bradley Ave	673	241	2	46	61	60
University Ave	1,110	355	3	67	112	78
Springfield Ave	938	280	2	49	82	79
Kirby Ave/Florida Ave	707	227	2	42	68	56
Windsor Rd	355	150	1	21	47	37
North-South Corridor						
Roadway	Crashes	Injuries	Fatalities	A-Injury Crashes	B-Injury Crashes	C-Injury Crashes
Mattis Ave	833	296	1	47	84	58
Prospect Ave	1,094	307	1	42	79	102
Neil St	944	291	0	39	99	60
Lincoln Ave	676	185	0	32	72	47
Cunningham Ave/Vine St	592	188	1	31	78	38
High Cross Rd/IL 130	86	39	1	10	12	5
Total	**8,008**	**2,559**	**14**	**426**	**794**	**620**

Table 7.14 shows that University Avenue and Prospect Avenue had the highest number of crashes with over 1,000 crashes in the five-year period. University Avenue also had the highest number of fatalities during the same period.

TABLE 7.15 SEVERE CRASHES ON MAJOR CORRIDORS BY YEAR

East-West Corridor					
Roadway	2007	2008	2009	2010	2011
Bradley Ave	14	4	11	12	7
University Ave	14	12	19	12	13
Springfield Ave	6	9	7	15	14
Kirby Ave/Florida Ave	6	7	12	10	9
Windsor Rd	3	2	8	6	3
North-South Corridor					
Roadway	2007	2008	2009	2010	2011
Mattis Ave	10	8	16	8	6
Prospect Ave	9	12	8	6	8
Neil St	11	6	8	6	8
Lincoln Ave	8	5	4	3	12
Cunningham Ave/Vine St	5	4	11	5	7
High Cross Rd/IL 130	3	1	3	1	3
Total	**89**	**70**	**107**	**84**	**90**

Table 7.15 shows that University Avenue, Mattis Avenue, Bradley Avenue, and Springfield Avenue are the corridors with the highest number of severe crashes in the Champaign-Urbana area. Table 7.16 shows the number of fatal crashes along the same major corridors between 2007 and 2011.

TABLE 7.16 FATAL CRASHES ALONG MAJOR CORRIDORS BY YEAR

East-West Corridor					
Roadway	**2007**	**2008**	**2009**	**2010**	**2011**
Bradley Ave	1	-	-	1	-
University Ave	-	-	1	-	2
Springfield Ave	-	-	-	2	-
Kirby Ave/Florida Ave	1	-	-	1	-
Windsor Rd	1	-	-	-	-
North-South Corridor					
Roadway	**2007**	**2008**	**2009**	**2010**	**2011**
Mattis Ave	-	-	-	1	-
Prospect Ave	-	1	-	-	-
Neil St	-	-	-	-	-
Lincoln Ave	-	-	-	-	-
Cunningham Ave/Vine St	-	-	-	-	1
High Cross Rd/IL 130	-	1	-	-	-
Total	**3**	**2**	**1**	**5**	**3**

Figure 7.21 identifies the location of the fatal and severe crashes along the major corridors in Champaign-Urbana between 2007 and 2011.

Selected Critical Intersection Locations

The volume of traffic, crash frequency, crash rate, and crash severity for intersections help CUUATS staff prioritize intersection improvements across the region. Based on the critical intersection selection priority levels criteria, the signalized intersections listed in Table 7.18 were identified as critical in Champaign-Urbana. As seen in Table 7.18, there were no signalized intersections in the Priority 1 or Priority 2 lists, though 13 intersections are listed as Priority level 3.

TABLE 7.17 VOLUME BASED CLASSIFICATION

Intersection Class	Daily Entering Traffic
A	20,000
B	10,000-19,000
C	5,000-9,999
D	2,000-4,999

Kirby Avenue in Champaign, 2010

FIGURE 7.21 FATAL AND SEVERE CRASHES ALONG MAJOR CORRIDORS IN CHAMPAIGN-URBANA (2007-2011)

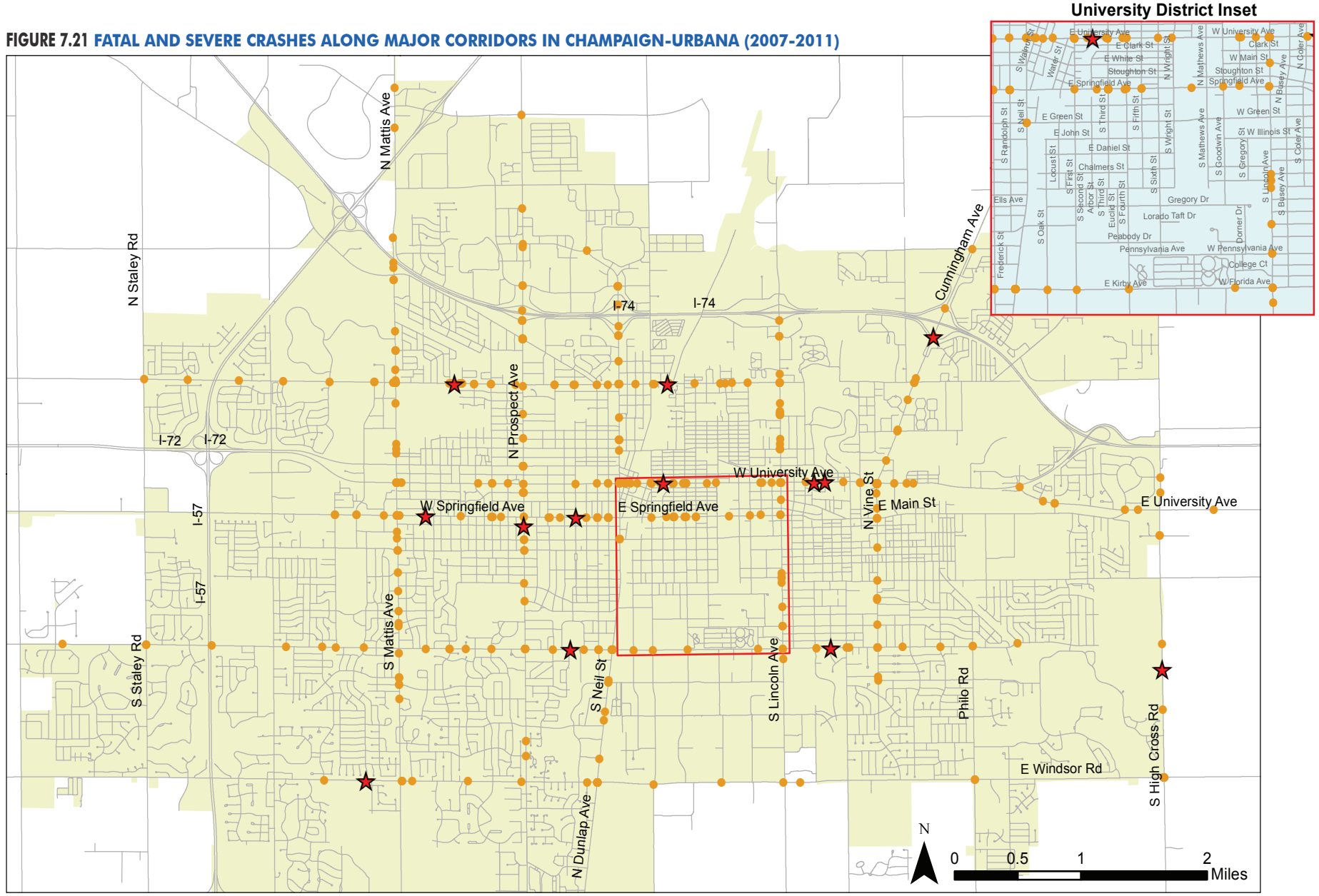


TABLE 7.18 CRITICAL SIGNALIZED INTERSECTIONS

Intersection	Volume Class	Average Crash Frequency	Average Crash Rate	Average EPDO Index*
Priority 1				
No intersections identified at this priority level				
Priority 2				
No intersections identified at this priority level				
Priority 3				
1st St & Green St, Champaign	A	13	1.6	4.7
Mattis Ave & Bradley Ave, Champaign	A	15	1.1	5.5
Mattis Ave & Springfield Ave, Champaign	A	14	0.9	3.3
Neil St & Green St, Champaign	A	12	1.0	4.5
Neil St & Kirby Ave, Champaign	A	14	1.0	5.0
Prospect Ave & Bloomington Rd, Champaign	A	20	1.4	4.5
State St & Kirby Ave, Champaign	A	11	1.2	3.9
Vine St & University Ave, Urbana	A	19	1.3	4.9
Neil St & Columbia Ave, Champaign	B	10	1.5	5.3
Randolph St & Church St, Champaign	B	5	1.0	3.4
Guardian Dr & University Ave, Urbana	B	6	1.0	3.2
Moreland Blvd & Town Center Blvd, Champaign	C	3	0.6	1.2
High Cross Rd & Tatman Ct, Urbana	C	2	0.6	1.8

* The Illinois Department of Transportation equivalent property-damage only (EPDO) index is used to weight each crash based on crash severity and the equivalent property-damage-only crash cost.

TABLE 7.19 CRITICAL UNSIGNALIZED INTERSECTIONS

Intersection	Volume Class	Average Crash Frequency	Average Crash Rate	Average EPDO Index*
Priority 1				
3rd & Springfield Ave, Champaign	B	6	1.0	8.0
5th & Green St, Champaign	B	6	0.9	7.2
Smith Rd & Main St, Urbana	C	4	1.1	6.8
Priority 2				
State St & Clark St, Champaign	B	4	1.0	4.2
Walnut St & Columbia Ave, Champaign	B	4	1.0	4.6
Maple St & University Ave, Urbana	B	4	0.8	3.7
5th & White St, Champaign	D	2	1.1	1.0
Coler Ave & Church St, Champaign	D	1	1.1	1.0
Priority 3				
Mattis Ave & Glenn Park Dr, Champaign	A	4	0.4	4.9
Mckinley Ave & Bradley Ave, Champaign	A	4	0.5	8.6
Prospect Ave & John St, Champaign	A	8	1.0	4.0
Vine St & Water St, Urbana	A	3	0.4	5.2
Neil St & Washington St, Champaign	B	3	0.6	6.1
Vine St & Pennsylvania Ave, Urbana	B	3	0.5	3.6
Race St & Florida Ave, Urbana	B	4	0.7	4.5
Center Dr & Marketview Dr, Champaign	C	2	0.6	1.8
Elm St & University Ave, Champaign	C	2	0.7	5.9
Mckinley Ave & Church St, Champaign	C	2	0.6	2.1
State St & Columbia Ave, Champaign	C	2	0.6	3.2
Broadway Ave & Bradley Ave, Urbana	C	2	0.8	10.4
Broadway Ave & Illinois St, Urbana	D	1	0.8	11.3

* The Illinois Department of Transportation equivalent property-damage only (EPDO) index is used to weight each crash based on crash severity and the equivalent property-damage-only crash cost.

Pavement Conditions

The Pavement Condition Index (PCI) assesses whether roads are in excellent, good, fair, poor, and very poor conditions. According to data received directly from each public works jurisdiction listed in the tables below, across the region, pavement conditions have remained relatively stable from 2009 to 2012 (Table 7.19 and Table 7.20).

Alternative Fuel Infrastructure

In the past decade, automobiles that run on something other than gasoline have become more common. As a result, there are several alternative fueling stations to accommodate this trend in the Champaign-Urbana Metropolitan Planning Area (MPA) (Figure 7.22). Alternative fuel infrastructure in the area include, four liquefied petroleum gas outlets (LPG, commonly known as propane), 13 gas stations that sell ethanol (E85), and several locations for charging electric vehicles.

St. Mary's Road, 2007

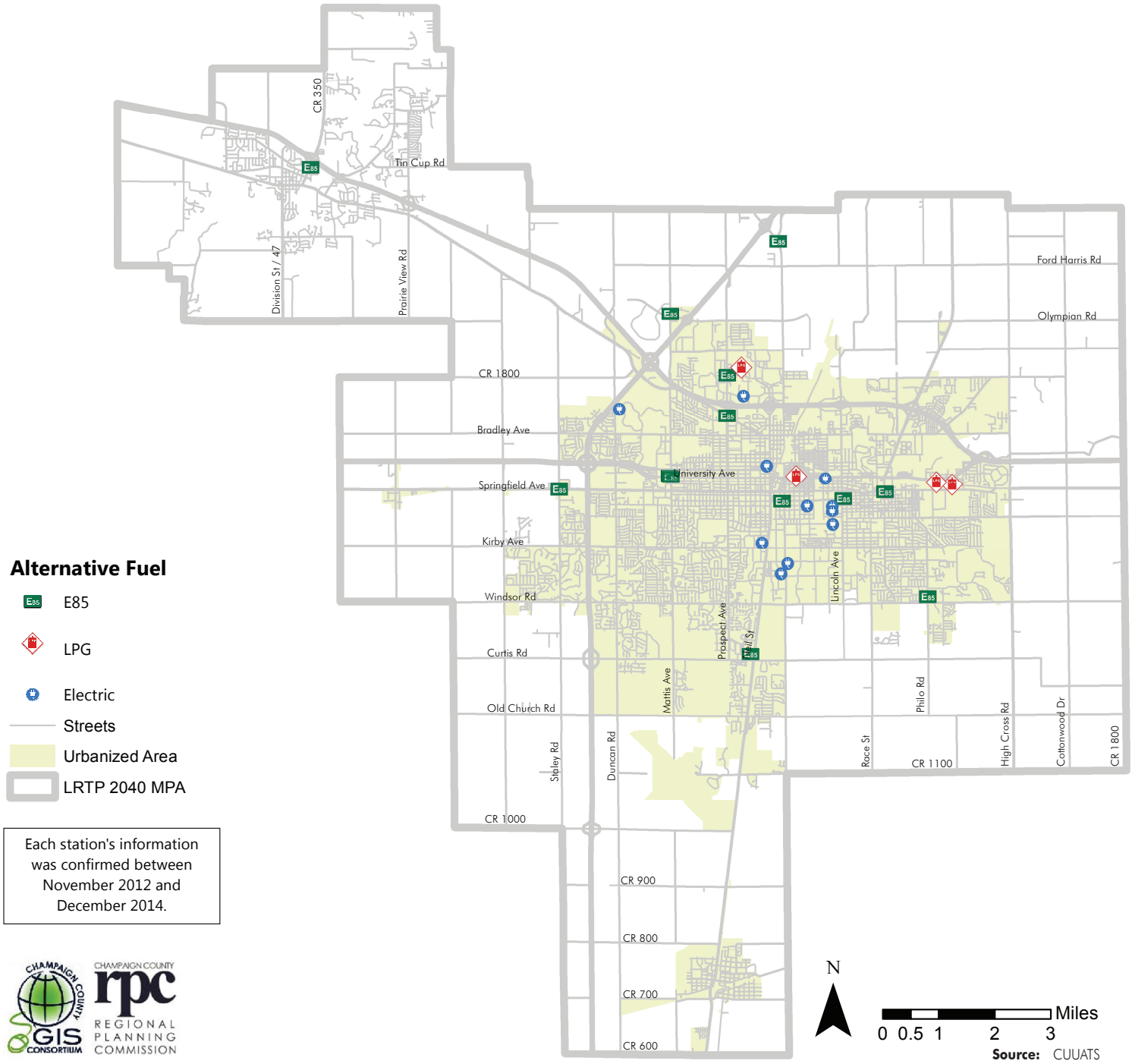
TABLE 7.20 PAVEMENT CONDITION IN SELECTED AREAS (2011-2012)

Pavement Condition	Champaign	Urbana	University of Illinois	Champaign County	Savoy	IDOT
Excellent	5%	8%	7%	53%	10%	17%
Good	53%	35%	29%	10%	15%	22%
Fair	15%	50%	20%	19%	40%	42%
Poor	13%	7%	15%	8%	25%	18%
Very Poor	14%	0%	29%	10%	10%	0%

TABLE 7.21 AVERAGE PAVEMENT CONDITION IN URBANIZED AREA (2009-2012)

Pavement Condition	2009	2010	2011	2012
Excellent	18%	27%	22%	17%
Good	26%	21%	39%	27%
Fair	25%	32%	27%	31%
Poor	26%	18%	10%	14%
Very Poor	4%	2%	2%	10%

FIGURE 7.22 ALTERNATIVE FUELING STATIONS (PUBLIC ACCESS)

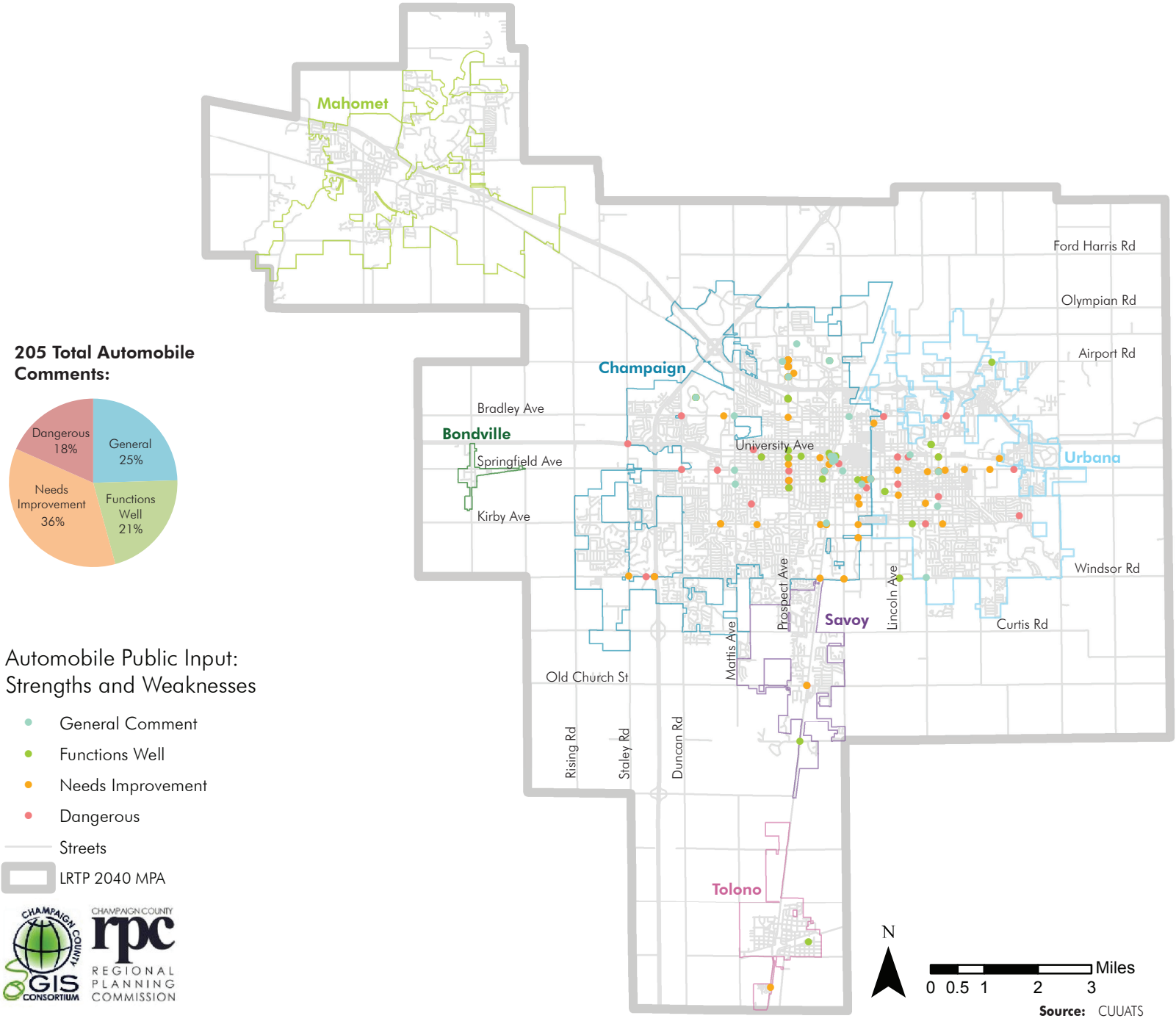


PUBLIC INPUT: AUTOMOBILES

Of all the respondents over 30 years of age, an average of 52 percent rely on a car to get around the community in a typical week. Many of the "needs improvement" comments regarding cars involved congestion and parking. The majority of congestion complaints were in reference to the North Prospect area. Several comments also refer to locations where drivers would like to see connectivity to other transportation systems improved as a way to reduce their reliance on cars and improve safety in sharing the road network with pedestrians, bicyclists, and buses. Figure 7.23 shows the automobile comments that were able to be mapped.

From top to bottom: First Street and Armory, Champaign, 2011; Interstate 57, 2012; Neil Street in downtown Champaign, 2012

FIGURE 7.23 PUBLIC INPUT: AUTOMOBILES



COMMERCIAL TRUCKS

Three interstates and several state and national routes intersect in the urbanized area. The urbanized area is home to numerous industries and firms that ship and receive freight at local, regional, and national levels, including 655 trucking units (Table 7.22). The distribution of goods through commercial truck service is a large part of the local economy.

Currently, there is no local truck route system in place for the urbanized area, although there is an Illinois State truck route system (Figure 7.24). Illinois truck routes in the MPA are split into two classes:

- Class one truck routes are on limited-access, divided highways which include I-74, I-72, and I-57.
- Class two truck routes are on non-interstates with the same weight and size restrictions, which include portions of Bloomington Road, Chestnut Street, Cunningham Avenue, Division Street, Dunlap Avenue, High Cross Road, Lombard Street, Long Street/US 45, Mattis Avenue, Oak Street, Prospect Avenue, Springfield Avenue, and University Avenue.

Without a local truck route system in place, trucks can travel on any road between these state truck routes to load or unload, which can increase wear and tear on roads that were not 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 strain local traffic conditions for other transportation modes. In places that are not equipped for deliveries by trucks of all sizes, delivery trucks are forced to block off roads and stop traffic when loading and unloading.

Commercial Truck ADT

Generally, the heaviest truck traffic, including commercial trucks, occurs on highways and arterials with less truck traffic on routes in the core of the urbanized area or local roads (Figure 7.23 and Figure 7.24).

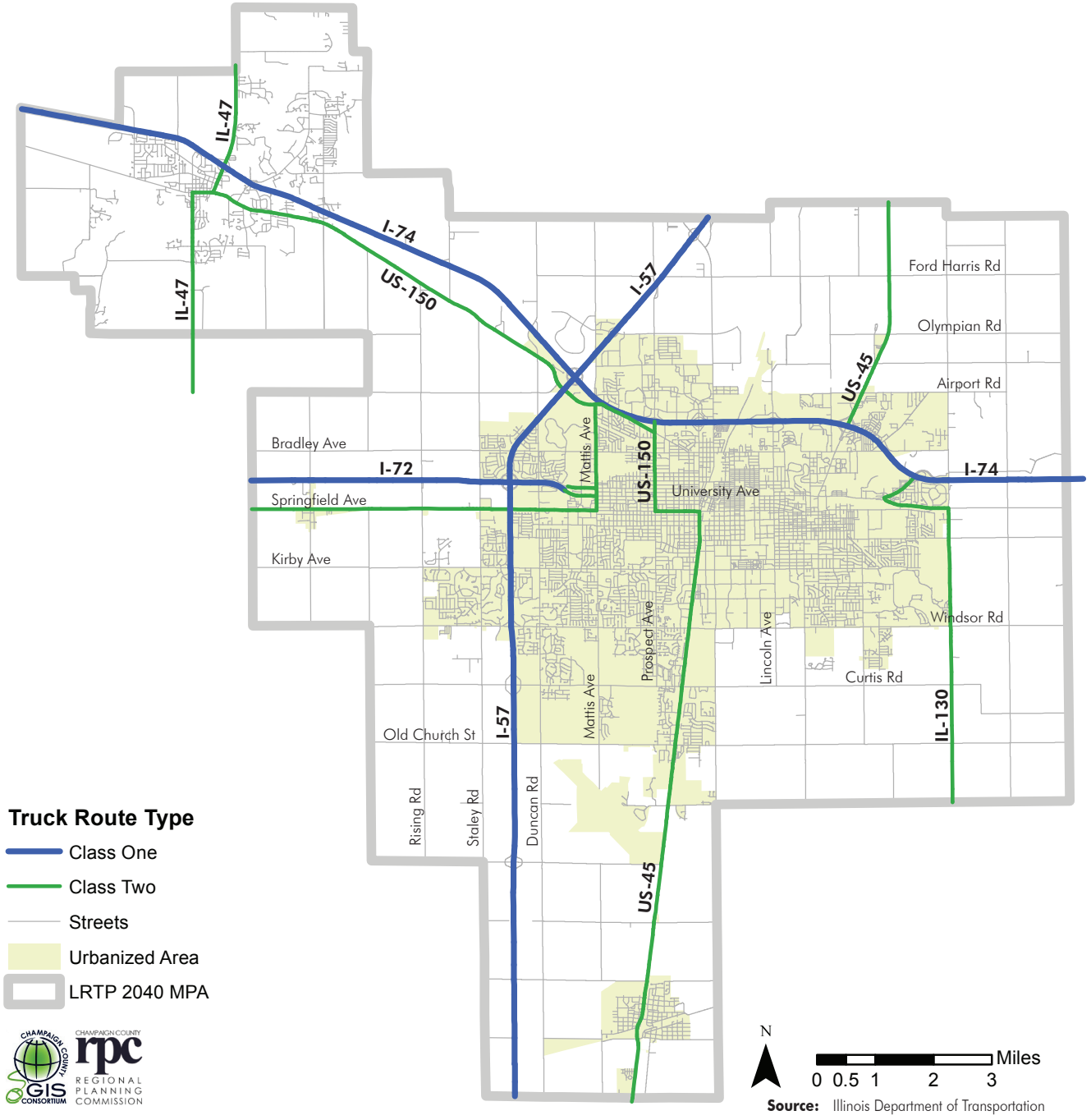
Freight truck stuck under viaduct on Springfield Avenue in Champaign, 2013, photo by Darrell Hoemann, The News Gazette

TABLE 7.22 TRUCKING COMPANIES IN THE METRO PLANNING AREA

Name	# Trucks
3M Trucking	1
AAAV Trucking Inc.	1
ADA Trucking Services Inc.	1
All-Ways-Ready-Trucking Inc.	1
Armstrong Trucking	1
Associated Transfer and Storage Inc.	20
Ayala Trucking Inc.	1
Bates Trucking Co.	4
Beebe Trucking	5
Box & Crate Inc.	1
C T Trucking Specialist Inc.	1
Carter Construction Services Inc.	2
Chris Doenitz	1
Christy Freight Lines LLC	1
Clapper Trucking	1
Community Resource Inc.	5
CU Moving	1
CU There LLC	4
Custom Service Crane Inc.	9
Daves Trucking	1
David Sutton	1
Express Relocation Van Line Inc.	1
EXT Acquisition Company Inc.	40
F&F Trucking LLC	6
Federal O'Byrne Moving & Storage LLC	7
Flex-N-Gate Corporation	25
Gayle Frerichs Trucking LLC	39
Grand Prairie Cooperative	7
Harold Early	2
Heller Trucking Inc.	1
Industrial Surfacing Solutions LLC	4
Ivan Winfrey	1
JCW Trucking Inc.	5
Jay Farms II	1
Johnson's Trucking	5
Jones Trucking Inc.	24
KBS Logistics Inc.	1
Ken McKenry	1
Kevin Mitchaner Trucking	4
Koby Jones Trucking	1
Lex Express Inc.	20
LMJ Transportation Inc.	17
Lorrico Inc.	8
LTJ3 VIP Tours & Shuttle Service	3
Marla Hutcherson	1
Maurice Transport Company Inc.	3
McCormick Distributing & Service Inc.	7
Mello Carriers Inc.	1
Michael Bushman Trucking Inc.	16
Michael Poor	2
MidAmerica Transportation Services Inc.	134
Midstate Container Express Inc.	9
Midwest Logistics Inc.	1
MPS Enterprises Inc.	7
MTB Trucking Inc.	5
My College Storage LLC	1
No Lemon Delivery	3
NWS Illinois LLC	25
O'Brien Auto Park of Urbana	2
Orange and Blue Distribution Inc.	8
Parkhills' Tours Inc.	1
Pepsi Cola Champaign-Urbana Bottling Company	2
Pierre Trucking Company	1
Quick Leasing	1
Reynolds Towing Service Inc.	1
Roadready Inc.	3
Robert Mack	2
Servco Equipment & Supplies	1
Siuts Trucking	1
Sm Marina Trans	1
Steve Anderson Trucking Inc.	4
Steve Gilbert Trucking	9
Steve Street Trucking	1
Strehlow Trucking	1
Summers Trucking	2
Tatman's Towing	9
Tim Wood	2
Timothy L Good	1
Tipsord Transport	1
Tom Franey Trucking Inc.	17
Twana Trucking Inc.	1
Twin City Movers Inc.	1
Two Men and a Truck Central Illinois	4
Valumax Transport	1
Vienna Express Inc.	1
Waddell Trucking LTD	1
Wat Trucking LLC	1
Woodworth and Sons Inc.	42
Xtreme Transportation	29
Z Brothers Trucking Inc.	1
Zehr Trucking Inc.	1
Total	**655**

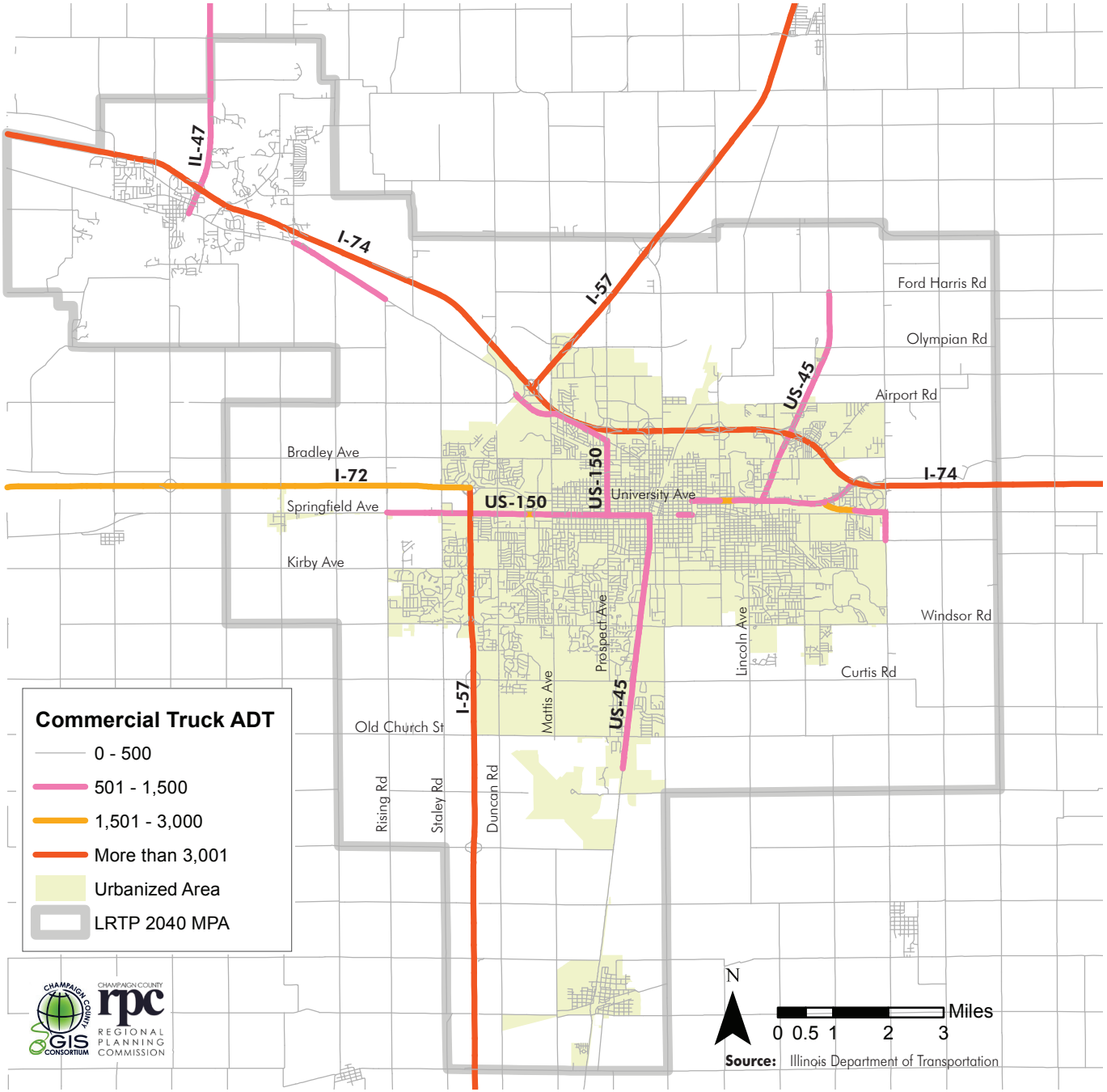
Source: Quick Transportation Solutions Inc. <www.quicktransportsolutions.com> Accessed 9/13/13

FIGURE 7.24 ILLINOIS DEPARTMENT OF TRANSPORTATION TRUCK ROUTES FOR THE MPA



Source: Illinois Department of Transportation

FIGURE 7.25 AVERAGE DAILY TRUCK TRAFFIC IN THE MPA



Trains

Three rail companies own tracks within the CUUATS MPA (Figure 7.27). Canadian National (CN) operates a north-south line that runs parallel to Neil Street/US 45. 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. Union Pacific operates an east-west line through the Village of Tolono.

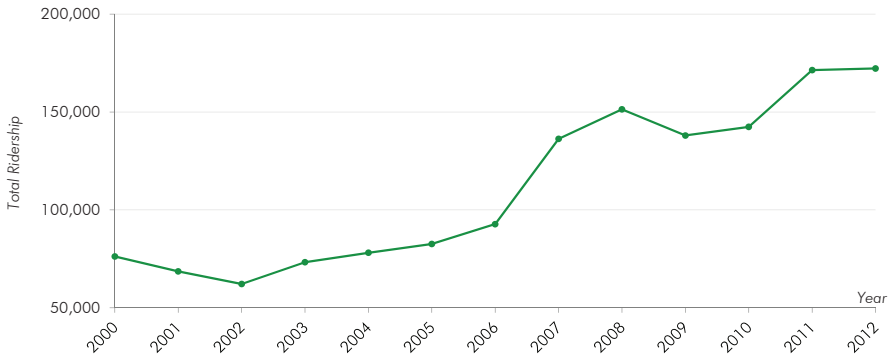
This region also enjoys a passenger rail route that extends north to Chicago and south to Memphis and New Orleans. This allows residents to travel to other parts of the country for business and recreation and enables people and businesses from outside the area to experience the Champaign-Urbana community as well. Currently, freight trains and passenger trains share the same tracks, which regularly causes delays on passenger routes, as freight lines have priority. Passenger and freight rail should be supported in the future to enhance access to other communities and support the regional economy.

Passenger Rail

Amtrak passenger rail service uses the Illinois Terminal 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* routes 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 7.26 shows the annual Amtrak ridership from Illinois Terminal.

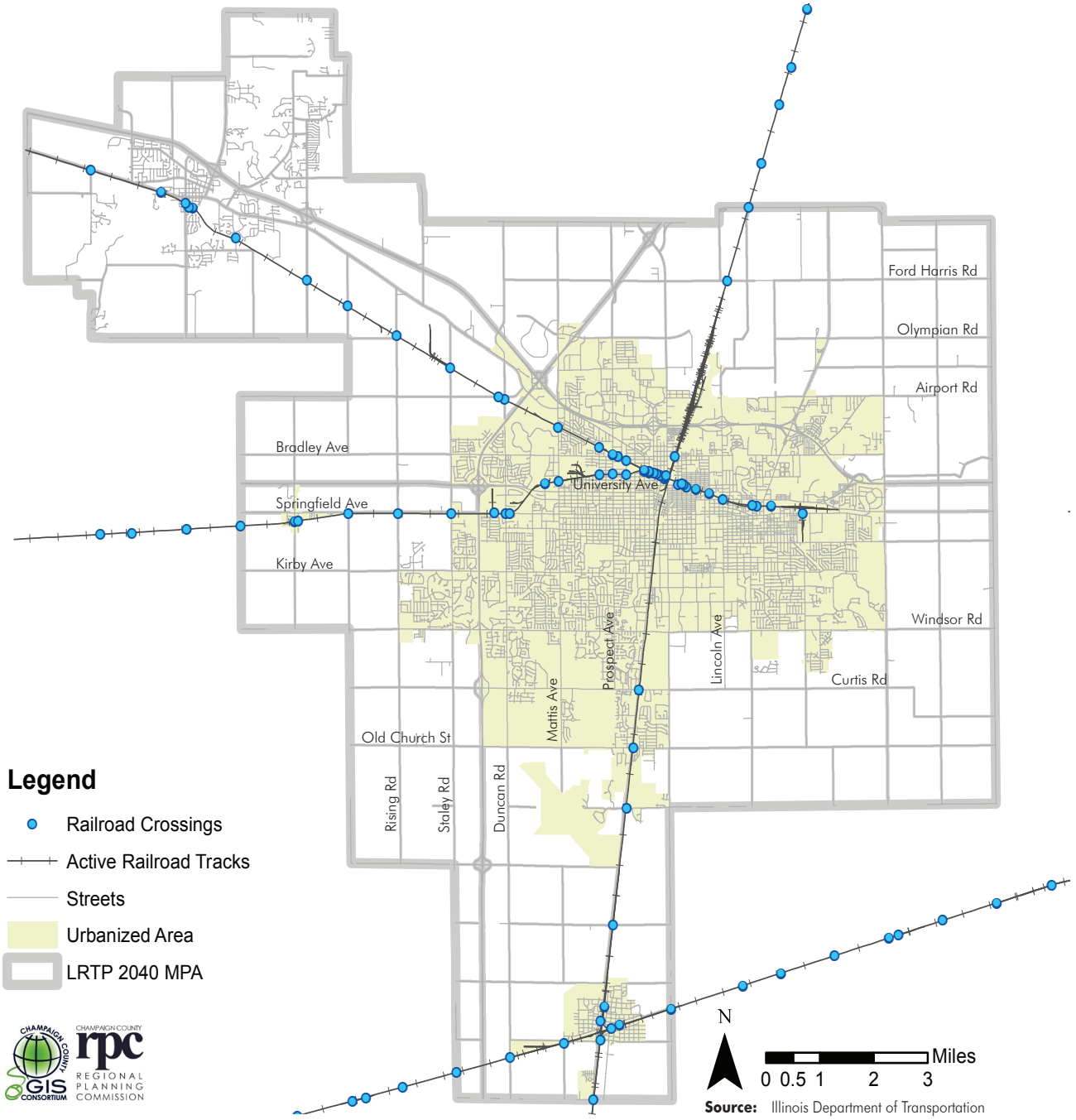
Ridership has been increasing since 2002, with a sharp increase from 2006 to 2008 as a result of an additional round trip added during that time between Chicago and Carbondale. Since 2009, ridership has been steadily increasing with a significant 20 percent increase between 2010 and 2011.

FIGURE 7.26 AMTRAK RIDERSHIP AT ILLINOIS TERMINAL (2000-2012)



Source: IDOT, Amtrak Monthly Ridership. < http://www.dot.state.il.us/amtrak/amtrak.asp>

FIGURE 7.27 RAILROADS AND RAILROAD CROSSINGS IN THE METRO PLANNING AREA



Source: Illinois Department of Transportation

AIRPLANES

Two airports are located within the MPA. Air travel connects this community to numerous destinations across the country and the world, facilitating national and international social, political, and economic relationships. Air transportation should be supported by integrating it with other modes of transportation within the community. Planning for a safe and reliable network that coordinates different transportation modes to support all travel, from trips next door to trips overseas, will help increase mobility in the region.

Frasca Field is a pivate airport open for public use located one mile north of the City of Urbana. The University of Illinois Willard Airport is a public airport providing direct daily flights to Chicago and Dallas/Fort Worth. The number of arriving and departing flights during different days of the week are shown in Table 7.23. Willard Airport currently has only one carrier, American Airlines, after losing Delta Air Lines in 2010. Since then, there are fewer flights arriving and departing at Willard, and the airport services fewer hubs.

When compared to similar airports in the region, Willard airport traffic is most comparable to the Springfield Lincoln Capital Airport in the number of enplanements per year. Table 7.24 shows the comparison of enplanements between four regional airports in Illinois, including Willard. Willard has lost thousands of annual enplanements since 2000. Other regional airports in Peoria and Springfield have experienced a similar trend, though three out of the four regional airports listed experienced a small increase in flights between 2011 and 2012.

TABLE 7.23 WILLARD AIRPORT DEPARTURES AND ARRIVALS (2012)

Days of Flight	Total Departures	Total Arrivals	Total	Change 2009-2012
Daily	3	2	5	-8
Monday - Friday	0	0	0	-1
Monday - Saturday	0	0	0	-3
Sunday - Friday	3	4	7	+4
Sunday Only	0	0	0	-2
Thursday-Monday	0	0	0	N/A
Mon,Thur,Fri, Sun	0	0	0	N/A
Saturday Only	1	2	3	N/A

Source: Willard Airport Homepage, http://www.flycmi.com/

TABLE 7.24 REGIONAL AIRPORT ENPLANEMENTS (2012)

	Enplanements			
Year	Bloomington	Peoria	Springfield	Willard
2012	238,697	285,165	59,128	83,796
2011	284,116	247,536	54,190	81,100
2010	273,589	247,900	51,879	83,391
2009	242,834	240,745	52,921	85,792
2008	261,609	276,209	55,609	95,179
2007	262,191	269,726	60,556	108,667
2006	255,442	238,870	64,458	114,769
2005	227,489	253,743	81,165	129,948
2004	219,286	221,466	111,108	115,911
2003	206,390	177,129	122,412	95,087
2002	199,672	192,308	102,917	112,246
2001	206,859	177,387	52,835	111,736
2000	234,738	170,264	35,158	120,106

Source: Willard Airport Homepage, http://www.flycmi.com/

Table 7.25 and Figure 7.28 show the annual number of flights compared with the number of enplanements for Willard Airport from 2006-2012. While the number of enplanements has decreased by 27 percent from 114,768 to 83,796 between 2006 and 2012, the number of flights has decreased by 43 percent from 3,965 to 2,253.

Willard Airport has seen improvements in flight performance and reliability over time. Between 2003 and 2012, the number of on-time flights has increased a total of 18 percentage points (Figure 7.29).

Table 7.26 shows the reason for flight delays in 2012. The table illustrates that aircraft arrival delay, air carrier delay, and aviation systems are the major contributers to flight delays at Willard Airport, although adverse weather plays a role as well.

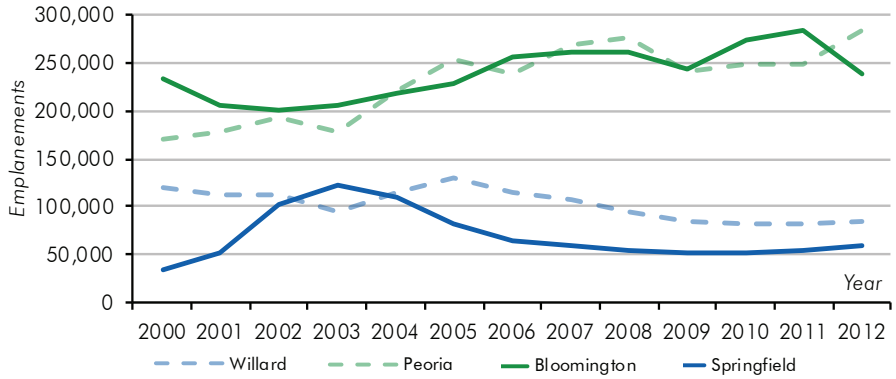
Willard Airport, Village of Savoy

TABLE 7.25 WILLARD AIRPORT FLIGHTS AND ENPLANEMENTS (2006-2012)

Year	Flights	Change	Enplanements	Change
2012	2,253	0.0%	83,796	3.3%
2011	2,253	-12.6%	81,100	-2.7%
2010	2,577	-13.7%	83,391	-2.8%
2009	2,985	-11.1%	85,792	-9.9%
2008	3,356	-0.6%	95,179	-12.4%
2007	3,376	-14.9%	108,667	-5.3%
2006	3,965	N/A	114,769	N/A

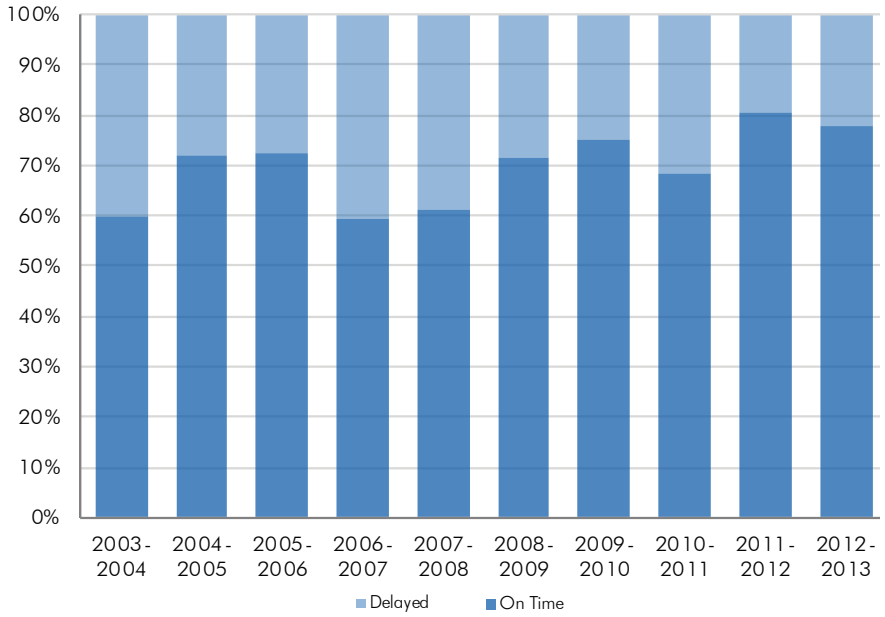
Source: Willard Airport Homepage, http://www.flycmi.com/

FIGURE 7.28 TOTAL ENPLANEMENTS PER YEAR FOR REGIONAL AIRPORTS



Source: Willard Airport Homepage, http://www.flycmi.com

FIGURE 7.29 WILLARD AIRPORT FLIGHT STATUS (2003-2013)



Source: Willard Airport Homepage, http://www.flycmi.com/

TABLE 7.26 WILLARD AIRPORT DELAY BY TYPE (2012)

Delay Type	Number	% of Total Operations
Air Carrier Delay	129	5.64%
Weather Delay	62	2.74%
Security Delay	0	0.00%
Aircraft Arrival Delay	145	6.38%
Aviation Systems Delay	126	5.51%

Source: Willard Airport Homepage, http://www.flycmi.com/

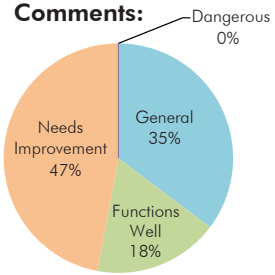
PUBLIC INPUT: TRAINS AND AIRPLANES

Only four percent of all the comments received are in reference to train or plane travel. Over 25 percent of train comments were in reference to wanting a high speed, or bullet, rail line in the area. Despite a few suggestions for Amtrak improvements, respondents enjoy and rely on direct access to Chicago. Of the plane comments, respondents expressed a desire for more flights out of Willard to bigger hubs and cheaper parking at the airport. Very few train or plane comments described either local network as "dangerous." Figure 7.30 shows the train and plane comments that were able to be mapped.

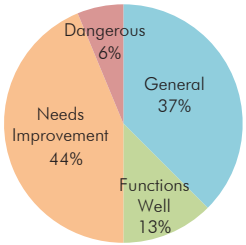
Illinois Terminal, Champaign, 2012

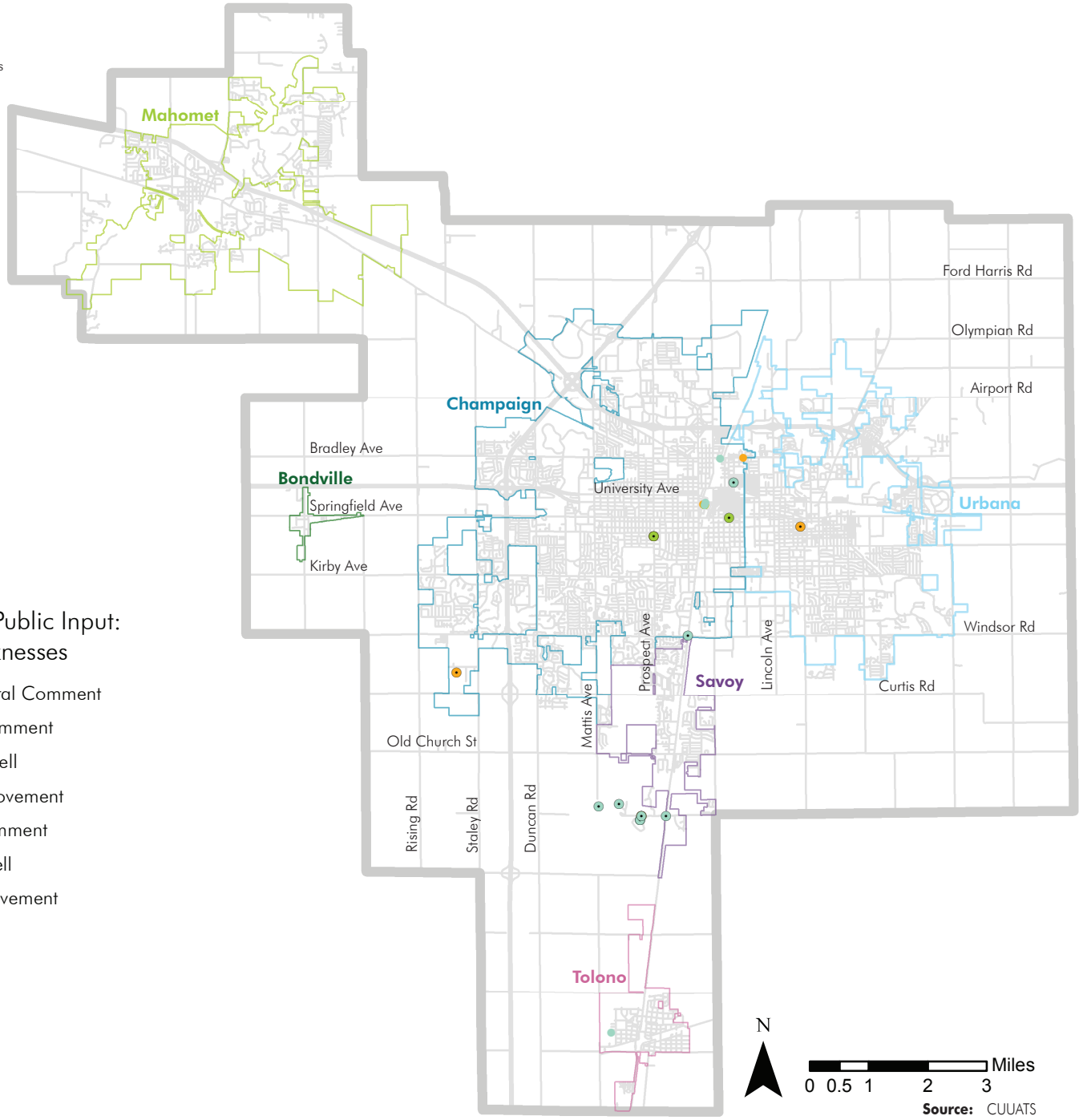
FIGURE 7.30 PUBLIC INPUT: TRAINS AND AIRPLANES

17 Total Train Comments:



18 Total Airplane Comments:





Train and Airplane Public Input: Strengths and Weaknesses

- Plane More General Comment
- Plane General Comment
- Plane Functions Well
- Plane Needs Improvement
- Train General Comment
- Train Functions Well
- Train Needs Improvement
- Streets
- LRTP 2040 MPA

CHAMPAIGN COUNTY GIS CONSORTIUM
CHAMPAIGN COUNTY rpc REGIONAL PLANNING COMMISSION

TRANSPORTATION SECURITY

Moving Ahead for Progress in the 21st Century (MAP-21) recognizes security as an important factor to consider while planning for transportation at the regional level. Security can be defined as the protection of persons or property from intentional damage or destruction caused by vandalism, criminal activity, or terrorist events[1]. This section addresses transportation security in the Champaign-Urbana Metropolitan Planning Area (MPA).

Critical Infrastructure

Figure 7.31 shows the location of critical infrastructure in the Champaign-Urbana urbanized area, including the U.S. Military Strategic Highway Network (STRAHNET), hospitals and other health facilities, municipal buildings, airports, highways, railroads, and Illinois Terminal (labeled as an "intermodal station").

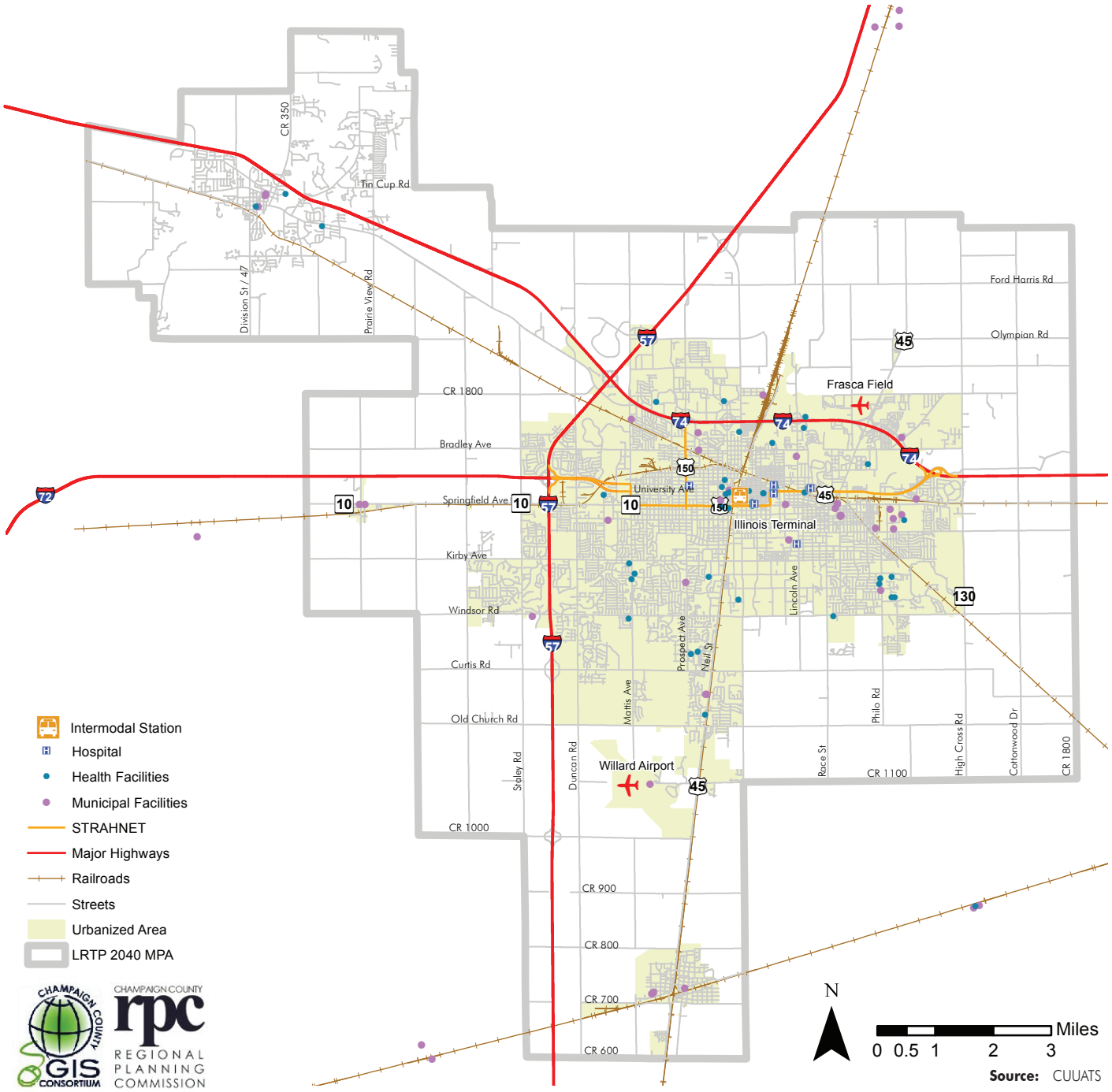
The Champaign-Urbana Savoy Regional Intelligent Transportation Systems (ITS) Architecture Plan was adopted by the CUUATS Policy Committee in 2005. ITS are projects/installations/systems that are intended to maximize the effectiveness, efficiency, and safety of transportation networks and users through the use of different technologies in the form of electronic signage on highways, GPS tracking capabilities in cars, and/or inductive loop detection on roadways to keep track of traffic volume and behavior, to name just a few examples. The process for developing the ITS Architecture Plan included outreach to and participation by many stakeholders, including surveys and interviews to establish existing and future infrastructure, services, and projects. Information about coordination and communication between agencies during emergency situations was also collected and documented.

Transportation security elements and a framework for the development of a regional transportation security program were also developed during the planning process. A list of existing and future services related to transportation security can be found on the following pages. The current Transportation Improvement Program (TIP) for the Champaign-Urbana Metropolitan Planning Organization (MPO) includes funds allocated to local ITS projects, such as changeable message signs and surveillance on Interstate 72, Interstate 74, and Interstate 57 around Champaign-Urbana. The signs will allow state and local agencies to communicate important information related to highway conditions to drivers. The surveillance cameras will allow the Illinois Department of Transportation to monitor traffic flow and better respond to adverse road conditions such as snow, ice, flooding, and vehicle crashes.

The ITS Architecture plan assigns roles and responsibilities for each of the stakeholders, details the functions required, and explains how information flows between security elements to provide different services. Information flows are documented as charts in the plan, which provide a quick reference in the event of an emergency. The ITS Architecture Plan should be updated regularly to monitor and coordinate changes to the region's ITS Architecture.

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

FIGURE 7.31 CRITICAL INFRASTRUCTURE FOR THE METRO PLANNING AREA



Champaign-Urbana Mass Transit District Security

The importance of additional transit security was recognized after September 11, 2001. 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, the Champaign Urbana Mass Transit District (C-U MTD) incorporates a number of security measures to protect the safety and security of passengers. The following security measures have been implemented by C-U MTD:

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

C-U MTD also has transit signal priority (TSP) emitters on the newest buses in the fleet, though not all the lights in the urbanized area currently have the TSP equipment to change the lights. The C-U MTD administration and operations facility, two maintenance facilities, and the Illinois Terminal facility are equipped with an Employee Prox-Card door security system. Employees are issued a Prox-Card, which opens specified doors to the facilities. This system is controlled by C-U MTD security management, which limits access to certain high-security areas such as the control dispatch center, as well as the administration and operations facility.

The Champaign-Urbana Mass Transit District System Safety Program Plan (2006) contains procedures and guidelines to regulate and maintain the system to provide optimum safety considerations for passengers. There also exists an annually updated C-U MTD Emergency Response and Disaster Plan, which 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. C-U 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 also been certified in a self-defense techniques course.

Champaign County GIS Consortium

The Champaign County GIS Consortium (CCGIS) is a program of Champaign County. 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 security-related 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. The METCAD system is a GIS-centric 911 dispatch system. It utilizes the Consortium address points and street centerlines to locate an address. It then utilizes other GIS layers to obtain the correct response zone and assign the correct city code. The City of Champaign Fire Department currently utilizes the street centerline data in their system. The C-U MTD and the Champaign Urbana Public Health District are also planning to use the CCGIS Consortium data in their emergency applications.

Carle Hospital/C-U MTD Memorandum of Understanding

In March 2007, a memorandum of understanding was signed between C-U MTD and Carle Hospital, which will provide for patients to be transported to C-U 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 911 center. One of the primary functions of Champaign County EMA is to provide severe weather event coordination through an established network of storm spotters across the county providing advance warnings of severe weather. Local communities' EMAs also have their own spotters who report severe weather conditions in and around their communities.

Spotters are in constant communication with the EOC which is at the center of all EMA operations providing monitoring and communications, monitoring weather conditions and relaying information to other public agencies during severe weather. The Champaign County EMA also provides emergency field communications 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.

Hazardous Material and Commodity Flows Study

In 2014, CUUATS staff began a hazardous material and commodity flows study to document what types of hazardous materials are transported on area highways and roadways and stored around the region. This study will include the identification of possible vulnerable locations along existing routes (e.g. schools) and make recommendations for different routes, if necessary, to minimize potential exposure for vulnerable locations in the event of a crash or spill.

Illinois Emergency Management Agency (IEMA)

The 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 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.

Illinois Homeland Security

Located in Springfield, Illinois Homeland Security is the state office of the U.S. 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 the Illinois Terrorism Task Force, (ITTF), and the Illinois Department of Public Health, (IDPH), in dealing with security related incidents in the state. The ITTF has divided the state into 12 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 provides training for emergency responders and public officials including:

- Unified Command Workshops – providing a basic understanding of incident command, unified command and the 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 objectives 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 applying technologies from the laboratory in the private sector

8 2040 Vision PLANNING PILLARS

PLANNING PILLARS

The LRTP: *Sustainable Choices 2040* has an overall mission to offer sustainable transportation choices within the region that will help balance the economic, environmental, and social aspects of ongoing urban change and development in the Champaign-Urbana urbanized area. This chapter conceptualizes and explains the planning pillars that will help define the goals and objectives set forth in this plan, and perfomance measures (Chapter 9) that will facilitate monitoring annual progress made toward achieving those goals and objectives.

In order to understand the future goals of local residents, CUUATS staff held a total of four visioning meetings to capture a wide range of local input: one for middle school and high school youth at the public library in Champaign, one for the general public at the Illinois Terminal in Champaign, one for employees of the Regional Planning Commission at the Brookens Administrative Center in Urbana, and one for business developers at the Civic Center in Urbana.

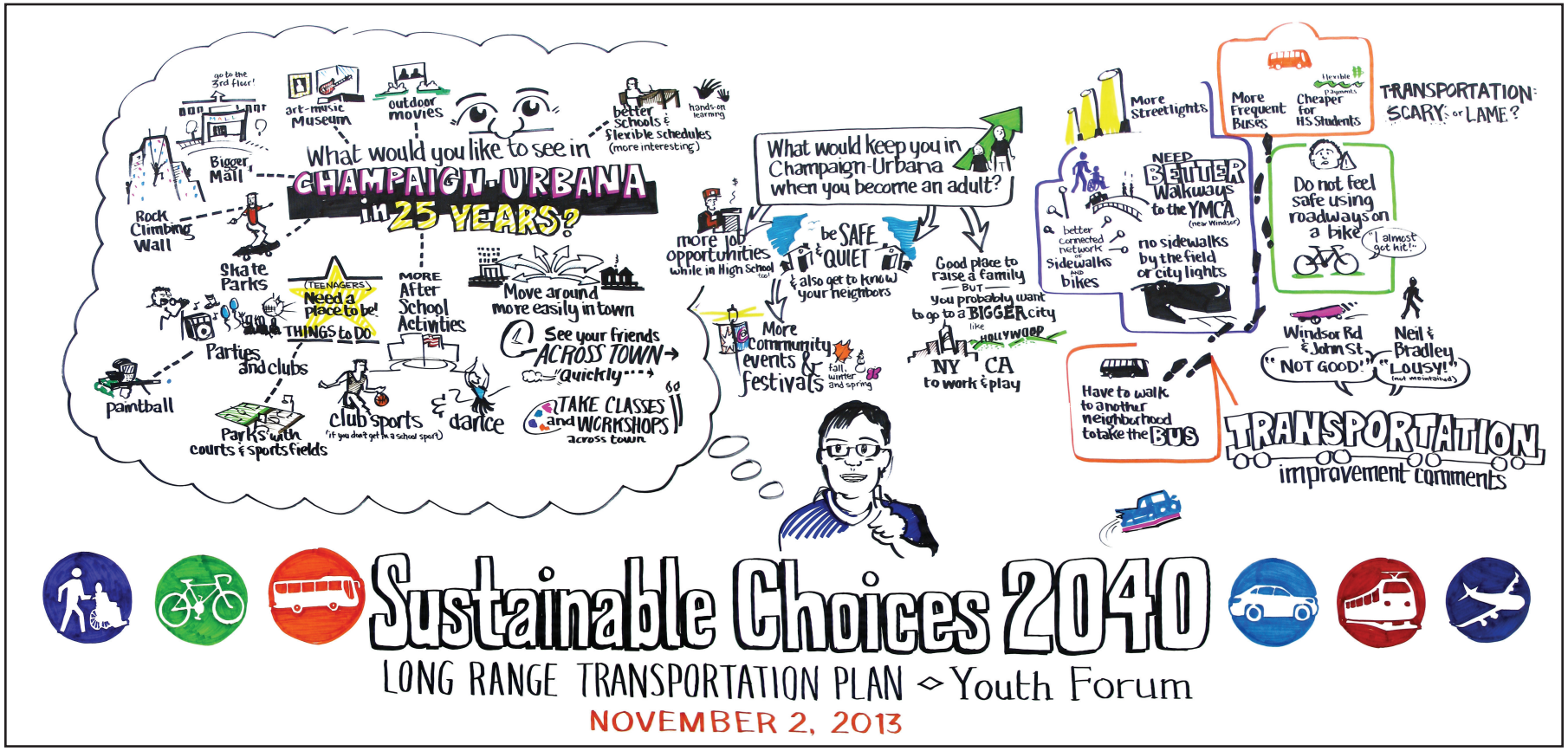
The conversations at the four visioning meetings were centered around two related questions:

> *What would the Champaign-Urbana region look like in 2040 if we were to do nothing different?*
>
> *What kind of changes could we make to create a better future?*

While each of the four groups included distinct voices and perspectives, there was significant overlap in the topics covered and the types of concerns about the future. Attendees at each of these meetings talked about transportation-specific issues, like adding more multi-use paths and a corridor for bullet trains, but also talked about more general issues related to community developement and social health like the negative impacts of residential segregation and the lack of local affordable housing in the region. In the end, most community development issues are related in some way to transportation and impact the way we think about and plan for transportation infrastructure in the region. Therefore all the discussion topics that resulted from the visioning meetings are included in the analysis of the public involvement for the LRTP: *Sustainable Choices 2040* which is encompassed in the six planning pillars described in this chapter, and around which the goals, objectives, and performance measures are defined in Chapter 9.

LRTP 2040 Youth Visioning Meeting, November 2, 2013 at the Champaign Public Library, Artist: David Michael Moore

FIGURE 8.1 YOUTH VISIONING MEETING POSTER

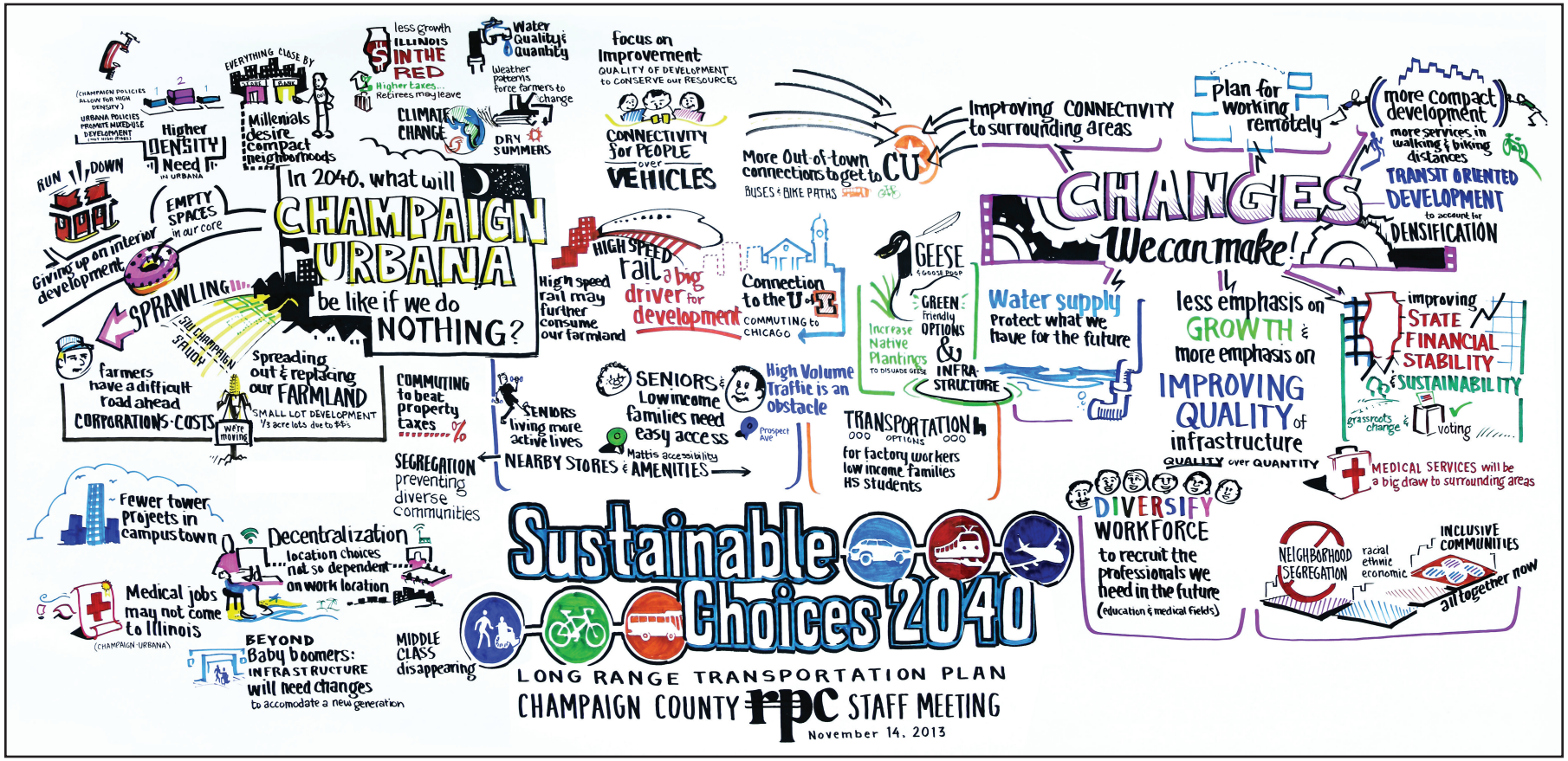


Youth visioning meeting, hosted by CUUATS, Saturday November 2, 2013 at the Champaign Public Library. Conversation facilitated by Dr. Varkki Pallathucheril and poster drawn on site by David Micheal Moore.

FIGURE 8.2 PUBLIC VISIONING MEETING POSTER

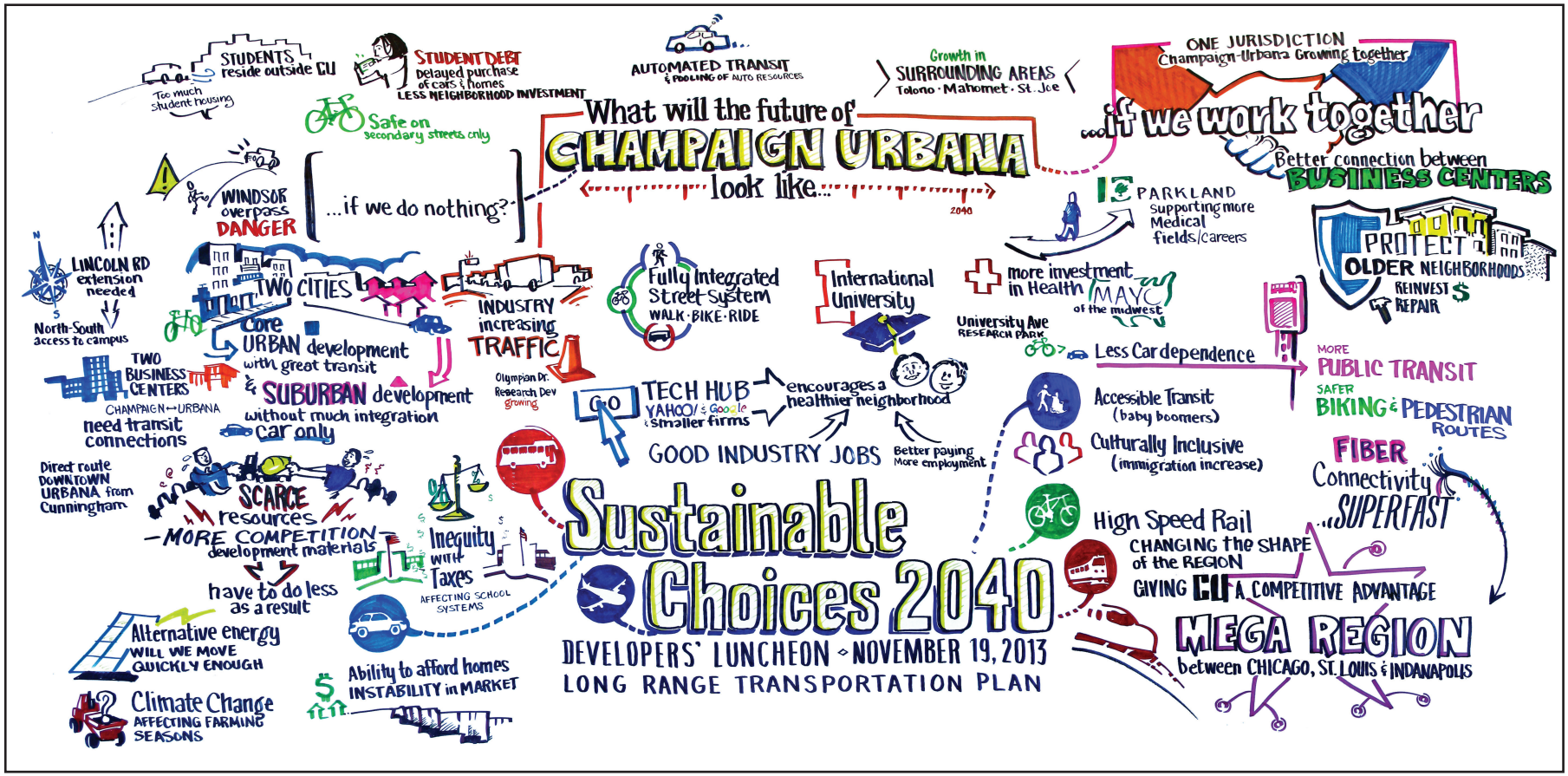
Public visioning meeting, hosted by CUUATS, Wednesday November 6, 2013 at the Illinois Terminal. Conversation facilitated by Dr. Varkki Pallathucheril and poster drawn on site by David Micheal Moore.

FIGURE 8.3 RPC STAFF VISIONING MEETING POSTER



Regional Planning Commission visioning meeting, hosted by CUUATS, Thursday November 14, 2013 at the Brookens Center. Conversation facilitated by Dr. Varkki Pallathucheril and poster drawn on site by David Micheal Moore.

FIGURE 8.4 BUSINESS DEVELOPERS' VISIONING MEETING POSTER



Developers' Luncheon visioning meeting, hosted by the City of Urbana, Tuesday November 19, 2013 at the Urbana Civic Center. Conversation facilitated by Dr. Varkki Pallathucheril and poster drawn on site by David Micheal Moore.

SUSTAINABLE CHOICES 2040 PLANNING PILLARS

The six *Sustainable Choices 2040* planning pillars (Figure 8.5) are a result of coalescing the results of extensive research and data collection (Chapters 2-7), an ambitious and innovative public outreach campaign (Appendix A), and the annual LRTP Report Cards that detail the progress made on goals and objectives set forth in the previous LRTP, *Choices 2035*, approved in 2009. Each pillar is described in detail with quotes taken directly from LRTP public input surveys and recordings included in green text in the top right corner of each page to help illustrate the sentiments of local residents. The visual representations of each pillar are taken from the graphic recordings of the four LRTP visioning meetings documented on the preceeding pages that were held around the Champaign-Urbana area in November 2013.

LRTP 2040: Existing Conditions public meeting, October 2013, Illinois Terminal, Champaign

FIGURE 8.5 *SUSTAINABLE CHOICES 2040* PLANNING PILLARS

Safety and Security

- Traffic safety
- Emergency evacuation
- Commodity flows
- Food security

Balanced Development

- Historic preservation
- New construction
- Infill development
- Environmental preservation

Multimodal Connectivity

- Provision and coordination of different transportation modes to get everywhere

Accessibility and Affordability

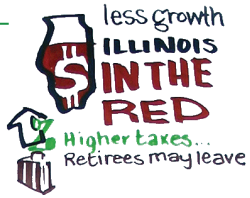
- Equal access
- Equity
- Diversity
- Education

Healthy Neighborhoods

- Public health
- Mixed use, compact development
- Ecology
- Recreation

Resilient Economy

- Diverse economy
- Infrastructure
- UIUC/Parkland College
- Financial stability



"I AM CONCERNED THAT AS MORE DEVELOPMENT OCCURS OUTSIDE THE MAJOR FREEWAYS SURROUNDING TOWN, THEY WILL PREVENT PEOPLE IN THOSE NEWLY DEVELOPED AREAS FROM RIDING BIKES INTO TOWN SINCE THE FREEWAYS ARE NOT CURRENTLY SAFE FOR PEDESTRIANS OR BIKERS TO CROSS."

SAFETY AND SECURITY

Sustainable Choices 2040 lists safety and security as the first priority of the transportation system. This pillar builds on the second and third factors of MAP-21[1] to "increase the safety [and security] of the transportation system for motorized and non-motorized users." The concepts of safety and security include crash data statistics, tracking and understanding regional commodity flows as they relate to hazardous materials and potential exposure, and coordinating with agencies in charge of emergency vehicle access. Community members also provided input regarding the safety of streets without sidewalks or lighting in the region, as well as a disconnected regional bike network that can make biking unsafe in different parts of the community.

Transportation

- Automobile crash rates per 100 million VMT are below state averages and the state Highway Safety Performance Plan (HSPP) target, but the crash fatality rate is still above zero.
- Vehicle-pedestrian crashes have increased since 2009 and the number of pedestrian fatalities resulting from vehicle-pedestrian crashes remains above zero.
- Vehicle-bicycle crashes and injuries have decreased over time, and the region should strive to continue this trend. Fatalities from vehicle-bicycle crashes have remained low, but are still not zero.
- Traffic safety education and enforcement should be recurrent activities in the region to enhance the safety of all road users. The Safe Routes to School (SRTS) program has done important work in this area making sure children and adults who spend time in schools can get there safely without a personal vehicle. However, there is a need to get all schools in the urbanized area participating in the SRTS programs.
- Pavement conditions in the urbanized area have remained consistent, but the region should strive to have fewer "poor" and "very poor" pavement conditions to increase safety and support all travel modes.
- Transportation security systems are well-established in the region, but would benefit from an update to the 2005 Intelligent Transportation System (ITS) Architecture Plan, as our ITS infrastructure is currently changing with the IDOT investment in electronic roadway signs and other developments. The creation of a security hazard mitigation plan would also benefit the region.
- Public input indicates that street lighting is a big indicator in how safe people feel when walking. In a region of the country that gets fewer than twelve hours of daylight for six months out of the year, street lighting should be a priority to facilitate people being active and outside as often and as safely as possible.

1 Since the Illinois State Transportation Plan goals are identical to the MAP-21 factors (with the exception of numbers 1 and 2 being switched) the LRTP Planning Pillars refer only to the MAP-21 factors.

RESILIENT ECONOMY

"WIDESPREAD FIBER CONNECTIVITY AND BULLET TRAIN CONNECTIVITY ARE TWO DEVELOPMENTS THAT COULD TRULY CHANGE THE SHAPE OF THIS REGION, GIVING C-U A COMPETITIVE ADVANTAGE AND PERHAPS LEADING TO A MEGA-REGION BETWEEN CHICAGO, ST. LOUIS, AND INDIANAPOLIS."

This pillar came out of public input that focused on the 2008 economic downturn and the changing nature of employment and the impacts on mobility, social services, income disparity, home ownership, neighborhood health, and more. This pillar builds on MAP-21 factor number one, which aims to "support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency." By including the qualifier "resilient," this pillar represents community desires to facilitate the ability of the regional economy to continue to support a high quality of life in the face of larger market forces by supporting existing and emerging local and global business development, continuing to invest in forward-looking infrastructure like fiber connectivity, establishing strong inter-regional transportation options like bullet trains, and promoting inter-municipal coordination. This pillar also includes community concerns regarding supporting and growing a diverse workforce. It is important to establish quality education, training, and employment opportunities for a wide range of interests, ages, ethnicities, and skill levels to foster a diverse and dynamic workforce now and in the future.

Transportation

- Assess gaps in infrastructure and identify priority areas where potentially small investments could result in a significant impact, such as improving sidewalk connectivity.
- To enhance the economic vitality of the region, Willard should remain a viable option for freight carriers and travelers with continued support of multi-modal options to and from the airport.
- The region should identify the needs of businesses using rail and freight trucks. The establishment of a freight plan would help the region identify local truck routes most suited for freight traffic. The identification of regional facilities for alternative fueling methods can also encourage more sustainable freight trucks.
- Many people voiced a desire for bullet trains to expand options for students and commuters in the region. Amtrak ridership has continued to increase and should be supported regionally by increasing the number and frequency of trains to maintain this trend.

Land Use

- Public input indicated a shift away from detached single-family home ownership in some neighborhoods, toward more economically and structurally diverse housing options. In addition, the public voiced that affordable and subsidized housing in particular need to be better integrated with the existing pedestrian, bike, and transit network to reduce transportation costs for those households.
- Public input revealed that many people would like to see more mixed use zoning to allow for smaller businesses and other economic opportunities within some residential neighborhoods. Residents would also like to continue ongoing revitalization of the downtown areas of Champaign and Urbana, as well as the University of Illinois research park, as multimodal hubs for transportation, employment, and services.
- To echo the *Champaign Growing Greener* plan published in 2013, it should be a priority to improve the availability of locally grown foods. Growing more food to sell locally would capitalize on the rich soil in the region, support local farmers, and benefit population health.
- Support economic growth by undertaking a planning process that identifies potential economic development areas in the urbanized area in order to build a transportation system that better supports those needs. This could include increasing local capacity, safety, accessibility, and mode opportunities through expanded transit service, or bike access to major employment centers and educational facilities such as Parkland Community College.

"I WOULD LIKE A COMPREHENSIVE SYSTEM OF TRAILS, MULTI-USE PATHS, AND OTHER NON-VEHICULAR ROADS THAT MIGHT SERVE AS EFFICIENT, SAFE, AND SANCTIONED MEANS FOR PEOPLE TO BIKE FOR RECREATION, WALK OR BIKE FROM ONE ACTIVITY CENTER TO ANOTHER, AND FROM NEIGHBORHOOD TO NEIGHBORHOOD."

MULTIMODAL CONNECTIVITY

This pillar combines MAP-21 factors four, six, and seven with the intention of providing and coordinating all transportation modes to get everywhere in our region. By focusing on providing as much access to as many different places as possible for all transportation modes, this planning pillar aims to increase accessibility and mobility of people and freight to all areas of the region, enhance the ability to connect different modes when necessary or cost-effective for people and businesses, and to increase the resource efficiency of the transportation system by allowing for the use of more active and non-motorized modes whenever possible.

Transportation

- Poor sidewalk connectivity limits walking in certain locations and could be addressed during new development or retroactively for existing development. Sidewalk connectivity should be systematically assessed to decrease gaps in the sidewalk and trail system and increase accessibility to bus stops and transit service.
- Bicycle infrastructure connectivity and accessibility remains a challenge due to limited funding as well as physical and natural barriers. Even so, significant progress has been made: the total mileage of bike facilities in the Metropolitan Planning Area (MPA) has increased 57 percent since 2009, which is well above the goal of a 15 percent increase in dedicated bike facilities and signed bike routes by 2014 set in the previous LRTP.
- Accessibility and connectivity between buses and other modes may be facilitated by properly signing and better equipping some stops with shelters, lighting, and bike racks, as well as installing concrete landing pads for easier bus entry and exit (as recommended in the CUUATS Transit Facility Guidelines).
- To accommodate growing ridership, the region should continue to strive to have 100 percent coverage of residential parcels within the C-U MTD service area and expand the service area to be coterminous with the urbanized area as much as possible.
- In 2004, C-U MTD investigated fixed-guideway rail lines as a potential strategy to improve local transit service. Though a fixed-rail system was not implemented, C-U MTD used the findings of this study to redesign the existing transit network to accomplish some of the same goals.
- Automobiles are still the dominant form of transportation within the region. Access management guidelines, roundabout guidelines, and a complete streets policy were created for the region to guide regional development of automobile infrastructure. These guidelines should be followed to help improve safety and efficiency conditions as well as facilitate multi-modalism in the region.
- The region should identify the needs of businesses using rail and freight trucks. The establishment of a freight plan would help the region identify local truck routes most suited for freight traffic. The identification of regional facilities for alternative fueling methods can also encourage more sustainable freight trucks.
- To enhance the economic vitality of the region, Willard should remain a viable option for freight and travelers with continued support of multi-modal options to and from the airport.
- Many people voiced a desire for additional regional rail connections – ideally with bullet trains. Amtrak ridership has continued to increase and should be supported regionally by increasing the number of routes serving the community.

"EFFICIENT CONNECTIONS BETWEEN BUSINESS DISTRICTS AND NEIGHBORHOODS WILL IMPROVE THE ABILITY OF PEOPLE WHO DON'T HAVE (OR WOULD PREFER NOT TO USE) CARS TO ACCESS FOOD SOURCES, JOB SITES, AND BUS STOPS OUTSIDE OF THEIR NEIGHBORHOODS MORE EASILY."

ACCESSIBILITY AND AFFORDABILITY

This pillar expands MAP-21 factor number four (to increase accessibility and mobility of people and freight) to include affordability as it is closely tied to many forms of accessibility. Public input reflects dissatisfaction with the uneven distribution of businesses, housing options, and educational opportunities between neighborhoods, which themselves are often somewhat segregated along racial, ethnic, and/or income lines. Access to affordable and reliable transportation is essential to widening opportunities for all people by connecting them to jobs, schools, health care, food, and other resources.

Transportation

- Walking or using a wheelchair on area sidewalks is a free and healthy way to move around the community. Sidewalk conditions and access should be systematically assessed to improve their conditions and decrease gaps in the system.
- Bicycles are a cost-effective and healthy way to move around the community. Bicycle safety education and enforcement, through the Champaign-Urbana Safe Routes to School Project and other programs, should be recurrent activities in the region to enhance the safety of all road users.
- C-U MTD provides annual bus passes for only $72, presenting a much cheaper alternative to owning and driving a car. Public input from youth indicates a desire for an even cheaper pass or payment plan specifically for K-12 students. All C-U MTD regular fixed routes are served by buses equipped with wheelchair ramps that can be lowered to aid boarding. Accessibilty could be improved in some locations by adding concrete landing pads to facilitate easier bus entry and exit. In addition, the C-U MTD service area should be expanded to be coterminous with the urbanized area as much as possible.
- Accessibility, availability, affordability, and reliability of transportation for people with disabilities, seniors and low-income individuals should be a priority. Traditionally, transit discounts have been afforded to disabled, youth, and seniors, under the assumption that they have trouble affording basic necessities. On the other hand, persons who qualify for a number of public assistance programs are known to have trouble affording basic necessities and are not necessarily provided the same discounts.
- The Champaign-Urbana urbanized area hosts Zipcar, a car sharing program that allows program members a more affordable way to have access to a personal car when necessary without the expense involved in purchasing, maintaining, parking, and insuring one. More car sharing programs should be supported to reduce congestion and car dependency while increasing alternative modes of transportation.
- Even though road infrastructure exists to access all parts of the community, personal automobiles are an expensive form of travel. Infrastructure for walking, biking, and public transit should be expanded to increase access for people who cannot afford to commute by car. Access management guidelines and a complete streets policy were created for the Champaign-Urbana Urbanized Area to increase safety and facilitate multimodalism.
- Sixty percent of train-related public input for this plan has shown the desire for rail improvement in the region, including requests for bullet trains and cheaper and more consistent Amtrak fares. Currently, a one-way trip from Champaign to Chicago can cost anywhere between $15 and $39 for a coach seat depending on the time of travel. Amtrak ridership has continued to increase and should be supported regionally by providing more train frequency.

"COMMUNITY SPACES, LIKE THE LIERMAN COMMUNITY GARDEN, FOSTER GOOD RELATIONSHIPS WITHIN THE COMMUNITY AND FUNCTION AS POSITIVE COMMUNITY LANDMARKS."

HEALTHY NEIGHBORHOODS

This pillar developed out of a growing concern for the physical health of the region's residents, as well as public conversations about the strengths and limitations of existing neighborhoods and housing developments. The health of the environment is also an important factor in planning for physical health, population growth, and future sustainability. Access to active forms of transportation infrastructure such as sidewalks, bike lanes, and public transit have proven to have a positive effect on combating the growing prevalence of obesity, heart disease, and diabetes, as well as improving the environment by reducing resource consumption. An emphasis on evaluating and expanding active transportation infrastructure should be a priority. In addition, community members clearly articulated a desire for more mixed use and compact development as well as more opportunities for affordable housing, communal space, and recreation within and between neighborhoods to reduce isolation and promote stronger social connections. This planning pillar is related to MAP-21 factor five, which aims to protect and enhance the environment, promote energy conservation, and improve the quality of life in different regions.

Environment

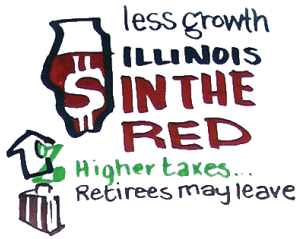
- Ozone 8-hour level measurements were higher than the state-recommended level for the second year in a row in 2012. Additional air monitoring stations should be installed in the region to track air quality with a higher level of accuracy.
- Water quality has declined in portions of the Saline Branch, Kaskaskia River and Copper Slough since 2004, shifting from either partial or full support of aquatic life to no support. In addition, there are currently 13 endangered and nine threatened species located within the region. Planners and developers should learn about measures to help protect and conserve these assets early in the design process for new projects.

Land Use

- The United States Department of Agriculture (USDA) has identified one low-income Census tract in northeast Champaign and two low-income tracts in northeast Urbana where a substantial number or share of people have limited access to supermarkets. Public input revealed that many people would like to see greater walking and biking access to locations and services, including food outlets, inside and outside their neighborhoods.
- Public input reveals that many people desire more public spaces to promote mobility, recreation, and congregation. Multi-use paths within and between neighborhoods would allow opportunities for community members to connect and be active. Community gardens are another example of a land use that has been proven to positively impact the social, environmental, and physiological health of neighborhoods.

Transportation and Public Health

- The rate of obesity for Champaign County has risen from 17.1 percent in 2005 to 22.3 in 2012. Obesity increases the risk of other illnesses and health problems, including high blood pressure, diabetes, negative psychosocial effects, and premature death. Getting the amount of daily activity recommended by the CDC would be an efficient and cost-effective way to combat these trends. In order to increase residents' daily activity, local agencies should promote active transportation by designing encouragement activities that use existing active transportation infrastructure. In addition, efforts should be made to increase the connectivity of the existing active transportation network and to extend active transportation infrastructure to locations within the MPA where that infrastructure is currently limited or non-existent.



"TO GET THE GROWTH WE WANT AND DISCOURAGE THE GROWTH WE DON'T WANT WE SHOULD OFFER INCENTIVES TO ENCOURAGE AND PROMOTE MORE DENSE INFILL AND MAKE FRINGE DEVELOPMENT PAY ITS FAIR SHARE TO INSTALL THE BUS STOPS, BIKE LANES, AND SIDEWALKS NECESSARY TO CONNECT TO THE EXISTING MULTIMODAL NETWORK."

BALANCED DEVELOPMENT

This pillar is based on the desire of community members to support diverse and environmentally responsible types of development without encouraging sprawl or sacrificing important historical structures or new business opportunities. In addition, basic services, transit to employment centers, and quality infrastructure should be more evenly distributed across the region and reasonably accessible from every neighborhood. Community members expressed a clear interest in reinvigorating downtown areas by promoting urban infill, as well as fostering more mixed use development in different parts of the urbanized area. This planning pillar builds on MAP-21 planning factor number five to promote growth and development in a way that maximizes valuable and limited financial and environmental resources. In addition, this pillar reflects MAP-21 factor number eight (that emphasizes the preservation of the existing transportation system) in that it incorporates the appreciation for existing local assets expressed in the public input received.

Land Use

- Gross population density decreased by an average of approximately 200 people per square mile within the MPA since 1990. However, the decline has slowed and data shows that both gross population and residential density have increased in MPA municipalities since 2009. Taking steps to continue to increase population density in order to increase efficiency in the transportation system would respond to public input requesting more mixed use zoning in residential areas to increase access to services within walking and biking distance.
- The public supports the continued preservation of cultural, historic, and archeological resources in the region including residential homes and neighborhoods.
- The agricultural sector in the larger region is likely to experience negative and uneven impacts of climate change such as droughts, water shortages, excess precipitation, and/or the spread of pests and diseases[1]. To minimize sprawl and preserve the uniquely productive agricultural soils in our region, measures should be in place to prioritize infill opportunities and the redevelopment of underutilized existing developments rather than new construction on agricultural land.
- The CUUATS Local Affordability and Mobility Analysis (LAMA) provides a picture of the quality of life in different designated areas in the urbanized area based on a variety of measures, including access to services, transit connectivity, distance to public schools, housing mix, and more. This tool allows planners to assess gaps in existing infrastructure and identify priority areas where potentially small investments could result in a significant impact, whether it is an added sidewalk connection or expanding transit service to a major employment center. This index and the concepts and measures identified in this framework should be utilized when siting investments in order to promote balanced development and maximize resources.

Environment and Public Health

- Also relevant for the previous pillar, *Healthy Neighborhoods*, the United States Department of Agriculture (USDA) has identified one low-income Census tract in northeast Champaign and two low-income tracts in northeast Urbana where a substantial number or share of people have limited access to supermarkets. Public input revealed that many people would like to see greater walking and biking access to locations and services, including food outlets, inside and nearby their neighborhoods.

1 *Economic Impacts of Climate Change on Illinois*. Center for Integrative Environmental Research at the University of Maryland, 2008.

9

2040 Vision

GOALS, OBJECTIVES, & PERFORMANCE MEASURES

GOALS, OBJECTIVES, & PERFORMANCE MEASURES

PURPOSE

The formulation of goals and objectives determines what direction planning efforts should take. 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. CUUATS staff uses the SMART (specific, measurable, agreed, realistic, and timebound) acronym to guide the objective development process. This LRTP update includes specific strategies which will help agencies reach the stated goals and objectives, and also includes specific performance measures to track progress toward the completion of each goal and objective over time. All performance measures will have a base year of 2015.

ANNUAL LRTP REPORT CARD

The LRTP Annual Report Card includes updates for the Measures of Effectiveness (MOEs, also known as 'performance measures') developed in 2009 for the LRTP 2035: *Choices* as a way to track and measure the progress that the Metropolitan Planning Area (MPA) makes towards desired outcomes between each LRTP update. The MOEs are a series of performance measures designed to provide agencies with communication tools to bring to the public that show tangible evidence of the changes taking place as a result of the transportation planning process.

MOEs are assigned a good, neutral, or negative rating depending on the data trend. The MOEs compare conditions in the current year with the base year of 2009, which was when the goals and objectives were established. This provides an understanding of the previous conditions and the current status in achieving the goals set forth in LRTP 2035: *Choices*. This process enables staff to identify strengths, weaknesses, and difficulties in achieving LRTP goals and planning for the future. The practice of producing an Annual LRTP Report Card will be continued for the LRTP: *Sustainable Choices 2040* after it is approved.

The following is a summary of the MOEs documented in the 2013 Report Card for the LRTP 2035: *Choices*.

Land Use MOEs

Population Density and Land Area This MOE receives a positive rating because Urbana, Champaign, Savoy, and Bondville all have increased densities from 2009 to 2013. In addition, there was a slight increase in the amount of total land area of the Cities of Champaign and Urbana in 2012 compared to 2009.

Acreage per Land Use Category Available data indicates an increase of agricultural land from 2009 to 2013. New data also suggests a shift in acreages in the Open Space categories towards public open space and away from private open space. This MOE receives a neutral rating until data inconsistencies can be corrected.

Environmental MOEs

Air Quality This MOE receives a neutral rating because of the mixed results in our region. Although Particulate Matter and Ozone 1-hour pollutant levels have decreased in measurements and were safely below state standards, Ozone 8-hour level measurements were above the state standard for the second year in a row. Despite this, the urbanized area continues to be an Illinois Air Attainment Area.

Water Quality This MOE receives a negative rating because of the mixed and slightly worsened results in our region. In 2008, portions of the Kaskaskia River and Copper Slough were fully supporting aquatic life. In 2012, the Saline Branch and Embarras River improved in water quality to support aquatic life. However, a portion of the Kaskaskia River and a portion of the Copper Slough no longer support aquatic life and Crystal Lake has been deemed to be Not Supportive of fish consumption.

Wetlands This MOE receives a positive rating because of the 0.55% increase in the amount of wetland acreage in the urbanized area since 2009 and no loss of wetlands since the previous LRTP update.

Transportation MOEs

Pedestrian Crashes This MOE receives a negative rating because pedestrian crashes have increased 5.3% since 2009 in Champaign-Urbana area. Pedestrian fatalities decreased from two in 2009 to one in 2012.

Accessible Pedestrian Signals This MOE receives a positive rating because the number of Accessible Pedestrian Signals installed in the urbanized area has continued to increase. Seventeen APS signals were installed in 2009, increasing the total to 36 in 2013. This represents a 112% increase.

Bicycle Crashes This MOE receives a positive rating because bicycle crashes have decreased 41% since 2009, which is well above the 15% target set for 2014.

Bicycle Facilities This MOE receives a positive rating because the total mileage of bike facilities in the metropolitan planning area has increased 57% since 2009, which is well above the goal of a 15% increase in dedicated bicycle facilities and signed bicycle routes by 2014.

Hybrid buses This MOE receives a positive rating as the hybrid diesel-electric buses share has increased significantly from 2009 to 2013. In 2013, 54% of C-U MTD's fleet was hybrid diesel-electric, up from 9% in 2009. As the urbanized area looks at reducing greenhouse gases and carbon footprints, alternative energy vehicles will play a significant role in achieving this goal.

Bus Routes and Annual Ridership This MOE receives a positive rating as CU-MTD ridership has increased 28.6% since 2009. This is well above the target of a 5% increase of transit ridership by 2014. The highest monthly ridership for CU-MTD in 2013 was 1,536,182 rides in October.

Parcels Near Bus Routes This MOE receives a positive rating because there is nearly 93% coverage of all residential land uses within a quarter of a mile of CU-MTD bus routes. This surpasses the target of 90% coverage of all residential land uses by 2014.

New Roadways This MOE receives a positive rating because the new construction of roadways for 2013 were within the municipal boundaries of our region.

Pavement Condition This MOE receives a positive rating because 78% of the roadways were in Excellent, Good or Fair condition in 2013, compared with 69% in 2009.

Journey to Work This MOE receives a neutral rating despite the significant increases in overall transit ridership since 2009. The 2011 percentage of 9.1% transit commuters in the urbanized area surpassed the target of 9% by 2014. Despite the fact that transit ridership continues to grow, the percent of people commuting by transit within the urbanized area dropped to 8.2% in 2012 due to the expansion of the Census-defined urbanized area boundary, which now includes Tolono and other locations outside the C-U MTD service area.

Total Crashes This MOE receives a positive rating because of the 7.1% decrease in the total crashes per 100M VMT since 2009. This is 2.1 percentage points above the target of a 5% decrease in crashes in the Champaign-Urbana area by 2014.

Total Fatalities This MOE receives a positive rating because total fatalities decreased by 25% since 2009, which meets the LRTP 2035 objective. In addidtion, Champaign-Urbana area has remained below the IDOT target for the past four years.

"A" Injuries This MOE receives a neutral rating because "A" injuries per 100M VMT only decreased 14% since 2009 within the Champaign-Urbana area. Although any decrease in injuries is good, the Champaign-Urbana area is below the target of a 25% reduction by 2014.

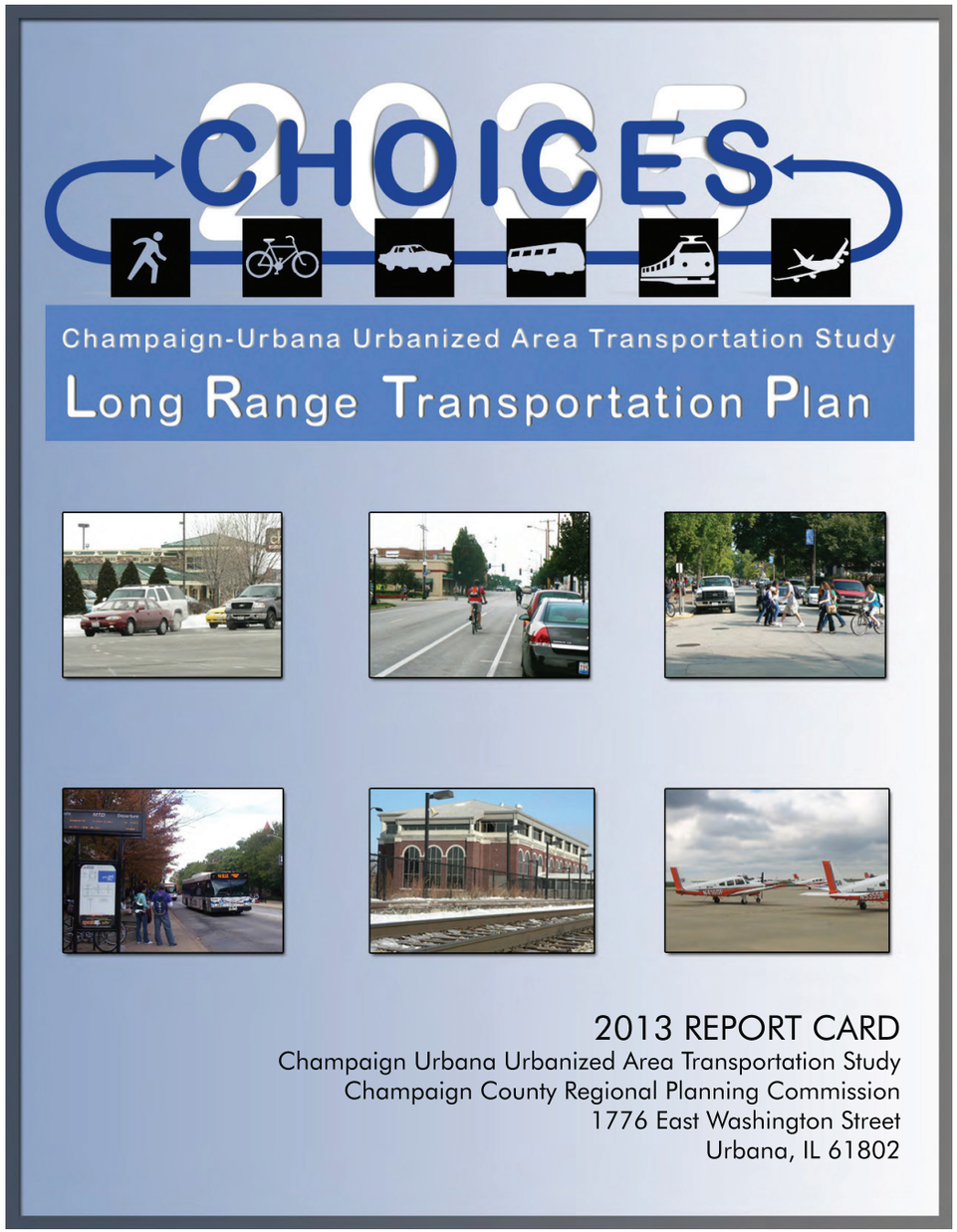
Total Vehicle Miles Traveled This MOE receives a positive rating because of an overall decrease in annual VMT, vehicle registration, and commercial truck traffic volume since 2009. Maintaining total VMT while simultaneously facilitating alternative modes of transporstation helps increase the capcity of the existing transportation system while minimizing increases in infrastructure and maintenance costs.

Car Sharing This MOE receives a positive rating thanks to a contract with Zipcar that began in 2009 with six cars. Since 2009, membership has increased and Zipcar now has 16 cars in the urbanized area.

Amtrak Ridership This MOE receives a positive rating because there was a ridership increase of 38% since 2009. This is 23 percentage points above the target of a 15% increase in boardings by 2014. Ridership continues to increase each year, which bodes well for this performance measure in years to come.

Willard Airport This MOE receives a negative rating due to a 25% decrease in flights and a 3% decrease in enplanements between 2009 and 2013.

FIGURE 9.1 COVER, 2013 REPORT CARD FOR LRTP 2035: CHOICES



METHODOLOGY

CUUATS staff, in conjunction with the LRTP Working Group, developed goals that will lead local agencies in the implementation of the plan. These goals are grouped according to the six *Sustainable Choices 2040* planning pillars outlined in the introduction and elaborated on in Chapter 8: Planning Pillars.

The goals and objectives were formulated based on a combination of the MAP-21 priorities, State of IL transportation policy factors, local knowledge, current local planning efforts, and input received during *Sustainable Choices 2040* public outreach. Additionally, some of the goals and objectives included in this update were revised from those listed in the previous LRTP. 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 performance measures were developed to help CUUATS staff track the progress of each objective during the five year period between LRTP updates according to relevant and obtainable data. Each performance measure is listed in the same row as its specific objective in the proceeding tables. Each table shows the goals, objectives, performance measures, strategies, and the parties responsible for implementation. All the performance measures have a base year of 2015.

SAFETY AND SECURITY

MAP 21 National Goal

- 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

Illinois State Transportation Policy Factors

- Safety for all transportation users.
- Security to protect the State's valuable assets and ensure the continued operation of the system.

Sustainable Choices 2040 Goal

- The Champaign-Urbana area will maintain, preserve and operate its existing transportation system in a safe and secure usable state to provide safe, efficient and reliable movement of people, goods, services in the short term, and in the long term, achieve the state's goal of zero deaths and disabling injuries.

TABLE 9.1 SAFETY AND SECURITY

Objectives	Performance Measures	Data Sources
Reduce the number of fatalities in Champaign-Urbana by 20% by 2020	Total Fatalities (5 year rolling average)	IDOT Crash Data, SCIL Report
Reduce the number of fatalities per 100 MVMT in Champaign-Urbana by 20% by 2020	Total Fatalities per 100M VMT (5 year rolling average)	IDOT Crash Data, SCIL Report
Reduce the number of severe injuries in Champaign-Urbana by 15% by 2020	Total Severe Injuries (5 year rolling average)	IDOT Crash Data, SCIL Report
Reduce the number of severe injuries per 100 MVMT in Champaign-Urbana by 15% by 2020	Total Severe Injuries per 100M VMT (5 year rolling average)	IDOT Crash Data, SCIL Report
Reduce the total number of crashes involving bicyclists in Champaign-Urbana by 15% by 2020	Total bicycle crashes	IDOT Crash Data, SCIL Report
Reduce the total number of crashes involving pedestrians in Champaign-Urbana by 15% by 2020	Total pedestrian crashes	IDOT Crash Data, SCIL Report
Reduce the number of hazardous materials and potential exposure incidents in the urbanized area by 5% by 2020 by tracking and understanding regional commodity flows	Frequency of incidents related to hazmat spills on the regional transportation system	CUUATS staff, Cities and Villages, LEPC, law enforcement, C-U MTD, University of Illinois
Create an evacuation plan for the region by 2020 that would set the regional transportation system to be ready for efficiently performing evacuation in case of a natural or man-made disaster	Existence of regional evacuation plan	CUUATS staff, Cities and Villages, LEPC, school districts, law enforcement, C-U MTD
Equip important regional transportation infrastructure with proper security features against any possible man made hazard by 2020	Number of new security features installed at Illinois Terminal, Willard Airport, etc.	C-U MTD, UIUC
Partner with at least 2 law enforcement agencies to promote safety and security of existing and proposed transportation system by 2020	Police reports related to personal safety and vandalism in transportation system	Crime data

TABLE 9.1 SAFETY AND SECURITY (CONTINUED)

Strategies							Responsible Parties
CUUATS will produce a traffic crash analysis report for the Urbanized Area every two years.	Evaluate intersections that have problematic or crash-inducing patterns and identify solutions.	Improve visibility for all roadway users through improved lighting, striping, signage, visibility triangles, and access control.	Work with municipalities and transportation study groups to evaluate existing speed limits on the local roadway network.	Continue educational programs for CUUATS member agencies as well as law enforcement officers about safety issues in the urbanized area.	Continue educational programs for grades K-12 including driver's education and safety programs.	Continue educational safety programs for the community including drivers, bicyclists and pedestrians.	CUUATS Staff, Cities and Villages, law enforcement, C-U MTD, CU-SRTS Project, University of Illinois
Perform Road Safety Audit (RSA) at request of local agencies, maintain list of trained volunteers to help conduct RSAs.	Prepare applications and provide input to local agencies regarding Highway Safety Improvement Program (HSIP) funds.	Complete applications for available Federal safety funding.	Work with municipalities and transportation study groups to evaluate existing speed limits on the local roadway network.	Conduct post-construction crash analysis required for federally-funded safety improvements.	Evaluate HSIP projects (before and after studies).	Continue educational safety programs for the community including drivers, bicyclists and pedestrians.	CUUATS Staff, Cities and Villages, law enforcement, C-U MTD, CU-SRTS Project, University of Illinois
CUUATS will produce a traffic crash analysis report for the Urbanized Area every two years.	Evaluate intersections that have problematic or crash-inducing patterns and identify solutions.	Improve visibility for all roadway users through improved lighting, striping, signage, visibility triangles, and access control.	Work with municipalities and transportation study groups to evaluate existing speed limits on the local roadway network.	Continue educational programs for CUUATS member agencies as well as law enforcement officers about safety issues in the urbanized area.	Continue educational programs for grades K-12 including driver's education and safety programs.	Continue educational safety programs for the community including drivers, bicyclists and pedestrians.	CUUATS Staff, Cities and Villages, law enforcement, C-U MTD, CU-SRTS Project, University of Illinois
Perform RSAs at the request of local agencies and maintain a list of trained volunteers to help conduct RSAs.	Prepare applications and provide input to local agencies regarding Highway Safety Improvement Program (HSIP) funds.	Complete applications for available Federal safety funding.	Work with municipalities and transportation study groups to evaluate existing speed limits on the local roadway network.	Conduct post-construction crash analysis required for federally-funded safety improvements.	Evaluate HSIP projects (before and after studies).	Continue educational safety programs for the community including drivers, bicyclists and pedestrians.	CUUATS Staff, Cities and Villages, law enforcement, C-U MTD, CU-SRTS Project, University of Illinois
Close gaps in bicycle networks along roadways and in existing neighborhoods.	Continue to implement scheduled improvements to bicycle infrastructure proposed in the Urbana Bicycle Master Plan and Champaign County Greenways and Trails within the MPA.		Work with municipalities and transportation study groups to evaluate existing speed limits on the local roadway network.	Continue educational safety programs for the community including drivers, bicyclists and pedestrians.	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.		CUUATS Staff, Cities and Villages, Developers, CU-SRTS Project, University of Illinois
Continue to enforce codes requiring new development to provide sidewalks along roadway frontages and safe crossings at intersections.	Retrofit existing ramps and crosswalk entrances to meet ADA standards.	Install Accessible Pedestrian Signal (APS) systems at intersections with high traffic volumes and/or high pedestrian crossing volumes.	Work with municipalities and transportation study groups to evaluate existing speed limits on the local roadway network.	Revise, complete, and distribute Safe Walking Route Maps for public elementary and middle schools in Champaign-Urbana every two years and continue Safe Routes to School project.		Continue educational safety programs for the community including drivers, bicyclists and pedestrians.	CUUATS Staff, Cities and Villages, CU-SRTS Project, University of Illinois
Identify hazardous materials most frequently transported through Champaign County.	Identify the routes most frequently used, and the modes of transportation that hazardous commodities are shipped.	Identify major highways, railroads, and pipelines and survey the amounts of hazardous commodities transported.	Assess the regional transportation network for safe routing of hazardous materials and designate the most appropriate routes for hazmat transportation.		Identify existing routes which are designated as hazmat routes.	Recommend appropriate routes for hazmat transportation through Champaign County.	CUUATS staff, Cities and Villages, Champaign County Emergency Management Agency (EMA), Developers, LEPC, law enforcement, C-U MTD, University of Illinios
Coordinate with agencies in charge of emergency vehicle access and evacuation plans.		Update the regional Intelligent Transportation System (ITS) architecture and install Vehicle Management Systems (VMS) at major roadways and intersections.			Perform periodic emergency evacuation drills at different agencies including local school districts.		CUUATS staff, Cities and Villages, Champaign County EMA, LEPC, school districts, law enforcement, C-U MTD
Conduct monthly inspections of security features at the Illinois Terminal, Willard Airport, etc.			Coordinate with IDOT, Department of Homeland Security (DHS), and local agencies to ensure that up to date security features are installed at regional transportation insfrastructure.				CUUATS staff, DHS, IDOT, law enforcement, Cities and Villages, C-U MTD, University of Illinois
Continue educational safety programs for the community including drivers, bicyclists and pedestrians.			Include updated information regarding the regional Intelligent Transportation System (ITS) architecture and install Vehicle Management Systems (VMS) in safety education programs.				All local police departments and municipalities

RESILIENT ECONOMY

MAP 21 National Goal

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

Illinois State Transportation Policy Factors

- Support of global economic competitiveness.

Sustainable Choices 2040 Goal

- The Champaign-Urbana area will have a resilient economy by supporting existing and emerging local as well as global business development and job creation, fostering quality educational options for all income levels, continuing to invest in forward-looking infrastructure like fiber connectivity, establishing strong inter-regional transportation options like bullet trains, and promoting inter-municipal coordination that creates and maintains a high standard of living and quality of life for all.

TABLE 9.2 RESILIENT ECONOMY

Objectives	Performance Measures		Data Sources
Increase job growth by 5% by 2020 through investments in transportation infrastructure improvements, technology improvements, education, and regional connectivity.	Number of jobs supported by transportation investments	Number of Urbanized Area's funded and completed projects	Economic Model TIP Database
Reduce household transportation costs by 5% between 2015 and 2020.	Combined transportation and housing costs as a percentage of median income	Percentage of income devoted to transportation	Local Accessibility and Mobility Analysis (LAMA)
Increase the supply of affordable housing (condominiums, single family homes, townhomes, etc; rental units, and owner-occupied) with multimodal access to, from, and within designated employment centers by 5% between 2015 and 2020.	Number of businesses relocated due to corridor efficiency	Distribution of issued housing permits by locality in order to assess jobs-housing balance and other issues	Local knowledge Housing Permit Database
Create freight plan for Champaign-Urbana urbanized area that identifies proposed freight routes by 2020.	Freight Plan	Number of freight routes implemented	CCRPC, Champaign, Urbana, and Savoy Public Works, and University of Illinois Facilities and Services
Increase enplanements at Willard Airport by 10% by 2020, subject to the results of the Willard Airport Taskforce, (subject to change based on the results of Willard Airport Taskforce).	Percent increase in enplanements at Willard Airport		Willard Airport
Begin construction of high speed rail infrastructure between Champaign and Chicago by 2035.	Miles of high speed rail tracks built		High speed rail consortium or IDOT

TABLE 9.2 RESILIENT ECONOMY (CONTINUED)

Strategies						Responsible Parties
Develop, implement, and regularly update a Regional Economic Strategy.	Conduct an inventory and analysis that examines local government economic development programs and practices (short term).	Maintain a regionwide clearinghouse of data.	Support transportation projects that increase the likelihood of people having access to training locations (i.e. Parkland, WEA).	Provide examples for addressing mobility and accessibility for low-income and special needs populations (incl. youth, seniors, and disabled persons) in local transportation planning efforts.	Improve key facilities connecting the region to national and world markets.	CCRPC Staff, Champaign County EDC, Cities and Villages.
Favor policies and projects that encourage greater fuel efficiency.	Emphasize transportation investments and urban forms that facilitate active modes of transportation and increase travel options, particularly in and connecting designated centers, to meet the needs of the regional economy.		Favor policies and projects with greater job creation.	Identify truck routes: Identification and designation of the system will describe critical corridors and priorities for operation and investment for elements of the system.	Support projects that improve commute options for disadvantaged workers.	Increase the number and/or frequency of Amtrak routes.	CCRPC/CUUATS Staff, Champaign County EDC, Cities and Villages.
Work with EDC members, developers, and transportation providers to strengthen the coordination of local and regional planning for transportation and economic development. Use the MPO as a forum to coordinate transit agency planning and projects.	Integrate transportation and land use planning to maximize the supply of development that can occur in accessible, multi-modal areas, in conjunction with pricing reforms that favor accessible locations.						CCRPC Staff, Cities and Villages, Developers.
Collaborate with local, regional, state, and stakeholders to collect data and development freight plan for the region.				Track usage and impact of freight plan.			CUUATS Staff, Cities and Villages, University of Illinois, IDOT
Create at least 2 new regional or national flight connections that match nearby airport destinations or are unique destinations to the region to increase the appeal of Willard Airport to travelers.				Reduce or eliminate additional fees such as parking where applicable to increase the appeal of Willard Airport to travelers over other nearby or larger airports.			Willard Airport, University of Illinois
Support efforts by IDOT, the Midwest High Speed Rail Association, and other related entities to designate the Chicago-Champaign-St. Louis route as a federally studied and approved high speed rail corridor.							High speed rail consortium or IDOT

MULTIMODAL CONNECTIVITY

MAP 21 National Goal

- Increase accessibility and mobility of people and freight
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight
- Promote efficient system management and operation

Illinois State Transportation Policy Factors

- Accommodating future growth in population and employment.
- Securing adequate funding for maintaining, improving, and ensuring efficient operation of the transportation systems. Preserving and managing existing infratructure.

Sustainable Choices 2040 Goal

- The Champaign-Urbana area will aim to increase accessibility, connectivity, and mobility of people and freight to all areas of the region through the use of an interconnected multi-modal system of transportation that is cost-effective for people, businesses, and institutions that will increase the efficiency of the transportation system by allowing freedom of choice in all modes of transportation including active modes whenever possible.

TABLE 9.3 MULTIMODAL CONNECTIVITY

Objectives	Performance Measures		Data Sources
Upgrade 2015 existing sidewalk network within the Champaign-Urbana urbanized area by 10% to be ADA-compliant by 2020.	Miles of existing non-ADA compliant sidewalks upgraded along paved roads in the urbanized area		Champaign, Urbana and Savoy public works departments, University of Illinois Facilities and Services, CUUATS
Complete 50% of short term shared use (trail) infrastructure recommendations proposed in the Urbana Trails Master Plan (UTMP), Champaign Trails Plan, and Champaign County Greenways and Trails Plan (within the MPA) by 2020.	Percent of scheduled recommendations within the UTMP and CCGT Plan completed	Number of miles of different types of trails infrastructure	UTMP; CCGT Plan; Champaign and Urbana, and Savoy public works departments
Complete 50% of short term bicycle infrastructure recommendations proposed in the Urbana Bicycle Master Plan (UBMP) and Champaign County Greenways and Trails (CCGT) Plan (within the MPA) by 2020.	Percent of UTMP and CCGT Plan recommendations completed	Number of miles of different types of bicycle infrastructure	UBMP; CCGT Plan; Champaign, Urbana, and Savoy public works departments
Expand C-U MTD service area to be coterminous with the Champaign-Urbana urbanized area boundary by 2030.	Percentage of the C-U MTD service area contained inside the urbanized area		C-U MTD
Increase the availability of public transportation options between the Champaign-Urbana urbanized area and other locations within the MPA by 15% by 2020.	Number of new rural transit connections	Number of new rural transit trips connecting to the urbanized area	C-U MTD, CCARTS, CCRPC
Adhere to the CUUATS Complete Streets Policy for all new and 50% of reconstruction transportation infrastructure projects by 2020.	Percentage of transportation projects fully adhering to the CUUATS Complete Streets Policy		Champaign, Urbana and Savoy public works departments and University of Illinois Facilities and Services
Begin construction of high speed rail infrastructure between Champaign and Chicago by 2035.	Miles of high speed rail tracks built		High speed rail consortium or IDOT
Create freight plan for Champaign-Urbana urbanized area that identifies proposed freight routes by 2020.	Freight Plan	Number of freight routes implemented	CCRPC, Champaign, Urbana, and Savoy Public Works, and University of Illinois Facilities and Services
Increase enplanements at Willard Airport by 10% by 2020, subject to the results of the Willard Airport Taskforce, (subject to change based on the results of Willard Airport Taskforce).	Percent increase in enplanements at Willard Airport		Willard Airport
Maintain CUMTD transit service to Willard Airport between now and 2020, keeping trips consistent with the number of flights.	Number of bus trips to Willard Airport, number of flights, number of riders		CUMTD, Willard Airport
Identify 3 new partners to provide education, encouragement, and enforcement programs on transportation modes, facilities, and benefits by 2020.	Number of new partners identified		CUUATS
Distribute educational and/or encouragement materials focusing on transportation modes, facilities, and benefits at a minimum of 5 public events/locations per year.	Number of public events with materials available		CUUATS

TABLE 9.3 MULTIMODAL CONNECTIVITY (CONTINUED)

Strategies		Responsible Parties
Install ADA-compliant sidewalks and ramps on all new roadway projects.	Retrofit ADA-complaint sidewalks and ramps on all existing roadway resurfacing and reconstruction projects.	Cities and Villages, University of Illinois, IDOT
Create routes that connect to and through all neighborhoods. Seek input from neighborhood associations when possible.	Take advantage of opportunities to develop off-street shared-use paths, using methods including but not limited to: working with railroads to develop bicycle facilities on or along rights-of-way, and acquiring property that provides off-street connections between bicycle facilities.	Cities and Park Districts of Champaign and Urbana, Village of Savoy, Champaign County Forest Preserve District, Developers
Create routes that connect to and through all neighborhoods. Seek input from neighborhood associations when possible.	Take advantage of opportunities to develop off-street shared-use paths, using methods including but not limited to: working with railroads to develop bicycle facilities on or along rights-of-way, and acquiring property that provides off-street connections between bicycle facilities.	Cities and Park Districts of Champaign and Urbana, Village of Savoy, CCFPD, C-U MTD, Developers
Annexations of additional urbanized area land into the C-U MTD service area.		C-U MTD
Connect underserved rural transit areas by linking rural transit services to local transit service routes at connecting points.		C-U MTD
Identify cost effective ways of including bicycle pedestrian, and transit accommodations into all new roadway projects.	Exercise due diligence in considering the cost effectiveness of including bicycle, pedestrian, and transit accomodations into existing roadway reconstruction projects.	CUUATS Staff, Cities and Villages, University of Illinois, IDOT
Support efforts by IDOT, the Midwest High Speed Rail Association, and other related entities to designate the Chicago-Champaign-St. Louis route as a federally studied and approved high speed rail corridor.		High speed rail consortium or IDOT
Collaborate with local, regional, state, and stakeholders to collect data and development freight plan for the region.	Track usage and impact of freight plan.	CUUATS Staff, Cities and Villages, University of Illinois, IDOT
Create at least 2 new regional or national flight connections that match nearby airport destinations or are unique destinations to the region to increase the appeal of Willard Airport to travelers.	Reduce or eliminate additional fees such as parking where applicable to increase the appeal of Willard Airport to travelers over other nearby or larger airports.	Willard Airport, University of Illinois
Track ridership to identify cost effective ways to maintain service.		CUMTD, Willard Airport
Take advantage of opportunities to partner with public and private entities interested in the benefits of transporation education.	Use community-wide calendars to promote multimodal transportation to existing events.	CUUATS member agencies
Set up information table at popular events listed on municipal calendars of public events (i.e. Neighborhood Nights, Sounds at Sunset, Orchard Days, RC Fest, sporting events, etc).	Distribute at least 1 type of educational and/or encouragement material related to transportation modes, facilities, and benefits to K-12 schools.	CUUATS member agencies and all local municipalities

ACCESSIBILITY AND AFFORDABILITY

MAP 21 National Goal

- Increase accessibility and mobility of people and freight

Illinois State Transportation Policy Factors

- Transportation for underserved populations such as the elderly, low-income, and persons with disabilities.

Sustainable Choices 2040 Goal

- The Champaign-Urbana area will address issues of equity as well as segregation in its diverse communities in the area of transportation.

TABLE 9.4 ACCESSIBILITY AND AFFORDABILITY

Objectives	Performance Measures		Data Sources
Upgrade 2015 existing sidewalk network within the Champaign-Urbana urbanized area by 10% to be ADA-compliant by 2020.	Miles of existing non-ADA compliant sidewalks upgraded along paved roads in the urbanized area		Champaign, Urbana and Savoy public works departments, University of Illinois Facilities and Services, CUUATS
Implement 50% of the short term priority projects from the C-U SRTS Project plans developed for Stratton, Dr. Howard, South Side and Prairie Schools in Champaign-Urbana by 2020.	Number of short term projects completed according to various C-U SRTS Project plans		Champaign Unit #4 School District, Urbana School District #116
Develop pedestrian plans for all jurisdictions within the urbanized area by 2020.	Number of new pedestrian plans		Local municipalities and the University of Illinois
Develop bicycle plans for all jurisdictions within the urbanized area by 2020.	Number of new, coordinated bicycle plans		Local municipalities and the University of Illinois
Develop snow removal ordinances, programs, and policies for all jurisdictions to provide year-round access to sidewalks, bike paths, and transit stops by 2020.	Number of ordinances implemented by municipalities within the urbanized area		Local municipalities
Create an affordable, annual transit pass program for low-income individuals and high school youth by 2020.	Number of affordable, annual transit pass programs created		C-U MTD
Provide transit routes to at least 3 new areas in the community (e.g. Northwest Champaign area, etc.) by 2020.	Number of direct transit routes and links between neighborhoods and community interest points and major employers		C-U MTD
Expand car sharing programs and locations by 10% by 2020.	Number of Zipcar locations	Number of new car share programs in the area	Zipcar
Adhere to the CUUATS Access Management Guidelines when building or reconstructing a roadway or providing access to development.	Percentage of transportation projects fully adhering to the CUUATS Access Management Guidelines		Access Management Guidelines document and public works departments
Increase Amtrak ridership from Illinois Terminal by 5% by 2020.	Percent change in Amtrak ridership		Amtrak
Continue to provide at least one opportunity for public input for each new transportation project.	Number of public comment opportunities	Number of new public outreach methods	CUUATS
Make information materials on transportation modes, facilities, and/or benefits available in at least 1 language besides English by 2020.	Number of multilingual materials		CUUATS
Increase the number of publicly available vehicle alternative fueling and charging stations by 15% by 2020.	Number of alternative fueling stations, number of charging stations		Local municipalities and the University of Illinois
Increase the number of bicycle self-repair stations by 3 by 2020.	Number of new bicycle self-repair stations		Local municipalities and the University of Illinois
Improve below-average scores in 5 planning areas identified by the Local Accessibility and Mobility Analysis (LAMA) by 2020.	Number of areas with improved scores according to LAMA	Number of USDA-designated "food desserts" within the urbanized area	walkscore.com, LAMA, USDA

TABLE 9.4 ACCESSIBILITY AND AFFORDABILITY (CONTINUED)

Strategies				Responsible Parties
Install ADA-compliant sidewalks and ramps on all new roadway projects.		Retrofit ADA-complaint sidewalks and ramps on all existing roadway resurfacing and reconstruction projects.		Cities and Villages, University of Illinois, IDOT
Encourage schools to work with municipal departments to implement engineering and enforcement recommendations.		Encourage schools to work with the C-U SRTS Project to implement encouragement, education, and evaluation recommendations.		Champaign School District, Urbana School District, Cities of Champaign and Urbana, C-U SRTS Project, CUUATS
Consult with existing pedestrian plans and local agencies to coordinate all plans and infrastructure priorities.		Coordinate with local law enforcement regarding new pedestrian plans and associated education and enforcement activities, especially targeting motorists.		Local municipalities, University of Illinois, local law enforcement agencies
Coordinate with local, regional, and state bicycle plans for data/input collection and outreach.		Coordinate with local law enforcement regarding new bicycle plans and associated education and enforcement activities, especially targeting motorists.		Local municipalities, University of Illinois, local law enforcement agencies
Define high traffic and priority areas for snow removal.		If necessary, define encourgement and enforcement meaures for snow removal.		Local municipalities and Public Works Departments
Investigate what percentage of annual transit pass cost would be cost-effective to price an affordable, annual transit pass for high school-aged youth.		Investigate the feasibility of allowing middle and high-school aged students to use their school IDs to ride the bus at any time.		C-U MTD
Provide transit service to areas of new residential, commercial and/or industrial development.		Evaluate existing routes and service times to determine if transit service is meeting resident and/or worker demands and identify areas for expansion of service where needed, as feasible.		C-U MTD
Continue to market the benefits of lifestyles free of car ownership to existing and future students and residents.		Identify areas with potential for high car-sharing usage, such as dense residential areas, commercial areas, or business traveler destinations.		Zipcar, C-U MTD, City of Urbana, City of Champaign
Adopt CUUATS Access Management Guidelines into municipal codes or ordinances.				City of Champaign, City of Urbana, Village of Savoy, University of Illinois
Cheaper and more consistent Amtrak fare pricing.		Increased frequencies.		Amtrak
Project open houses.		Project advisory committees.		CUUATS member agencies
Create and distribute maps.		Create and distribute brochures.		CUUATS
Install a new alternative fueling and charging stations in each geographic area of the urbanized area.				Local municipalities and Public Works Departments
Install a new bike self-repair stations in each geographic area of the urbanized area.				City of Champaign, City of Urbana, Village of Savoy, University of Illinois
Develop a transportation directory.	Coordinate existing transit services to reduce costs.	Utilize data obtained from LAMA to inform future development.	Diversity transit funding services.	Cities of Champaign and Urbana

HEALTHY NEIGHBORHOODS

MAP 21 National Goal

- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.

Illinois State Transportation Policy Factors

- Protecting the environment.
- Preserving and managing the existing infrastructure.

Sustainable Choices 2040 Goal

- The Champaign-Urbana area will promote healthy communities and improve overall residential quality of life by strengthening existing neighborhoods and housing developments, evaluating and expanding active transportation infrastructure, and promoting energy conservation and environmental quality.

TABLE 9.5 HEALTHY NEIGHBORHOODS

Objectives	Performance Measures	
Implement recommendations in at least 5 of the 11 neighborhoods listed within the Transit Facility Guidelines for the Champaign-Urbana Urbanized Area by 2020.	Number of designated neighborhoods that fulfill all Transit Facility Guidelines recommendations	
Increase accessibility to transit services by providing missing sidewalks connecting to at least 20 bus stops by 2020.	Miles of new sidewalks connecting to bus stops	
Connect one trail or bikeway facility with the Kickapoo Rail Trail as proposed in the Champaign County Greenways and Trails (CCGT) Plan by 2020.	Number of Kickapoo Trail connections	Miles of Kickapoo Trail connections
Expand bicycle facilities within the Urbanized Area by 25% by 2020.	Miles of new bicycle facilities (bike lanes, shared use paths, etc.)	
Increase miles of bicycle facilities located within a quarter mile of affordable housing stock by 15% by 2020.	Number of new bicycle facilities located within a 1/4 mile of affordable housing units	
Improve 8 and 24-hour ozone levels for the entire Metropolitan Planning Area by 2020.	Number of new air quality monitoring stations installed	Number of both 8-hour and 24-hour periods achieving attainment level status for federal and state air quality standards
Reduce Vehicle Miles Traveled (VMTs) per household within the urbanized area by 5% by 2020.	Number of VMT per household	
Provide multimodal access to at least 3 new open spaces or recreational spaces by 2020.	Number of multimodal connections to open spaces	Number of multimodal connections to recreational spaces
Reduce the number of Urbanized Area residents with medical conditions linked to non-active / sedentary lifestyles by 5% by 2020.	Percent decrease in people with medical conditions linked to non-active / sedentary lifestyles	
Improve below-average scores in 5 planning areas identified by the Local Accessibility and Mobility Analysis (LAMA) by 2020.	Number of neighborhoods with improved scores according to LAMA	Number of USDA-designated “food desserts” within the urbanized area
Establish a communitywide bicycle and pedestrian coordinator to be housed at CCRPC by 2020.	Number of new public resources educate/encourage active living, active transportation, and/or the appreciation of green space	

TABLE 9.5 HEALTHY NEIGHBORHOODS (CONTINUED)

Data Sources	Strategies			Responsible Parties
CUMTD, Champaign, Urbana, and Savoy	Develop a priority plan according to comments received from the general public during the LRTP Public Involvement Process giving high consideration to routes mentioned in multiple plans.			CUMTD, Champaign, Urbana, and Savoy
Public Works departments of Champaign, Urbana, and Savoy	Apply for funding to build sidewalks connecting to bus stops.			Public Works departments of Champaign, Urbana, and Savoy
Urbana Public Works department	Give high consideration to CCGT Plan High Priority projects.	Give high consideration to CCGT Plan High Priority projects.		Urbana, Champaign, Savoy, Mahomet, Champaign Park District, Urbana Park District, Champaign County Forest Preserve District
Public Works departments of Champaign, Urbana, and Savoy	Apply for Illinois Transportation Enhancement Program (ITEP) grants.	Give high consideration to CCGT Plan High Priority projects.		Public Works departments of Champaign, Urbana, Savoy, Mahomet, and Tolono
CUUATS, Cities of Champaign and Urbana, CCPHA	Inventory affordable housing and low income areas that are located more than 1/4 mile from a transit stop and/or trail facility.			CUMTD, CUUATS staff
Illinois Environmental Protection Agency (IEPA)	Install air quality monitoring stations near key traffic areas.			IEPA
Illinois Travel Statistics (IDOT)	Promote active modes of transportation through various forms of encouragement (online materials, educational events, signage, etc.)			Cities of Urbana and Champaign, Villages of Savoy and Mahomet, CUMTD
Public Works departments of Champaign, Urbana, and Savoy	Complete sidewalk inventory and assessment of the Urbanized Area.			Cities of Urbana and Champaign, Village of Savoy, Champaign Park District, Urbana Park District, CUUATS staff
C-U Public Health District (CUPHD), Carle Foundation Hospital, Presence Covenant Medical Center, Christie Clinic	Conduct public health outreach events to promote active transportation.	Offer informational materials on the benefits of walking and bicycling online and at designated facilities.	Make bicycle and shared use path maps available online and in hard copy at public locations.	CUUATS, Urbana, Champaign, Savoy, Mahomet, CUPHD, C-U SRTS Project, local medical institutions
walkscore.com, LAMA, USDA	Encourage compact development practices.	Provide a variety of transportation options to all residents within the Urbanized Area.	Utilize data obtained from LAMA to inform future development.	Cities of Champaign and Urbana
CUUATS, local public Parks Department and Programs, local bike groups	Create and publicize community-wide calendar of events including Bike-To-Work Day, Walk-n-Roll to School, the Christie marathon, and more.	Create new events like, Bike-N-Dine, Polar Bear Bike Ride, Smart Trip Planning, or Spring Into Action Walk About.	Produce and distribute a regualrly-updated map including bike, trail, and park facilities.	CUUATS, C-U SRTS Project, local bike groups, all local municipalities, local public Parks Departments and Programs

BALANCED DEVELOPMENT

MAP 21 National Goal

- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
- Emphasize the preservation of the existing transportation system.

Illinois State Transportation Policy Factors

- Accommodating future growth in population and employment.
- Preserving and managing the existing infrastructure.

Sustainable Choices 2040 Goal

- The Champaign-Urbana area will support diverse and environmentally responsible types of development without encouraging sprawl or sacrificing important historical structures or new business opportunities by reinvigorating downtown areas, fostering more mixed use development, and protecting and preserving neighborhoods and business districts that contain historic structures.

TABLE 9.6 BALANCED DEVELOPMENT

Objectives	Performance Measures	Data Sources	Strategies		Responsible Parties
Minimize the rate of development that is not contiguous to the existing built environment by 2020.	Number of acres designated as agricultural and open space in 2015	Champaign County Tax Assessor Parcel Data	Schedule annual updates/progress reports to relevant groups on agricultural and open space parcel inventories within the MPA.		City of Urbana, City of Champaign, Village of Savoy, CUUATS staff
Provide a minimum of 2 new Complete Street connections to Downtown Urbana (Green Street) and Downtown Champaign (White Street) by 2020.	Number of transit, bicycle, and/or shared use connections leading to a downtown area	City of Urbana, City of Champaign, Village of Savoy, CUMTD	Incorporate this objective into municipal Capital Improvement Plans (CIPs).	Continue to coordinate planning and development between municipal planning departments, the University of Illinois, C-U MTD, and park districts.	City of Urbana, City of Champaign, Village of Savoy, University of Illinois, CUMTD, Champaign County Regional Planning Commission
Install bicycle, pedestrian, and transit facilities in at least 3 mixed use developments by 2020.	Number of mixed use developments with bicycle, pedestrian, and transit access	City of Urbana, City of Champaign, Village of Savoy	Incorporate this objective into municipal Capital Improvement Plans (CIPs).	Continue to coordinate planning and development between municipal planning departments, the University of Illinois, C-U MTD, and park districts.	Urbana, Champaign, Savoy, University of Illinois, CUMTD, CCRPC
Consider and avoid negative impacts of new and existing transportation projects on historically significant buildings, landmarks, districts, and/or structures in at least 2 transportation projects through 2020.	Number of transportation projects that mitigate negative impacts on historic buildings, landmarks, districts and/or structures	National Register of Landmarks, National Register of Historic Places, Historic Architectural & Archeology Resources GIS, Illinois Historic Bridge Survey, Illinois Natural Resources Geospatial Information Clearinghouse	Coordinate with preservation groups to identify and track condition of key historical features.	Create a list of recognized historical features for distribution to public works departments and city and county planning offices.	City of Urbana, City of Champaign, Village of Savoy, IDOT, Champaign County Regional Planning Commission
Improve below-average scores in 5 planning areas identified by LAMA by 2020.	Number of neighborhoods with improved scores according to LAMA	Number of USDA-designated “food desserts” within the urbanized area	walkscore.com, LAMA, USDA	Utilize data obtained from LAMA to inform future development.	Cities of Champaign and Urbana

10 2040 Vision FUTURE CONDITIONS

FUTURE CONDITIONS

The overall picture of the Champaign-Urbana region today reveals a regional transportation system that is able to serve its residents, businesses, and visitors for a variety of purposes, mobility needs, desires, and abilities. The region's transportation system is redeveloping to include more complete streets, which has helped increase the bicycle and pedestrian infrastructure significantly. Its public transportation system is one of the largest in the nation in terms of ridership for a community of its size. CUUATS is also currently carrying out a large-scale sidewalk assessment in order to inventory the region's sidewalk conditions and ADA compliance for future improvements.

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 *Sustainable Choices 2040* 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 concepts and ideas discussed in Chapter 8 *Planning Pillars*. The vision is also broken out into two categories to make clear which transportation projects are illustrative and which are fiscally constrained.

The existing conditions section provides an overview of the current condition of the urbanized area and Metropolitan Planning Area (MPA). 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 each mode of transportation discussed in the existing conditions report and describes ways in which the current transportation system can change and adapt between 2015 and 2040. The changes discussed in this chapter are guided by the six planning pillars that resulted from the existing conditions analysis and the public input analysis and are reflected in the goals, objectives, performance measures, and strategies listed in Chapter 9.

From top to bottom: Urbana, University of Illinois campus, Champaign

By the year 2040, Champaign-Urbana urbanized area's population, currently at about 145,000, is projected to increase by another 50,000-55,000 residents. In addition, the urbanized area is projected to add as many as 60,000 more people to its labor force as the region continues to recover and grow economically. Those increases represent significant additional pressure on our existing transportation infrastructure.

In view of the projected increase in travel demand, local agencies, area residents, and developers need to continue to be thoughtful about land development and redevelopment in relation to the overall impacts on accessibility and mobility, keeping in mind the myriad impacts mobility and the transportation system have on our financial stability, safety, and health as discussed in the previous chapters. Automobiles continue to be the most prevalent form of personal transportation. However, as mentioned in Chapter 7, approximately 24% of the pavement in our roadway network is currently unacceptable because the financial requirements to maintain, rehabilitate, and replace the aging parts of the existing urbanized area roadway network are far greater than the funding currently available. Current funding levels are even less likely to keep the system functioning at an acceptable level for the needs of the future. Perhaps the greatest challenge for 2040 will be to identify stable, long-term sources of transportation funds.

High gas prices and the pressing need to reduce greenhouse gas emissions are forcing our residents to examine how they travel. Public input revealed that area residents have a desire to reduce the amount of energy they consume for transportation and decrease our collective dependence on fossil fuels in order to achieve greater economic and political stability as well as to reduce the negative environmental impact of fossil fuel consumption. Numbers show that fewer people own cars in 2012 than they did in 2009 (Chapter 7). In addition, trends show people between the ages of 18 and 34 prioritize owning a computer or smart phone over owning a car[1]. As a result, this same demographic has higher rates of walking, biking, and using public transportation than in years past[2], which could justify significantly increased investments in building up the active transportation network over the automobile network if those trends continue. The combination of these factors as well as the recently-established priority to combat the obesity epidemic by the Champaign-Urbana Public Health District (Chapter 6), forces transportation planners to re-evaluate the disproportionate amount of transportation funds that are devoted to automobile infrastructure compared to investments in infrastructure for active modes of transportation.

1 Kingkade, Tyler. (2013, March 1). Millennials Would Rather Ditch Car Than Smartphone Or Computer: Zipcar Survey. Huffiington Post. Retrieved from http://www.huffingtonpost.com/2013/03/01/millennials-car-ownership_n_2789454.html

2 Frontier Group and U.S. PIRG Education Fund. Transportation and the New Generation: Why Young People Are Diving Less and What It Means for Transportation Policy. Frontier Group, 2012

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 green fields and farm land 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. Although municipalities collect taxes from these developments, their location on the fringe means that 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 significantly higher 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.

In order to avoid inefficient and costly development on the fringe of the community, one of the goals stated in the previous LRTP, *Choices 2035*, was to increase gross densities in urban residential areas by 2035. As it was shown in Chapter 4, residential densities in Champaign, Savoy and Bondville grew between 2009 and 2011, while Urbana's density decreased slightly from 2010, as its expanding land area outpaced population growth.

With the recent increases in the price of gasoline, younger generations looking to live in urban environments, decreasing interest in personal car ownership in the region and the nation, and the high costs of service and transportation improvements, suburban development is becoming more costly and unpopular. 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. In addition, as new development places additional stress on the existing transportation network, it is important to have that development contribute to the costs associated with transportation and other infrastructure improvements, generally referred to as 'impact fees.'

By the year 2040, 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 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 Champaign and Urbana Comprehensive Plans and the Urbana Downtown Plan also reference goals regarding the encouragement of compact and infill development in order to maximize the utility of existing infrastructure. 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 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. 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

KEEPING DEVELOPMENT PATTERNS COMPACT AND ACCESSIBLE BY MULTIPLE MODES OF TRANSPORTATION WILL SLOW LAND CONSUMPTION AND HELP GROW THE URBANIZED AREA MORE EFFICIENTLY AND COST-EFFECTIVELY.

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. Keeping development patterns compact and accessible by multiple modes of transportation will slow land consumption and help grow the urbanized area more efficiently and cost-effectively.

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, it is important to be aware of different ways local agencies can support sustainable development and green infrastructure. Local agencies have already taken many different steps to incorporate issues around sustainability in their policies and decision-making practices. The City of Champaign approved a city-wide sustainability plan in 2013, and the City of Urbana and the University of Illinois both passed Climate Action Plans in the past five years.

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 and/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 must 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, therefore 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.

Washington Stree, Urbana, 2014

Water issues, particularly those involving groundwater recharge and water pollution, can also be mitigated through better 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, storm water detention facilities and pervious materials for the pavement of driveways and parking lots will all help infiltration rates. Compact development designs can also help reduce the amount of impervious surface by clustering development and reserving more area for green space. New development should also avoid building in floodplain and wetland areas so as to not disturb the natural drainage paths of surface water or the natural habitats these area provide to flora and fauna.

It is important that development patterns and transportation improvements take a proactive approach 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 in a coordinated manner, they will result in more effective plans and a more efficient transportation network.

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, rail commuters, and airplane passengers. This section will discuss each transportation mode existing in the urbanized area and how improvements can be implemented to accommodate all users.

Pedestrians

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 and both Champaign and Urbana have ordinances in place requiring sidewalks on at least one side of the street for new development. In addition, the City of Champaign recently completed a pedestrian plan that outlines areas for improvements and strategic investments that could be made to increase pedestrian safety, access, and enjoyment. Sidewalks need to be installed in areas where piecemeal development has created gaps in sidewalk connectivity to create a continuous network. CUUATS staff is currently working on a sidewalk assessment project for the entire urbanized area in order to have a more comprehensive inventory of the sidewalk network, including material, width, crossslope, surface condition, obstructions, pavement faults, grade, and areas not in compliance with current ADA regulations, in order to better prioritize future improvements.

Safe and accessible crossings at signalized intersections are also critical to the safety of both pedestrians and vehicular traffic. Countdown and pedestrian crossing heads need to be placed at all signalized intersections

where crosswalks are present. Areas that have high pedestrian crossings should consider installing Accessible Pedestrians Signals (APS) which provide audible cues for blind or disabled pedestrians and/or High-intensity Activated crossWalK (HAWK) signals that force drivers to stop to allow for the safe crossing of pedestrians. Existing APS and HAWK signals are mapped in Chapter 7.

Pedestrian infrastructure could also be improved by installing additional pedestrian level lighting along sidewalks and around bus stops. During LRTP public outreach events, CUUATS staff received many comments about the lack of pedestrian-level sidewalk lighting in the community, creating unsafe conditions. Ideally all sidewalks would have appropriate lighting to facilitate walking and a higher level of physical activity to improve population health. The decrease in daylight hours in the winter months presents additional lighting challenges for walkers, as does the snow without timely clearing of paths by property owners. The safety and access of the pedestrian network is also connected to the safety and accessibility to public transportation, as riders must use the sidewalk network to and from bus stops.

Finally, within Champaign and Urbana, the education, paid encouragement, and enforcement activities identified in the Safe Routes to School Project should be continued and expanded to ensure safe walking and biking for students who walk or bike to school. In addition, the walking school bus program (a group of children walking to school with one or more adults) recently implemented in Leal School in Urbana, should be expanded to include more schools in Urbana and Champaign. Programs like Walk and Bike to School Days should also continue to raise awareness and encourage participation.

Bicycles

Biking and walking have become a more viable option for travel in the urbanized area since the last LRTP update in 2009 and will continue to be important through 2040. As gas prices rise and active transportation options become more popular, the demand for facilities accommodating active modes of transportation will continue to rise. Urbana already has a bike plan in place (adopted in 2008 with an updated plan in progress scheduled for approval in 2015) and Champaign has a Bicycle Vision as part of the Champaign Transportation Master Plan (adopted in 2008). Both communities will continue to implement the recommendations in each of the plans. CCRPC, using the Greenways & Trails Plan for Champaign

Illinois Street, University of Illinois campus, 2007

MUCH OF THE DISCUSSION SURROUNDING THE FUTURE OF THE TRANSPORTATION NETWORK IN THE URBANIZED AREA REVOLVES AROUND SUSTAINABILITY AND ENVIRONMENTAL CONSCIOUSNESS.

County, will continue to track the construction of bike and pedestrian facilities throughout the County and will work with municipalities and local agencies in the County to build new facilities and implement the recommendations in the plan.

As biking for purposes other than recreation has become more popular, the need for a well-connected and efficient network of bike lanes, bike routes, sidepaths, and shared use paths has become greater. Agencies should maximize the opportunities to connect new bike facilities to the existing network in a way that makes traveling by bike safe and efficient.

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 (referenced above) 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 showers 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 for how to properly share the road. As more bike riders use the roadway alongside cars, the safety of both parties becomes a concern. Opportunities for educational outreach could include programs on local public television, information in high school drivers' education classes, and bike training classes provided by the League of Illinois Bicyclists. Safety programs, like the "Light the Night" program on campus, should be continued and expanded to provide bikers with appropriate safety equipment such as bike lights for higher visibility.

Many cities in North American 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. Many bike-sharing programs in the United States have experienced 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. Currently, the university is exploring implementing a bike-sharing program. Last spring, Neutral Cycle Workshop started a tandem-rental project called The Big Yellow Ride. The Big Yellow Ride will arrange with several food- and drink-based businesses in Champaign-Urbana to serve as bike-rental stations. They are considering establishing stations in downtown Urbana, downtown Champaign, and the University District. These three locations are areas where additional vehicular traffic could be efficiently replaced by bicycle and pedestrian traffic.

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 also to 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 is not currently coterminous with the urbanized area boundary, which creates gaps in levels of mobility within the urbanized area. Efforts should be made to expand the service area to be coterminous with the urbanized area in the future to ensure service access for all residents in the. As gas prices rise, residents who no longer wish to use personal vehicles for travel will be looking for another mode of transportation that can transport them

to work and to 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 agency is also trying to change the relationship between transit service and new development. CU-MTD has had great success developing specific high-frequency corridors in areas with high ridership, making transit a more competitive choice with driving personal vehicles. CU-MTD's focus for the future will be on continuing to improve mobility in the urbanized area through street upgrades, bus stop enhancements, signal priority on roadways for transit buses, consolidating bus stops to increase efficiency, and making improvements to the high-capacity transit network. In addition, CU-MTD is exploring the possibility of creating transit hubs in downtown Urbana, Savoy, and a couple possible locations in Champaign that could function as small terminals. From these smaller terminals there would be feeder routes serving the surrounding neighborhoods, which will shorten transit travel time within those areas.

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. All CU-MTD buses are equipped with bike racks on the front. Developing affordable and efficient options for transportation creates a system that can be both socially and economically equitable.

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 replacing the older, more inefficient buses with hybrid buses. The district has also made a point to include more efficient, environmentally friendly technologies when updating their administrative and maintenance facilities. As the transportation system continues to evolve, CU-MTD has served as an effective leader in adapting to new, greener technologies.

Finally, CU-MTD will 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 which will increase transit ridership.

C-U MTD buses at Illinois Terminal, Champaign, 2012

CUUATS also developed a Human Services Transportation Plan (HSTP) for the urbanized area, which brings together all the different transit and human service providers for the purpose of better coordination of services to avoid a duplication of efforts. In 2007, the C-U HSTP development brought together service providers, riders, and the community at large to address barriers to, and improve efficiency and equity of, urban area transportation services for seniors, people with disabilities, and people with low incomes. CUUATS staff will continue to work with transportation and human service providers to improve accessibility, availability, and reliability of transportation service for people with disabilities, seniors, and low-income individuals within existing budget constraints in the Champaign-Urbana urban areas, and to maximize the resources available for specialized transportation needs through coordination in planning, service delivery, and reporting. To achieve these goals, the following strategies are being undertaken by CCRPC staff and working group agencies: develop a transportation directory, increase the existence of accessible taxi operators, develop a personal assistant program, conduct employer surveys, survey demand for trip services, coordinate existing services to reduce costs, model current and future demand for Medicaid transportation, recruit Medicaid certified operators, diversify funding sources, recruit volunteer drivers, hold regionalized training sessions for drivers, and establish a regional maintenance center for specialized paratransit vehicles.

Intercity Public Transit

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

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), not only in the urbanized area but in the United States as a whole, dropped as people could no longer afford to drive as much as they did previously. As the urbanized area progresses toward 2040, 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. Local roads, collectors, arterials, and interstates all serve different functions within the network and must be maintained to maximize efficiency. To make the arterial network, and subsequently the rest of the roadway network more efficient, arterial streets located in the fringe of the urbanized area such as Curtis Road, IL 130 (High Cross Rd), Olympian Drive, and Rising Road should be used to make travel more efficient. This system of interconnected roadways on the fringe of the urbanized area presents several benefits to

the overall transportation system by allowing residents, freight vehicles, travelers, and other users to bypass the core areas, making travel between municipalities safer and more efficient. The vehicles utilizing the fringe arterial road system will reduce traffic volumes on arterials traversing the core of the community, therefore improving mobility for those living in or traveling through the core. The fringe roadway system also provides more efficient routes for large trucks and freight vehicles to keep them off local roadways in the core of the community that aren't designed to handle such heavy vehicles. Removing large vehicles from core roadways will improve mobility and safety for local traffic, especially for pedestrians and bikes. Simultaneously, the fringe road system should be designed as complete streets in order to accommodate buses, bicycles, and pedestrians.

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 or signal controlled, can cause excessive delay if they are used improperly, not coordinated, or not timed efficiently. 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 there are still problem areas and an overall lack of 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 all the area signals under one coordination system. Studies by FHWA have shown computerized signal coordination systems can reduce travel times by 10-20%.

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 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, adding greenhouse gases to the atmosphere and wasting fuel. The signals at the intersection also require electricity to function, which uses energy and fossil fuels. Most modern roundabouts utilize yield signs rather than signals as cars enter, eliminating electricity use and most vehicle idling time. Studies can be completed at specific intersections to determine if a roundabout could improve safety or efficiency.

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 pedestrians, bicyclists, and drivers. Ingress and egress points to parking lots and developments are all potential conflict points for turning vehicles, bicycles, and sidewalk users. In 2013 CUUATS updated 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. As most arterial corridors were constructed prior to the adoption of the original guidelines in 2001, there are corridors throughout the urbanized area that have poor access management and it can be difficult to convince property and business owners to update their infrastructure to accommodate the guidelines to create better traffic flow and safer conditions for roadway users.

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 utilization of active transportation facilities will result in reduced congestion, fuel consumption, and greenhouse gas emissions by reducing the number of personal vehicles on the roadway. Active modes of transportation, such as walking and biking, also provide health benefits. As discussed in Chapter 7, Complete Streets policies have been adopted by CUUATS in 2012 and several local jurisdictions, which call for the incorporation of facilities for pedestrians, bikes, buses, and other modes on all new roadway construction projects.

Another method of removing cars from the transportation network is to continue the car-sharing program currently established in the urbanized area. Zipcar currently has 16 cars available at 7 different locations in Champaign, Urbana, and on the University of Illinois campus. The program provides area residents and students with an option for travel that reduces the need to own a personal vehicle. Park and ride facilities can be another method to reduce the amount 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, and transportation planners are always looking for ways to make the current street network safer and more efficient for drivers and tax payers. The aforementioned techniques demonstrate that congestion can be reduced without the need to invest heavily in the construction of new roadways. There 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.

Zipcar parking at Illinois Terminal, Champaign, 2012

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 continues to grow in population and in land area, the amount of goods shipped throughout the community will inevitably rise as well. 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 also increase. Without a truck route plan, additional truck traffic could cause congestion and safety problems along the roadway network and at signalized intersections as well as exert additional stress on smaller streets not constructed to handle the weight.

Rail

There are two types of rail traffic utilizing the tracks running through the urbanized area: passenger rail and freight rail. Freight rail, the counterpart to the commercial truck delivery system, will likely 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 appreciate, the economic viability of transporting goods using commercial trucks may disappear and be replaced by freight rail.

Amtrak continues to increase passenger ridership and frequency of trains using Illinois Terminal and should continue to do so. Area residents voiced appreciation for this comfortable and easy link to other regional centers. To improve ridership for all modes utilizing Illinois Terminal, a marketing program needs to be created to link Amtrak, CU-MTD and the various intercity transit companies so users can quickly and easily get schedules and routing information. Many area residents have voiced a desire for a high speed rail line from here to Chicago for shorter travel times and to eliminate the current delays in passenger service due to Amtrak sharing the tracks with freight lines. The Midwest High Speed Rail Association commissioned a feasibility study in 2009 to investigate the possibility of implementing 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 the Champaign-Urbana area and other areas in Downstate Illinois. The economic, social, academic, and professional connections between Champaign-Urbana and Chicago have always been strong and as active modes of transportation become more popular, a high speed rail corridor seems more and more feasible. After consulting with a high speed rail expert at the University of Illinois as well as a number of high speed rail case studies around the country and globe, a high speed rail corridor from the Illinois Terminal in Champaign to O'Hare Airport in Chicago has been included as part of the 2040 vision, with construction starting around 2035. It is estimated that this would have a significant increase in population growth by 2040, and an even more significant increase in job growth.

One aspect of rail corridors that could be utilized more in the future is the Rails to Trails program or 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 Kickapoo Rails to Trails project, linking east Urbana to the Kickapoo State Park in Vermilion County, is a 26-mile recreational trail that has recently secured funding to begin construction. The future development of this trail will provide

recreational opportunities as well as a tourism destination for those wishing to enjoy the Central Illinois scenery by foot or bike. Similar trails opportunities should be pursued to connect Champaign to Bloomington and Champaign-Urbana to other regional and natural attractions.

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. Unfortunately, the airport has been losing passengers and commercial carriers over the last ten years. Willard Airport is currently being studied by a recently established taskforce dedicated to better understanding options to increase the utilization of the airport's infrastructure and services in the future.

In conclusion, land use patterns and demands on the transportation network will certainly change as the urbanized area evolves into the future. The ideas and practices listed in this chapter will help guide future growth and facilitate changes that are sustainable and economical.

Willard Airport photo by Mark Pasqualino in 2006, downloaded from www.airportdata.com in 2014
Amtrak at Illinois Terminal, 2012
Willard Airport 'welcome' sign photo by Frank L in 2010, downloaded from www.yelp.com in 2014

11

2040 Vision

MODELING FUTURE CONDITIONS

MODELING FUTURE CONDITIONS

With the analysis of existing transportation, socio-economic, land use, and environmental conditions of Champaign County (in some aspects) and the Champaign-Urbana urbanized area identified, a process was needed to determine what planning actions are most supportive of the goals and objectives identified for the planning horizon. CUUATS has adopted a scenario planning process in order to evaluate the most important and uncertain elements in the future of the planning area. Each scenario is analyzed through the CUUATS modeling suite in order to understand the potential impacts of future planning decisions on transportation, the environment, and society.

CUUATS maintains a suite of interconnected models that provide a holistic approach to planning analysis. CUUATS has used travel demand modeling for various projects over the last ten years, including long range transportation planning and corridor studies. While preparing the previous LRTP, *Choices 2035*, a need was identified for more comprehensive modeling that could improve our understanding of the interactions between land use and transportation, as well as the impacts of transportation on livability, social costs, greenhouse gas emissions, and public health. Since 2009 CUUATS staff has worked to incorporate and refine additional models for various transportation planning processes. This LRTP, *Sustainable Choices 2040*, utilizes the four county-level models detailed below and two additional models used to evaluate conditions at a more local scale (the Health Impact Assessment [HIA] and the Local Accessibility and Mobility Analysis [LAMA]), detailed in appendices B and C). After running the models to establish an existing conditions scenario using the year 2010 as a baseline, two alternative scenarios were developed in order to help evaluate the potential impact of future planning decisions on the community through the year 2040, Traditional Development 2040 and Sustainable Choices 2040.

Traditional Development 2040

The Traditional Development 2040 scenario represents the expected state of the planning area in 2040 based on historic transportation system growth trends and patterns. Projections of population and employment were reviewed with municipal officials, and relatively certain future development projects were included (Figure 11.1).

Sustainable Choices 2040

The Sustainable Choices 2040 scenario is designed to incorporate input collected from the public as summarized in the planning pillars described in Chapter 8. In this scenario, a high speed rail corridor between Chicago and the Illinois Terminal in downtown Champaign is one of the main catalysts of downtown growth. In addition, an intensive transit corridor system helps link downtown Urbana and Champaign, as well as facilitate increased density on and around University Avenue and Campustown. Business and research commuters are better served by the rail link to Chicago, which enables increased growth in the Research Park. Transit service is expanded through additional routes and increased frequency of some existing routes. Another significant growth area for light industrial development is predicted on and around Olympian Drive and Lincoln Avenue, which would justify the extension of Olympian Avenue to US-45 (Figure 11.2).

Note: A great number of variables will determine the health and relative success of the region over the next 25 years, and readers should keep in mind that this analysis method does not mean 2040 in the Champaign-Urbana urbanized area will look exactly like either of these scenarios. Likewise, while the models and projections were carefully designed and validated whenever possible, they are not perfect reflections of the social and physical processes in play, and the input data used is imperfect.

FIGURE 11.1 SCENARIO REPRESENTATION: TRADITIONAL DEVELOPMENT

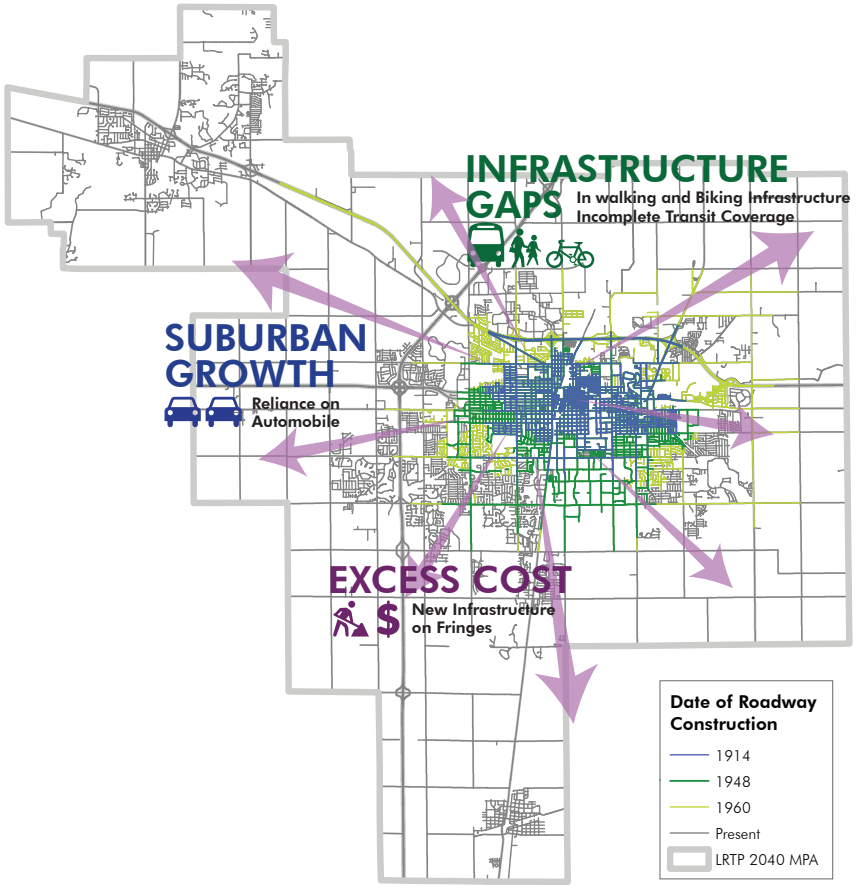


FIGURE 11.2 SCENARIO REPRESENTATION: SUSTAINABLE CHOICES 2040

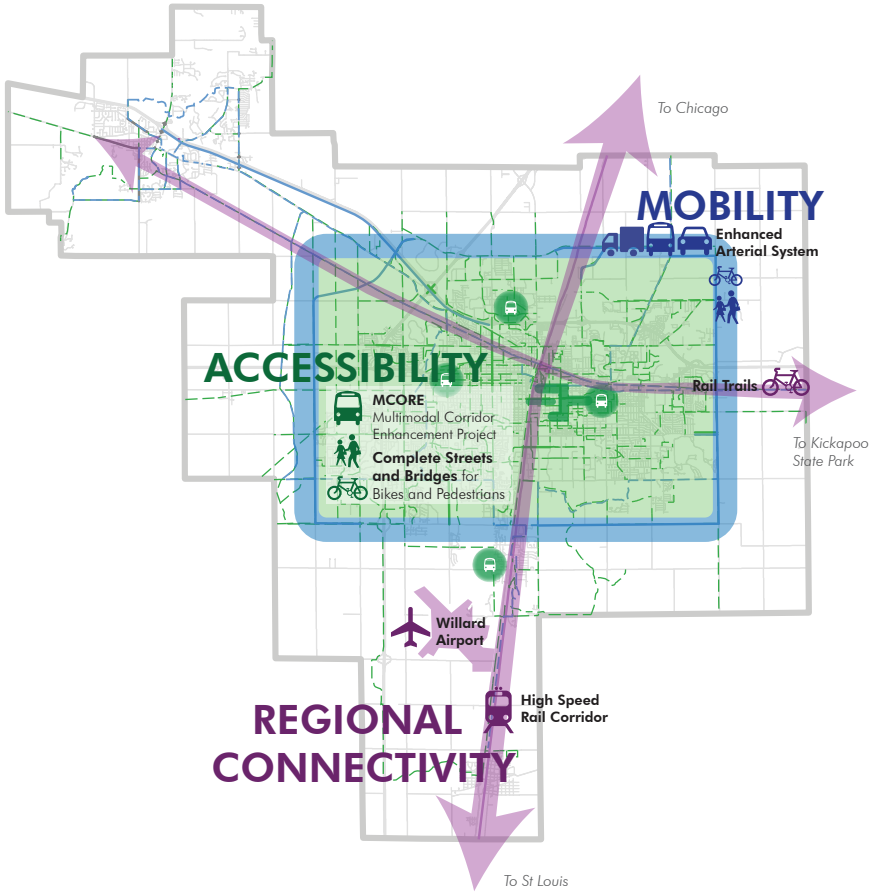
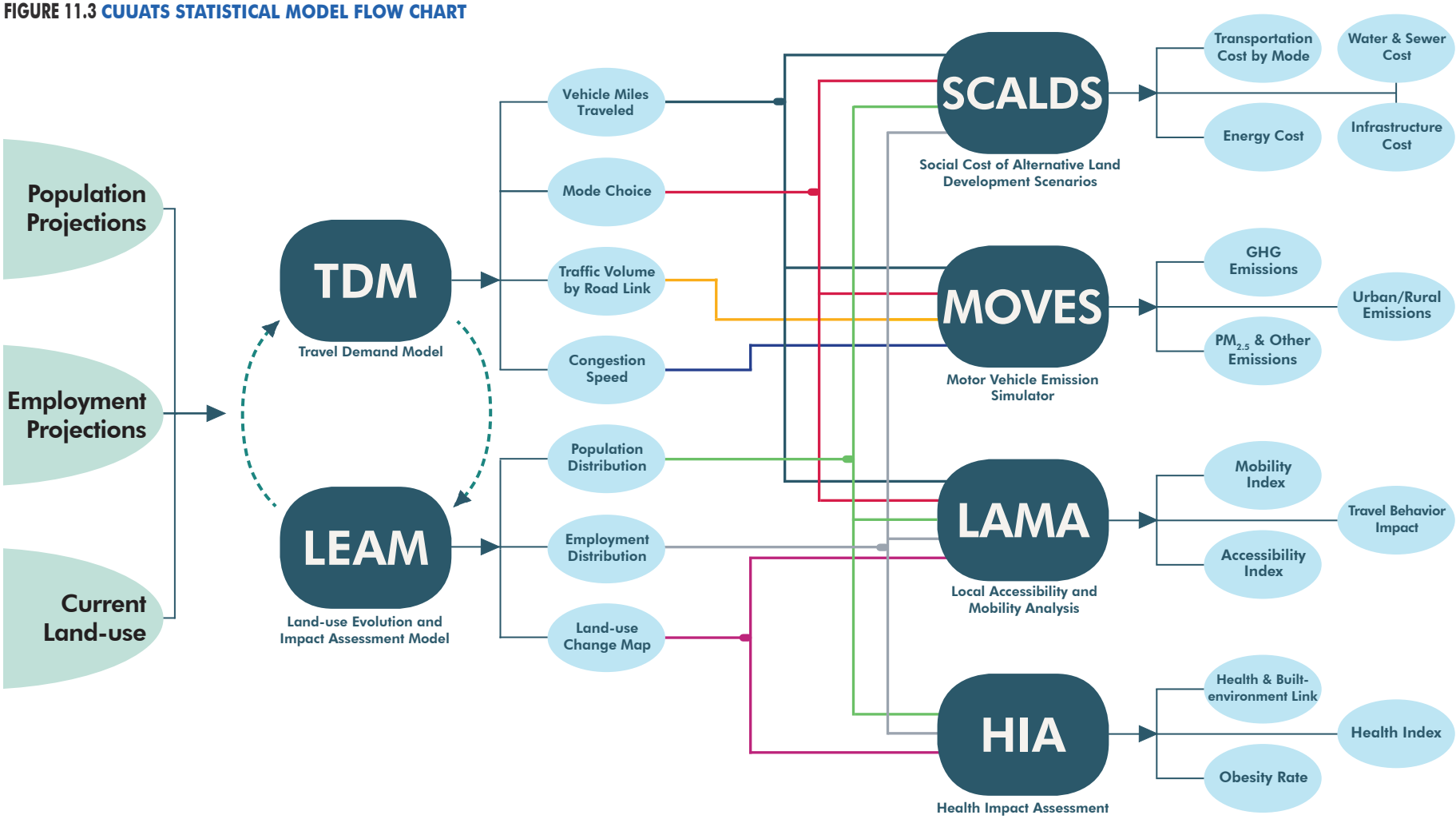


FIGURE 11.3 CUUATS STATISTICAL MODEL FLOW CHART



PROJECTING POPULATION AND EMPLOYMENT

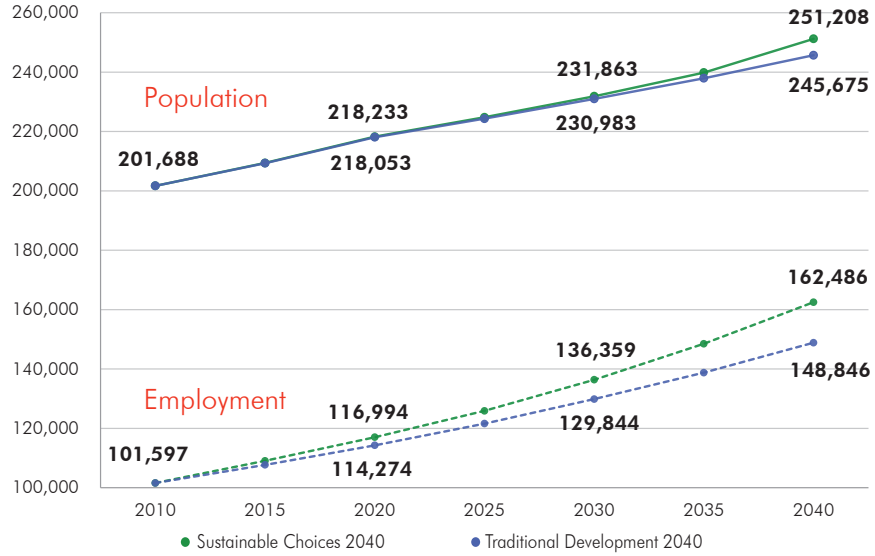
Population

HandyAndy is an interregional cohort-component model, created by Dr. Andy Isserman at the University of Illinois, that produces county-level population projections[1]. After entering county demographic data, (including population, in- and out-migration, birth, and death data - all by age and gender), HandyAndy guides the user through the hundreds of calculations entailed in an interregional cohort-component projection. CUUATS staff used population data from the Census and local birth and death data from the CU Public Health District and the Centers for Disease Control (CDC), and referenced municipal zoning maps and comprehensive plans for existing conditions and future land use plans.

To produce traffic analysis zone (TAZ) level population projections, the total projected county population from each projection year was distributed throughout the county according to the 2010 population proportion of each TAZ. Some TAZs did not receive any population increases if they were already at population capacity or if they were unlikely or unable to be developed within the planning horizon due to environmental or infrastructure barriers. Population is expected to continue to shift from rural to urban, and a migration rate of 2.46% every ten years reassigned some population from the rural TAZs to the urban TAZs. Finally, staff met with municipal officials in Urbana, Champaign, Savoy, and Mahomet to evaluate the projection numbers as well as provide information about future developments that could impact population in each TAZ through 2040. This additional input was used to manually adjust the projections through 2040.

1 Isserman, Andrew M. (1993). The Right People, the Right Rates. APA Journal, Winter, 45-64.

FIGURE 11.4 CHAMPAIGN COUNTY POPULATION AND EMPLOYMENT PROJECTIONS



Source: CUUATS, 2013

Employment

TrenDandy is an Excel workbook with worksheets and charts for making employment projections using Regional Economic Information System (REIS) data, also created by Dr. Isserman. TrenDandy was used to produce county-level employment projections through 2040 using geo-coded Business Analyst industry employment data for the 2010 base year. The Business Analyst data was cross-referenced with the Champaign County Economic Development Corporation and individual employers when necessary.

Projections were based on rates from previous years of county level North American Industry Classification System (NAICS) employment data which were then forecasted with reference to Standard Industrial Classification (SIC) employment history as well as national, state, and area employment projections from other agencies. TrenDandy's county-level projection rates through 2040 by NAICS code were applied in each TAZ according to projected industry growth rates. The precise geographic locations in the 2010 base year business data allows the projections to use more accurate industry segmentation estimates that vary for each TAZ. After projecting the industry groups forward through 2040, they were summed to produce total employment for each TAZ, and these numbers were also reviewed and edited by municipal officials for further refinement.

MODELING AND RESULTS

Travel Demand Model (TDM)

The Champaign County travel demand model is a person trip model built using the Cube Voyager software platform. The TDM employs the traditional four-step travel forecasting process to evaluate auto and transit trips for both daily and peak hour scenarios. The countywide travel demand model is integrated with the Land Use Evolution and Impact Assessment Model (LEAM) to identify the relationships between land use changes and travel patterns in the region. The base year for the model is 2010. Due to the unique relationship between the TDM and LEAM, multiple horizon year forecasts can be evaluated.

The TDM models trips for all purposes, including work, school, shopping, and other trips. Table 11.2 reports the daily home-based work trips in the urbanized area, which are the largest component of total vehicle miles traveled and thus the largest driver of congestion, emissions, and cost.

The Sustainable Choices 2040 scenario for anticipates over 13,000 more employed persons in the county by 2040 compared to the Traditional Development 2040 scenario, yet the amount of work trips made using single occupancy vehicles remains nearly constant. This is a result of an increased number of home to work trips made using transit, bicycling, or walking due to improved and expanded infrastructure for those modes.

CUUATS TDM was utilized to measure levels of congestions during peak hours within the urbanized area roadway network. Levels of congestion were determined based on Volume (V) to Capacity (C) ratio values of different roadway segments during the peak hours. Table 11.4 shows congestion levels defined by the V/C ratio. For Travel Demand Model documention, see Appendix F.

TABLE 11.1 DAILY HOME-BASED WORK TRIPS BY MODE, URBANIZED AREA

	Total	Drive Alone	Shared Ride	Transit	Bicycle	Walk
Baseline 2010	115,299	75,041	11,276	5,649	3,963	19,370
Traditional Development 2040	141,468	96,292	14,478	5,280	4,632	20,786
Sustainable Choices 2040	149,277	96,525	14,505	9,149	4,918	24,180

Source: TDM, 2014

TABLE 11.2 DAILY VEHICLE MILES TRAVELED (VMT)

	Urbanized Area VMT	Metropolitan Planning Area VMT
Baseline 2010	2,365,631	2,993,679
Traditional Development 2040	2,900,370	3,700,431
Sustainable Choices 2040	2,866,432	3,756,732

Source: TDM, 2014

TABLE 11.3 TDM CONGESTION LEVELS

V/C Ratio	Congestion Level
>=1	Severe Congestion
1>V/C>=0.9	High Congestion
0.9>V/C<=0.85	Moderate Congestion

Source: TDM, 2014

FIGURE 11.5 CONGESTED ROADWAY NETWORK. BASELINE 2010

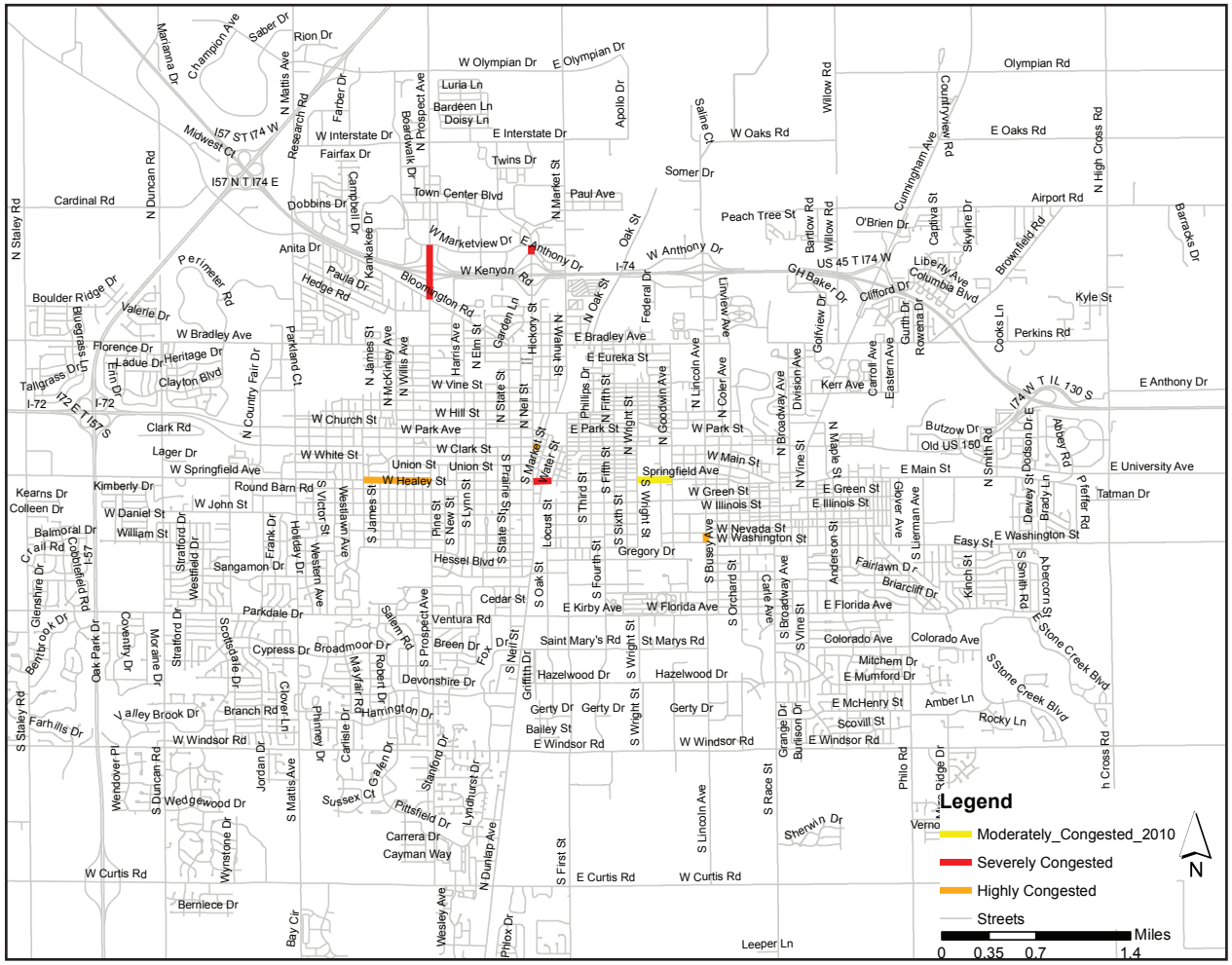


TABLE 11.4 TDM CONGESTION, BASELINE 2010

Roadway	Jurisdiction	From	To	V/C
Severely Roadway Segments				
Prospect Ave	Champaign	Bloomington Rd	Baytown Dr	1
Neil St	Champaign	Anthony Dr	Marketview Dr	1
Springfield Ave	IDOT	Water St	Neil St	1
Highly Congested Roadway Segments				
Springfield Ave	IDOT	Russel St	Prospect Ave	0.9
University Ave	Champaign	Neil St	Walnut St	0.9
Lincoln Ave	Urbana	Oregon St	Nevada St	0.9

FIGURE 11.6 CONGESTED ROADWAY NETWORK, TRADITIONAL DEVELOPMENT 2040

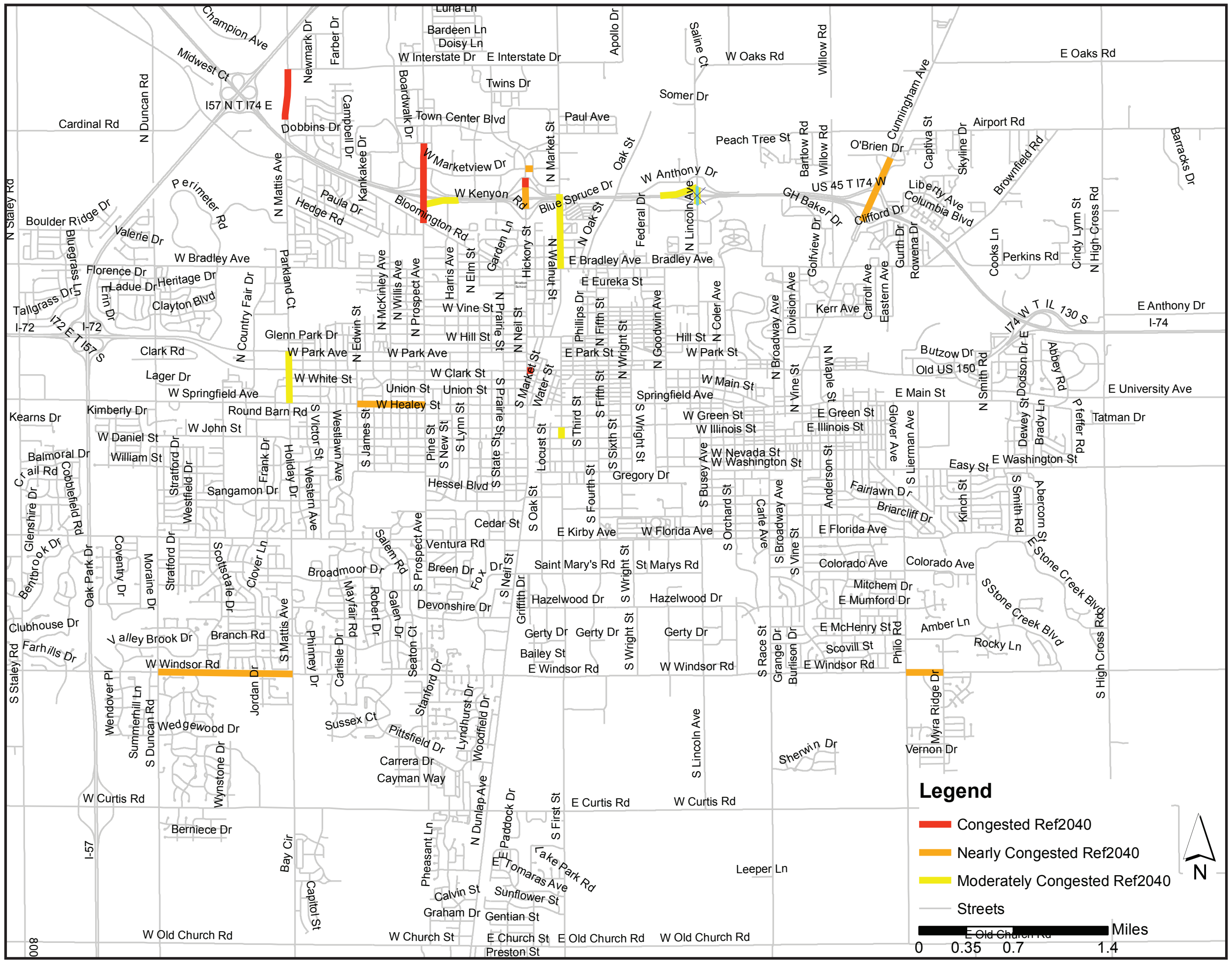


TABLE 11.5 TDM CONGESTION, TRADITIONAL DEVELOPMENT 2040

Roadway	Jurisdiction	From	To	V/C
Severly Congested Roadway Segments				
Mattis Ave	Champaign	Interstate Dr	Anthony Dr	1
Prospect Ave	Champaign	Bloomington Rd	Baytowne Dr	1
Neil St	Champaign	Anthony Dr	Marketview Dr	1
University Ave	Champaign	Neil St	Walnut St	1

Roadway	Jurisdiction	From	To	V/C
Highly Congested Roadway Segments				
Neil St	Champaign	I-74EB Ramp	I-74 WB Ramp	0.91
Marketview Dr	Champaign	Neil St	Convenience Pl	0.9
University Ave	Champaign	Walnut St	Chestnut St	0.9
Springfield Ave	IDOT	Russell St	Prospect Ave	0.9
Windsor Rd	Champaign	Duncan Rd	Mattis Ave	0.9
US 45	IDOT	I-74EB Ramp	O Brien Dr	0.9
Windsor Rd	Urbana	Myra Ridge Dr	Philo Rd	0.9
Lincoln Ave	Urbana	Oregon St	Nevada St	0.9

FIGURE 11.7 CONGESTED ROADWAY NETWORK, SUSTAINABLE CHOICES 2040

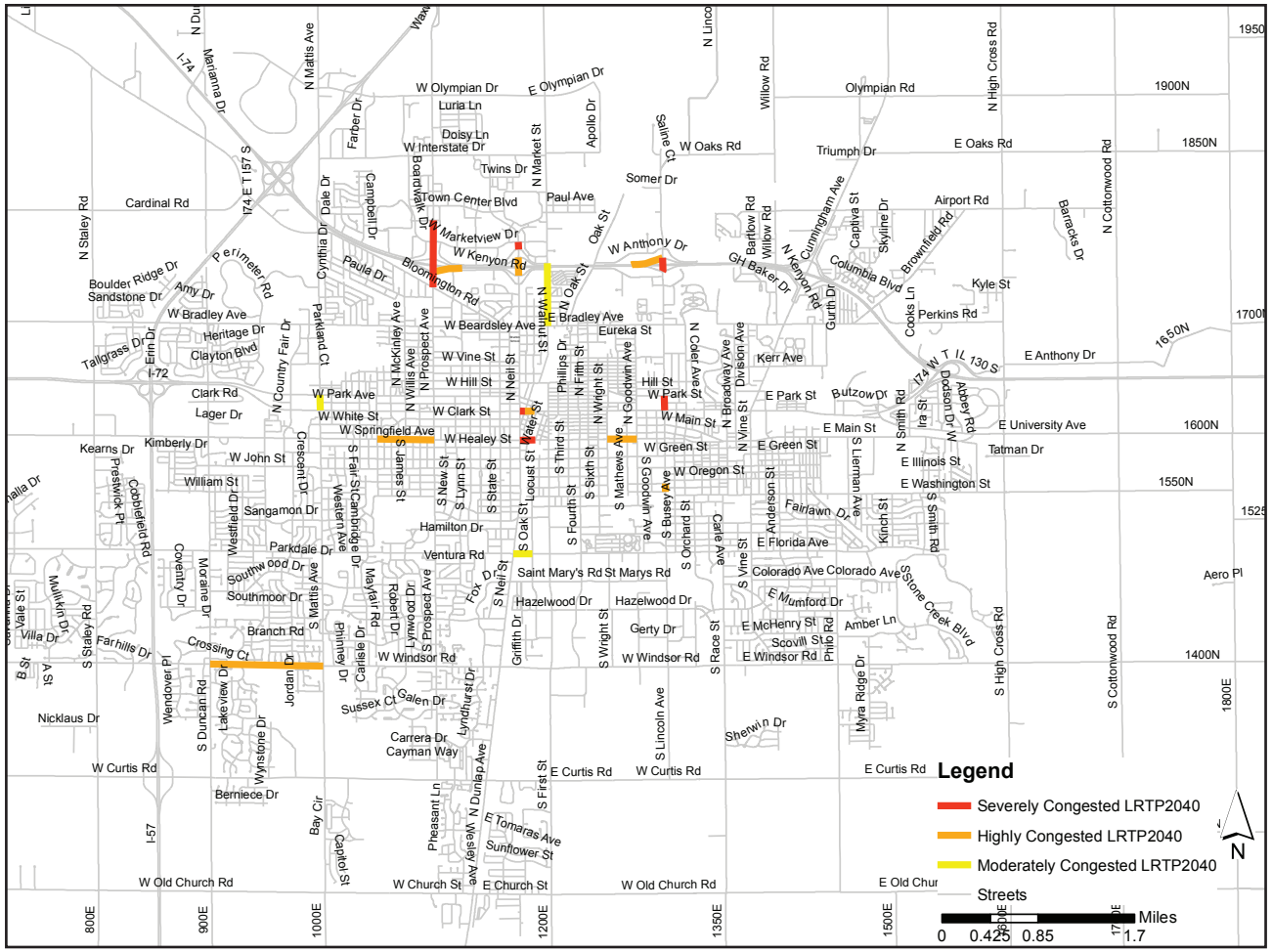


TABLE 11.6 TDM CONGESTION, SUSTAINABLE CHOICES 2040

Roadway	Jurisdiction	From	To	V/C
Severely Congested Roadway Segments				
Prospect Ave	Champaign	Bloomington Rd	Baytowne Dr	1
University Ave	Champaign	Walnut St	Neil St	1
Springfield Ave	Champaign	Neil St	Water St	1
Neil Street	Champaign	Anthony Dr	Marketview Dr	1
Lincoln Ave	Urbana	I74 EB Ramp	I74 WB Ramp	1
Lincoln Ave	Urbana	Church St	University Ave	1

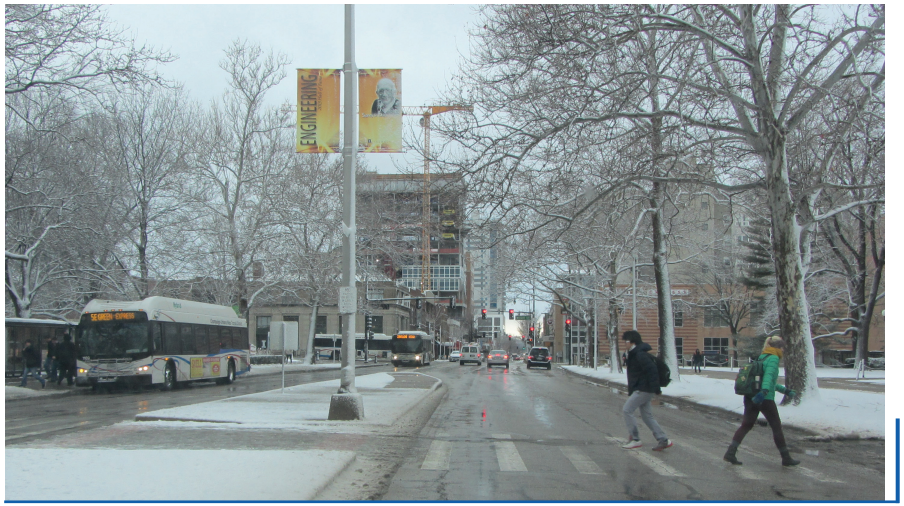
Roadway	Jurisdiction	From	To	V/C
Highly Congested Roadway Segments				
Mattis Ave	Champaign	Anthony Dr	Interstate Drive	0.96
Springfield Ave	IDOT	Russell St	Prospect Ave	0.96
I-74 Ramp	IDOT	Lincoln Ave	I-74 WB	0.96
Neil St	Champaign	I-74 EB Ramp	I-74 WB Ramp	0.92
I-74 Ramp	IDOT	Prospect Ave	I-74 EB	0.91
University Ave	Champaign	Walnut St	Chestnut St	0.91
Windsor Rd	Champaign	Mattis Ave	Duncan Rd	0.9
Springfield Ave	Urbana	Goodwin Ave	Wright St	0.92
Lincoln Ave	Urbana	Oregon St	Nevada St	0.9

Land Use (LEAM)

The Land Use Evolution and Impact Assessment Model (LEAM) is a suite of interconnected attractor models that predict land use change developed at the University of Illinois in Urbana-Champaign[1]. LEAM is linked with the other CUUATS models in the suite, and most tightly with the Travel Demand Model (TDM). LEAM and the TDM run in an iterative pattern every five years from 2010 to 2040. This enables the growth patterns developed by LEAM to respond to any congestion that appears in the TDM over the next 25 years. The final 2040 output of LEAM also provides detailed growth patterns.

Because LEAM models population and employment patterns at a finer resolution (on a 30 x 30 meter square grid) than the TAZ level projections, it was necessary to refine some of the projections to a smaller scale. The feedback from municipal officials and knowledge of known developments was used to create targeted growth zones so that the LEAM output would include these known developments. In the map to the right, the colored zones are areas with specified population and/or employment targets input into LEAM to estimate growth patterns as an output for the 2040 planning horizon. Purple zones are used in both 2040 scenarios, and the yellow zones are areas of higher growth expected only in the Sustainable Choices 2040 scenario, (Figure 11.4).

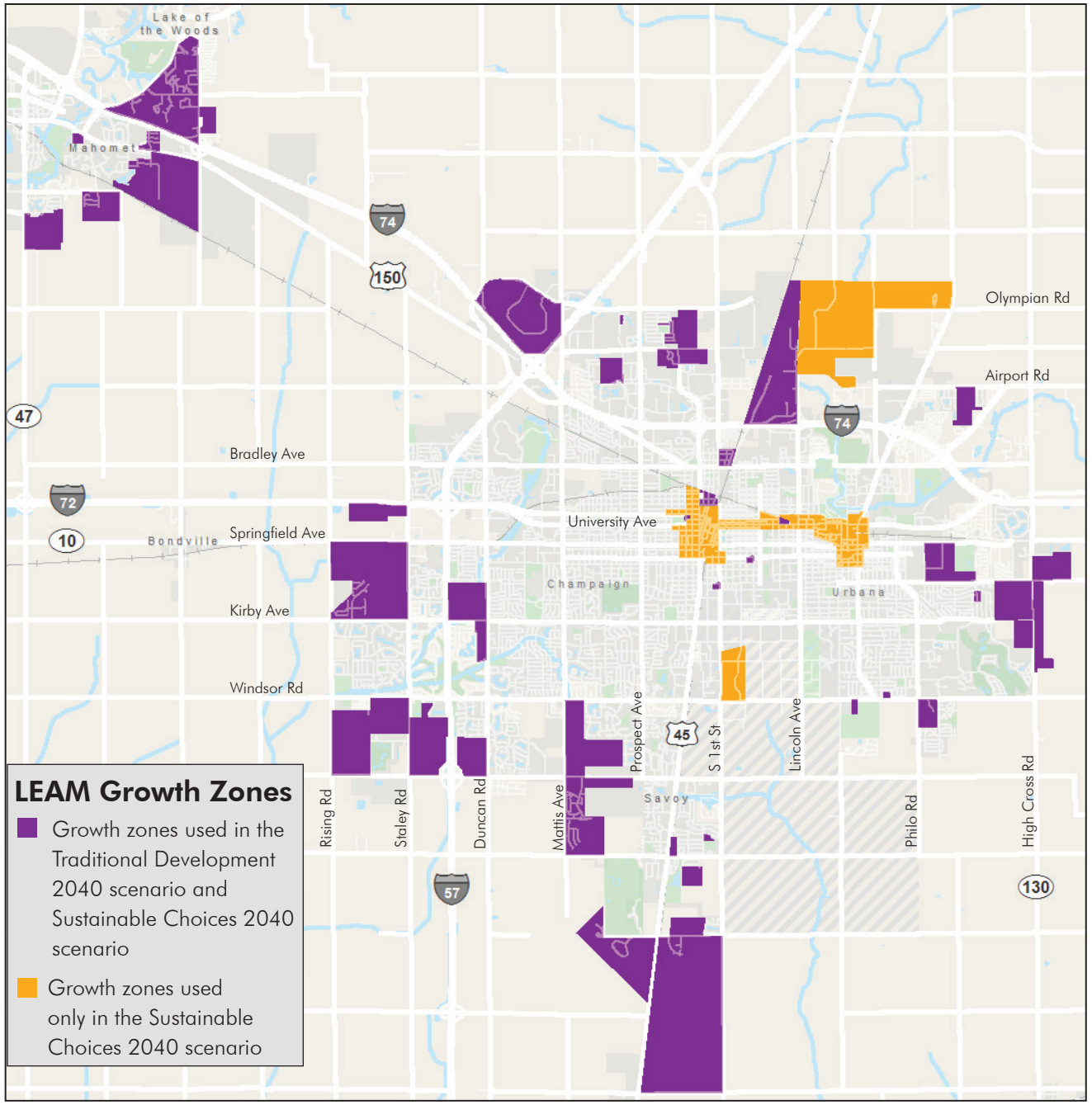
LEAM assigns population and employment to the target areas (growth zones) and after these areas have their targets fulfilled, LEAM takes the remaining population and employment projected countywide and assigns it using its attractor models. LEAM favors greenfield development unless explicitly instructed to attempt redevelopment in the growth zones, leading to the predominantly fringe development pattern seen in Figure 11.5. While this pattern fits the Traditional Development 2040 scenario, CUUATS staff weren't able to use LEAM to accurately map the Sustainable Choices 2040 scenario.



Green Street, Urbana, 2014

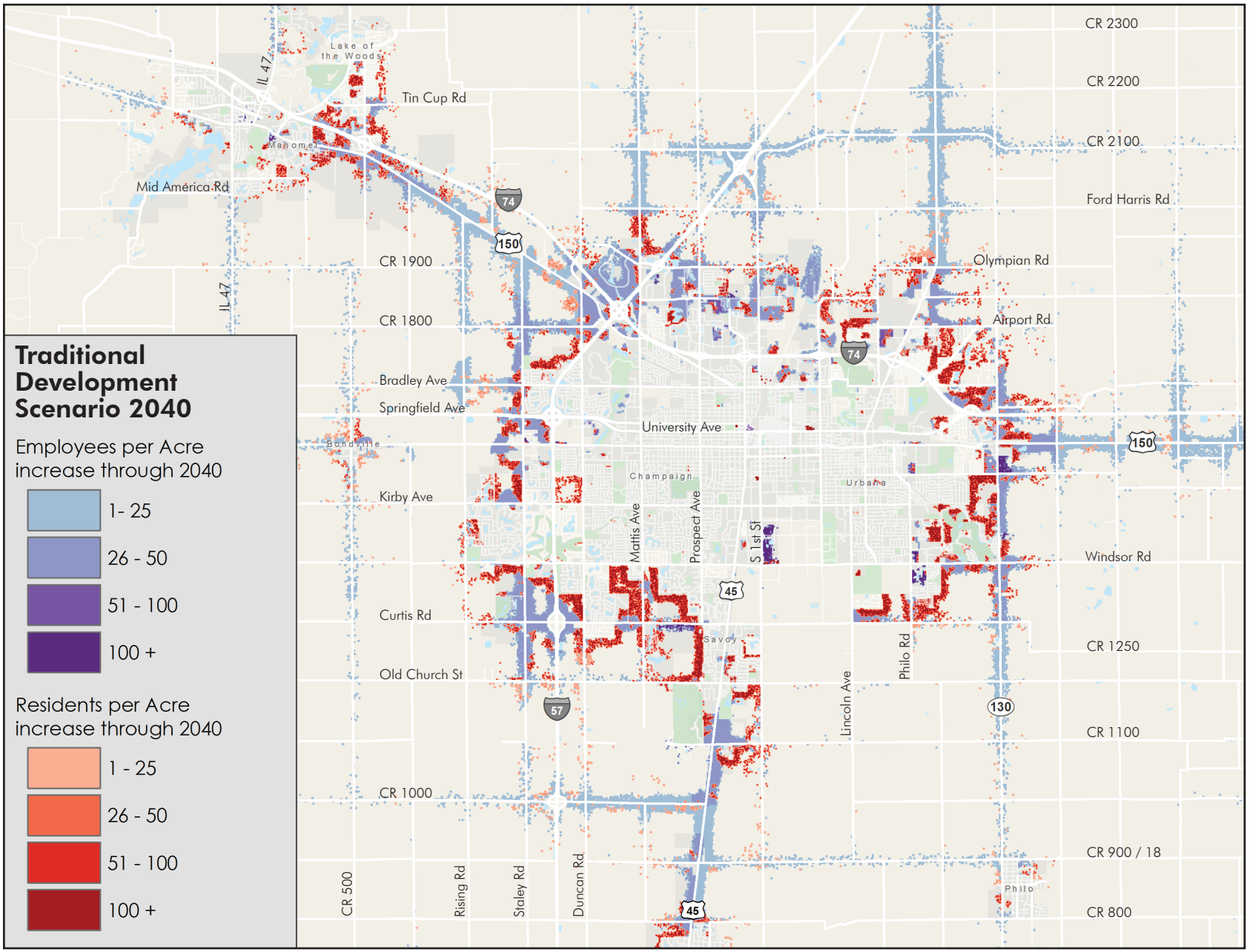
1 http://www.leam.illinois.edu/leam

FIGURE 11.8 LEAM GROWTH ZONES



Source: LEAM, 2014

FIGURE 11.9 LEAM TRADITIONAL DEVELOPMENT 2040 GROWTH MAP



Source: LEAM, 2014

Mobile Source Emissions (MOVES)

The MOtor Vehicle Emission Simulator (MOVES) model was developed by the Environmental Protection Agency's (EPA) Office of Transportation and Air Quality[2]. MOVES is required for use by states and metropolitan planning organizations (MPO) where measurements of one or more pollutants exceed the maximum allowable levels under the National Ambient Air Quality Standards (NAAQS) and must be run at the county scale for all non-attainment areas. Although the Champaign-Urbana urbanized area is currently an attainment area for all emissions quality standards, CUUATS staff proactively includes MOVES in the modeling suite to estimate the environmental impact of alternative planning scenarios. This data also allows the region to continually track and better understand how ongoing development affects emissions in order to remain an attainment area.

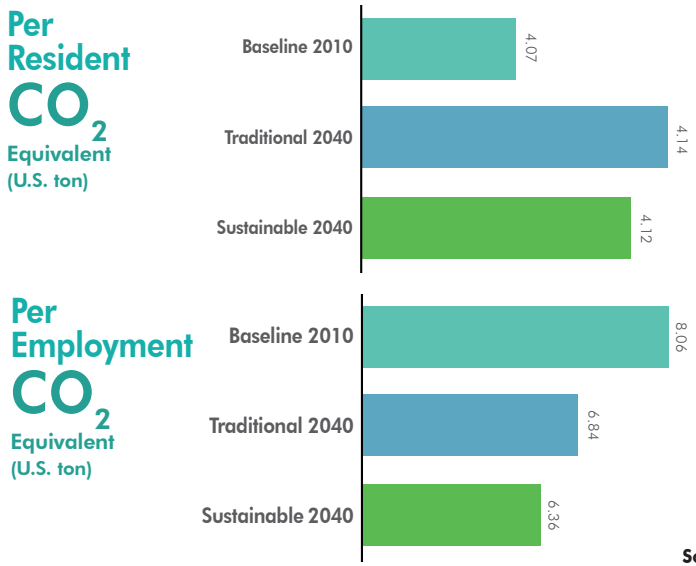
In tables 11.8 and 11.9, the same annual mobile vehicle emission rates are shown in different units of measurement. The tables show the Sustainable Choices 2040 scenario with a slightly higher emissions rate than the Traditional Development 2040 scenario. However, the increase relative to Traditional Development 2040 is actually at a smaller rate on a per-capita basis. The results presented in Figure 11.7 show emissions per resident and per employee are both smaller in the Sustainable Choices 2040 scenario.

TABLE 11.7 ANNUAL MOBILE VEHICLE EMISSIONS (TONS)

	CO_2 Equivalent	CO_2	CH_4	N_2O	PM_{10}	$PM_{2.5}$
Baseline 2010	818,896	814,509	69.2	9.5	36.8	34.3
Traditional Development 2040	1,017,969	1,012,499	86.4	11.8	45.8	42.7
Sustainable Choices 2040	1,032,302	1,026,792	87.4	11.9	46.3	43.1

Source: MOVES, 2014

FIGURE 11.10 ANNUAL MOBILE VEHICLE EMISSIONS PER CAPITA (U.S. TONS)



Source: MOVES, 2014

2 http://www.epa.gov/otaq/models/moves/

Social Costs (SCALDS)

The Social Cost of Alternative Land Development Scenarios (SCALDS) model was created in 1998 by Parsons Brinckerhoff and ECONorthwest for the Federal Highway Administration[3]. The model tests the impacts of various scenarios of land development that are often unforeseen by policymakers. It is a comprehensive model of the initial costs of development (such as building out utilities), ongoing maintenance costs, and externalities like travel time and natural resource use. CUUATS staff have updated and reviewed the model using local data for Champaign County.

Key differences between the Traditional Development 2040 and Sustainable Choices 2040 scenarios are the locations and types of residential development projected (Figure 11.8). In the Traditional Development 2040 scenario, the overwhelming majority of development is on the rural fringe of municipalities, while the Sustainable Choices 2040 scenario shifts a significant portion of the expected population growth to core areas of the community. The difference in the location of new residents also influences the density of new development. Based on SCALDS results, the increased density of the Sustainable Choices 2040 scenario reduces the new infrastructure cost by 25% compared to the Traditional Development 2040 scenario.

The annual operational costs for Sustainable Choices 2040 are slightly lower than the Traditional Development scenario. Since the Sustainable Choices 2040 scenario has more miles traveled due to the increased number of employees, the annual operational cost is projected to be slightly higher, but it's quite a bit less than it could have been if that scenario didn't have a mode shift towards transit. Projected costs were not adjusted for future inflation.

Increased density also saves on resource usage. The Sustainable Choices 2040 scenario saves nearly 150,000 gallons of water[4] per day compared to the Traditional Development 2040 scenario, despite having nearly 5,000 more residents (Figure 11.8). Transportation costs are also held down by increased development in core areas of Urbana and Champaign. Due to an increase in the proportion of workers using transit, walking, or cycling to work, total transportation cost is only marginally higher even with a significantly increased workforce in the Sustainable Choices 2040 scenario (Figure 11.9).

3 https://www.fhwa.dot.gov/scalds/scalds.html

4 The numbers used for water consumption in Champaign County include general estimates based on land use (industrial, residential, etc.), but do not include water used in industrial or agricultural production processes, (irrigation, specific product manufacturing,etc.).

FIGURE 11.11 SCALDS OUTPUT: HOUSING UNITS, INFRASTRUCTURE AND OPERATING COSTS, AND RESOURCE USE

Source: SCALDS, 2014

FIGURE 11.12 SCALDS OUTPUT: MODE SHARE

Source: SCALDS, 2014

HEALTH IMPACT ASSESSMENT

As mentioned in Chapter 6: Health, CUUATS staff recently completed an extensive Health Impact Assessment (HIA) to analyze the impact of transportation and the built environment on population health in the Champaign-Urbana area. HIA is a policy analysis tool that can be used to formalize public health considerations in planning processes. The most direct impact of the built environment on health is in regard to levels of physical activity, which are closely linked to obesity. Moreover, obesity has been strongly linked to heart diseases, various types of cancer, and other cardiovascular diseases. As such, the HIA was designed to establish a robust relationship between the built environment and the local obesity rate. The analysis revealed that there were significant correlations between obesity and different built environment variables such as density, service accessibility, transit connectivity, active transportation infrastructure and more. Obesity rates were generally lower in neighborhoods that had higher population density, better land use mix, higher accessibility to jobs and services, and better transit connectivity. Based on the results of the HIA, a health index was developed that was used to rate the built environment variables of different planning areas in terms of their impact on levels of physical activity and local health.

An important limitation related to studying the relationships between different health conditions and the transportation system is that correlations do not necessarily prove causation. Many illnesses and health conditions reveal themselves in different ways in different people and result from intersections of multiple factors and risk modifiers. The findings of this study should not be interpreted as asserting that the transportation system is the only factor that determines health outcomes in the community. At the same time, scientific evidence asserts that even small increases in active transportation could lead to significant decreases in chronic disease and increases in overall public health, which makes this a unique opportunity for CUUATS to facilitate positive change in the health of the community. For more information about the Champaign-Urbana HIA, see Appendix B for the full report.

LOCAL ACCESSIBILITY AND MOBILITY ANALYSIS

Similar in scope to the HIA, CUUATS staff recently completed the Local Accessibility and Mobility Analysis (LAMA) that attempts to characterize the accessibility and mobility of different planning areas in the Champaign-Urbana urbanized area. This was a more qualitative analysis that sought to evaluate the availability of choices related primarily to travel behavior in different neighborhoods. The general conclusion of the analysis was that the combination of mobility and accessibility has a significant impact on travel behavior and transportation costs. Residents living in neighborhoods that have high accessibility to various services (e.g. jobs, grocery stores, and other services), and high mobility (measured in terms of availability of bus routes, bike lanes, sidewalks, etc.) were more likely to use active modes of transportation and have lower transportation costs. This is the same conclusion as the HIA whereby neighborhoods with high accessibility and high mobility had significantly lower rates of obesity. A detailed report outlining the methodologies and results of LAMA can be found in Appendix C.

12 2040 Vision VISION

VISION

This chapter sets forth a vision for each mode of transportation in the urbanized area through the year 2040. This vision is meant to be general and reflect a regional perspective. The vision's purpose is to encourage discussion about how residents, travelers and local agencies can work together to in providing a transportation network that will suit the needs of all users by the year 2040. The vision is also meant to help define the larger land use and transportation principles that are keys to growing a more healthy and sustainable urbanized area.

Land use patterns, employment and population growth or decline, environmental priorities, population health, and trends in travel patterns are all likely to create different demands on the region's transportation system. The LRTP: *Sustainable Choices 2040* vision for the future attempts to take these projected changes, as well as public input and the results of the CUUATS statistical modelling suite, into consideration to present an overall vision for the region's transportation network. The vision is also broken out into two categories to make clear which transportation projects are illustrative and which already have reasonably guaranteed funding sources, also referred to as 'fiscally constrained.'

During the development of this vision, two separate future projections were modeled. The first is the Traditional Development 2040 scenario, which projects how and where development will occur between 2010 and 2040 based on historical development trends. The second is the Sustainable Choices 2040 scenario which projects how and where development will occur between 2010 and 2040 based on MAP-21 performance goals, the planning pillars outlined in Chapter 8, *Planning Pillars*, and public input received regarding future project priorities. Key differences between the Traditional Development 2040 and Sustainable Choices 2040 scenarios are the development of a high speed rail corridor to Chicago in the Sustainable Choices scenario around the year 2035, the locations and types of residential development projected, and the increase in employment in particular areas such as the Research Park, downtown Champaign, downtown Urbana, etc. In the Traditional Development 2040 scenario, the overwhelming majority of development is on the rural fringe of municipalities, while the Sustainable Choices 2040 scenario shifts a significant portion of the expected population growth to core areas of the community. The difference in the location of new residents means residential density is generally higher in the Sustainable Choices 2040 scenario.

The projects that make up the vision for this LRTP, *Sustainable Choices 2040,* are a result of modeling the impact of different projects, gathering public input regarding the project priorities in the region, and re-visiting the projects contained in the vision of the previous LRTP, *Choices 2035*.

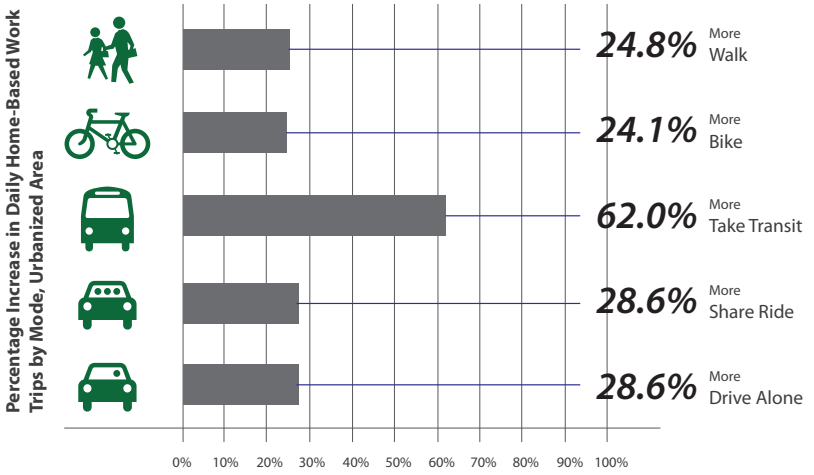
Statistical Modeling

The CUUATS modeling suite is designed to provide a holistic approach to planning analysis through the integration of localized transportation, land use, emission, social costs, accessiblity, mobility, and population health at the County level and at the local level in the Champaign-Urbana area. Each model addresses a specific area of concern at the necessary level of detail to make it appropriate for Champaign County or the Champaign-Urbana urbanized area. The synergy of the different models allows CUUATS planners to assess how different population changes and development patterns will impact the transportation system in the future. By quantifying the various impacts of potential transportation system changes, planners are able to compare different development scenarios as well as develop and track specific performance measures. Overall,

OVERALL, THE MODELS' RESULTS SHOW THAT THE INCREASED DENSITY OF THE SUSTAINABLE CHOICES 2040 SCENARIO REDUCES NEW INFRASTRUCTURE COSTS, SAVES ON RESOURCE USAGE, AND REDUCES PER CAPITA EMISSIONS.

the models' results show that the increased density of the Sustainable Choices 2040 scenario reduces new infrastructure costs, saves on resource usage, and reduces per capita emissions compared with the Traditional Development 2040 scenario (Table 12.1). For information about the different models and related inputs utilized in the development of the LRTP: *Sustainable Choices 2040* vision, see Chapter 11.

TABLE 12.1 MODE SHARE CHANGE IN SUSTAINABLE CHOICES 2040 SCENARIO



Source: CUUATS Travel Demand Model, see Chapter 11: *Modelling*, Table 11.2

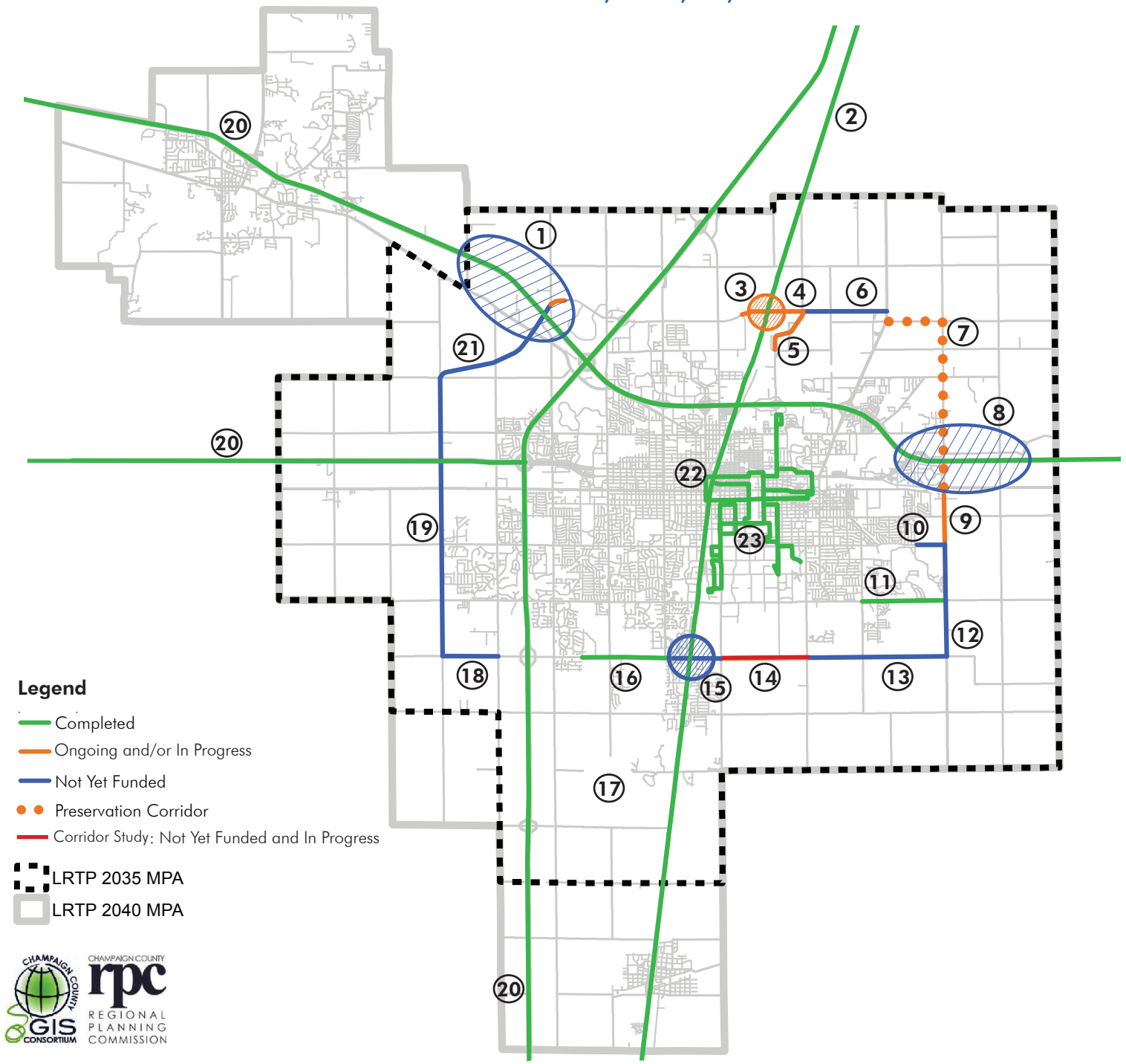
LRTP 2035

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 previous LRTP 2035 approved in 2009. In 2009, CUUATS staff created a vision including 23 roadway, transit, rail, and air projects, and a long list of pedestrian and bicycle network improvements. State and local agencies have made significant progress on the completion of the 2035 roadway vision for the future, which is shown in Figure 12.1 along with a status update on each project as of 2014. Since some of the regionally significant projects from the previous plan have not been funded or constructed as of 2014, and are still high priority projects after being evaluated with the CUUATS modeling suite, they remained as part of the vision for 2040, noted with 'Choices 2035' in the *Sustainable Choices 2040* Vision project lists. Projects which have not been completed but have guaranteed funding are included in the fiscally constrained projects lists and maps.

Agency Priorities and Public Priorities

In June 2014, CUUATS staff conducted public outreach at 11 different locations in the planning area. The focus of the June outreach was to have the public vote on which transportation projects they considered the most important over the 25 year planning horizon. Public participants were given a project list from which to choose priorities or add their own projects they thought were important to consider for future development. The project list contained project priorities provided by the Illinois Department of Transportation, the Cities of Champaign and Urbana, and the Villages of Savoy and Mahomet. The Villages of Tolono and Bondville did not submit any project priorities. The original poster listing all 42 projects that were voted on by the public can be found in Appendix A, as well as the voting tallies. The most popular 15 projects are included on the vision maps, noted with 'public choice' on the *Sustainable Choices 2040* vision project lists. Two of the public choice projects included in the 2040 vision are also projects that have been carried over from the previous LRTP: *Choices 2035* vision: a high speed rail corridor to Chicago, and an extension of Florida Avenue east to IL130/High Cross Road.

FIGURE 12.1 LRTP *CHOICES 2035*: ROADWAY, TRANSIT, RAIL, AND AIR VISION PROJECTS



STATUS UPDATE

LRTP Choices 2035: Roadway, Transit, Rail, and Air Projects

1. Possible interchange location along I-74 in west Champaign
   Not yet funded
2. Secure funding for preliminary High Speed Rail Corridor Study (completed 2013); next step is a Tier I Environmental Impact Study (EIS) (currently unfunded)
   Completed and **Ongoing**
3. Olympian Drive grade separation at CN tracks
   Funded and/or In progress
4. Olympian Drive extension from Apollo Drive to Lincoln Avenue
   Funded and/or In progress
5. Lincoln Avenue northern extension to Olympian Drive
   Funded and/or In progress
6. Olympian Drive from Lincoln Avenue to US 45
   Not yet funded
7. Preserve Rural character of northeast Urbana roadways
   Ongoing
8. Possible interchange location along I-74 in east Urbana
   Not yet funded
9. IL-130 (High Cross Road) widening with medians from University Avenue to Florida Avenue
   In progress
10. Florida Avenue extension to IL-130 (High Cross Road)
    Not yet funded
11. Windsor Road reconstruction between Philo Road and IL-130 (High Cross Road)
    Completed
12. IL-130 (High Cross Road) widening with medians from Florida Avenue to Curtis Road
    Not yet funded
13. Curtis Road improvements between IL-130 (High Cross Road) and Race Street
    Not yet funded
14. Curtis Road between Race Street and First Street, Corridor Study needed. Intergovernmental agreement adopted by Champaign, Urbana, and Savoy, but unexecuted by the University of Illinois
    Not yet funded and **In progress**
15. Curtis Road grade separation at US 45
    Not yet funded
16. Curtis Road improvements between Wesley Avenue and Wynstone Drive Increase enplanements at Willard
    Completed
17. Increase enplanements at Willard
    Not completed
18. Curtis Road improvements between Staley Road and Rising Road
    Not yet funded
19. Rising Road resurfacing, striping, and 6' shoulders between Curtis Road and Cardinal Road
    Not yet funded
20. Market Champaign-Urbana interstate highway connectivity to draw additional transit carriers
    Ongoing
21. Olympian Drive extension west of Duncan Road to Rising Road
    Not yet funded
22. Market Illinois Terminal as multi-modal hub
    Completed and **Ongoing**
23. Secure funding and implement Core Area Mobility Project
    Completed and **Ongoing**
24. (Not mapped) Transit service area coterminous with urbanized area
    Ongoing

SUSTAINABLE CHOICES 2040 VISION PROJECTS

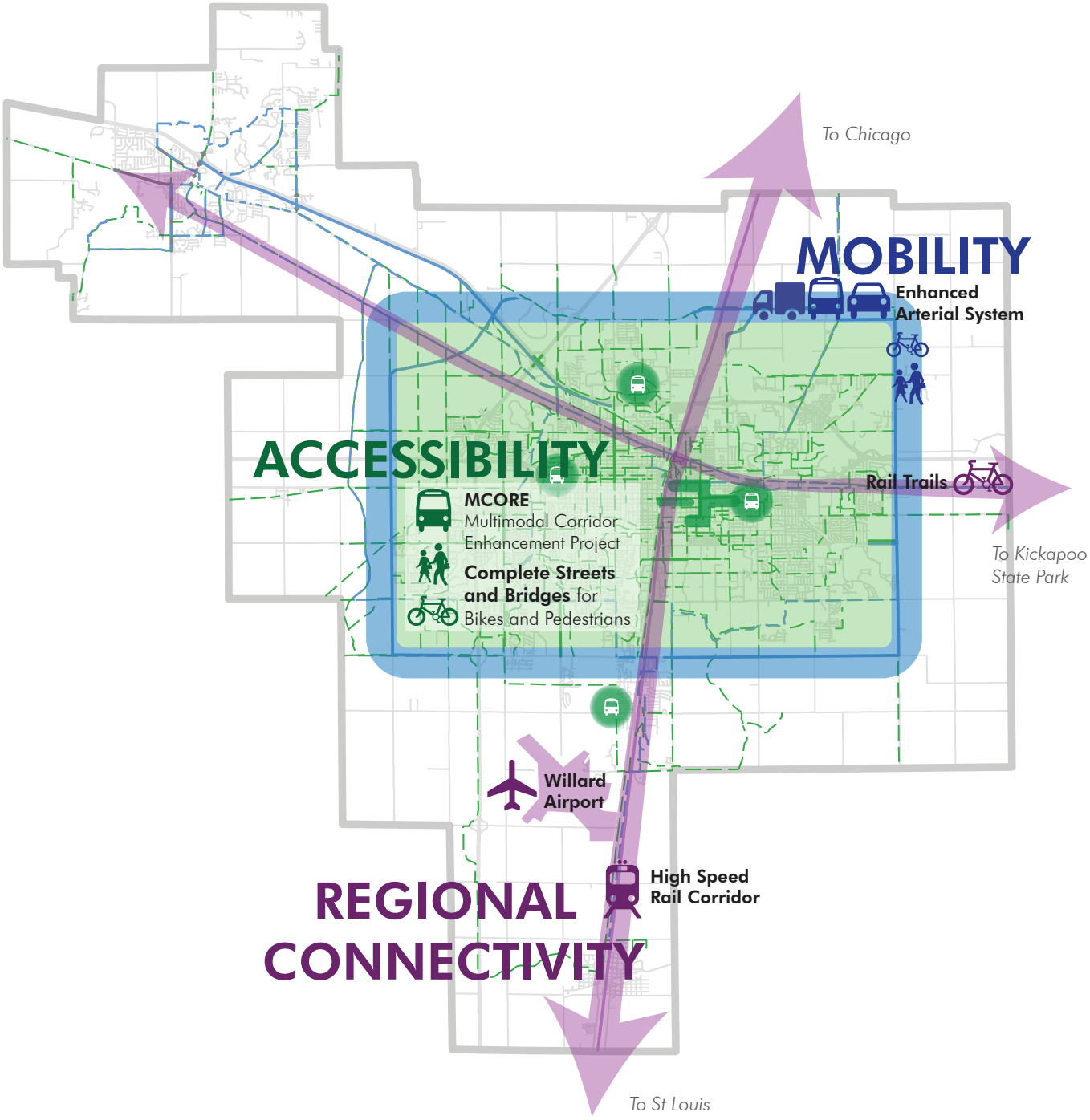
LRTP: *Sustainable Choices 2040* aims to accommodate projected population and employment growth by focusing urbanized area transportation investments on improving core **accessibility**, arterial **mobility**, and regional **connectivity**. A conceptual map of the overall transportation vision for 2040 is shown in Figure 12.2. In the core of the community - around the City of Champaign downtown, the City of Urbana downtown, and the University Avenue corridor connecting the downtowns and the campus - the vision emphasizes complete streets[1] to increase accessibility and safety for active modes of transportation: walking, biking, and transit. This includes improving connectivity for the sidewalk and bicycle networks and also increasing the coverage and frequency of public transit. In addition, mobility and safety can be increased by more efficiently serving some of the current automobile and freight traffic on an enhanced arterial network. The enhanced arterial network would be designed as complete streets to improve auto and freight mobility while also accommodating pedestrians, bikes, and transit. It would be connected to the core via main corridors and arterials such as Windsor Road, Florida Avenue, University Avenue, Bradley Avenue, Lincoln Avenue, Neil Street, Prospect Avenue, and Mattis Avenue. Regional connectivity is represented by the existing train corridors where the vision recommends higher Amtrak frequency and eventual installation of a separate high speed rail corridor. In addition, the map shows the rails-to-trails project connecting east to Kickapoo State Park and west to Bloomington, as well as vehicle access to Interstates 57, 72, and 74.

The vision's purpose is to encourage discussion about how residents, travelers, and local agencies can work together to provide a transportation network that will suit the needs of all users in the year 2040. The vision compliments and builds on existing local plans and priorities to help define larger land use and transportation principles that are keys to growing a more healthy and sustainable urbanized area.

Top: Proposed mixed-use project along University Avenue
Bottom: Proposed improvements at the intersection of Wright Street and University Avenue
Both renderings from the University Avenue Corridor Study by CCRPC and CBA, Inc., 2010

1 Complete Streets are streets designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. There is no singular design prescription for Complete Streets; each one is unique and responds to its community context (www.smartgrowthamerica.org).

FIGURE 12.2 LRTP *SUSTAINABLE CHOICES 2040*: CONCEPTUAL VISION MAP



SUSTAINABLE CHOICES 2040: BICYCLE AND PEDESTRIAN VISION

One important goal for the future transportation network is to increase mobility choices for all users. Increasing the use of facilities for active modes of transportation will reduce the number of automobiles on the roadway network, therefore reducing congestion, travel time, and greenhouse gas emissions. Increasing the number of biking and walking trips will also benefit the health of those travelers. 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 taking 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 *Sustainable Choices 2040* relies heavily on the successful implementation of several local plans: the Champaign Pedestrian Plan, Champaign Bicycle Vision, and Champaign Transportation Master Plan; Urbana's Bicycle Master Plan, Urbana Trails Plan; and the Champaign County Greenways & Trails Plan. These plans identify the future locations for bicycle and pedestrian facilities in the urbanized area. Figures 12.3 and 12.4 convey some of the plans for the Kickapoo Rail Trail, which is one of the many pedestrian and bicycle projects included in the 2040 vision. The pedestrian and bicycle vision map, Figure 12.5, shows existing bicycle and pedestrian facilities, as well as those facilities that are expected to be completed between 2015 to 2020. Projects are shown in the map under one of three categories: Completed, Under Construction, or Not Yet Completed. Due to the large quantity of projects, names and descriptions of the projects are included in the Appendix D and not labelled on the map.

Other elements making up the bicycle and pedestrian vision include:

Education
Educate all road users about road safety to facilitate better cooperation between modes. In addition, provide training opportunities for planners and engineers regarding facility design and standardized signage to promote an efficient and cohesive network.

Policy
Establish policies that promote coordination between the different agencies involved in recreational and transportation uses of area trails and bikeways.

Conservation
Take measures to ensure all paths are sustainably used and maintained so as to minimize any negative environmental impacts.

Maintenance
Establish best practices to keep all trails and bikeways in appropriate operating condition, during all seasons, for the health and safety of users.

Evaluation
Implement ongoing monitoring and evaluation of the trail and bikeway networks through data collection and stakeholder surveys to ensure the networks remains useful and enjoyable for area residents.

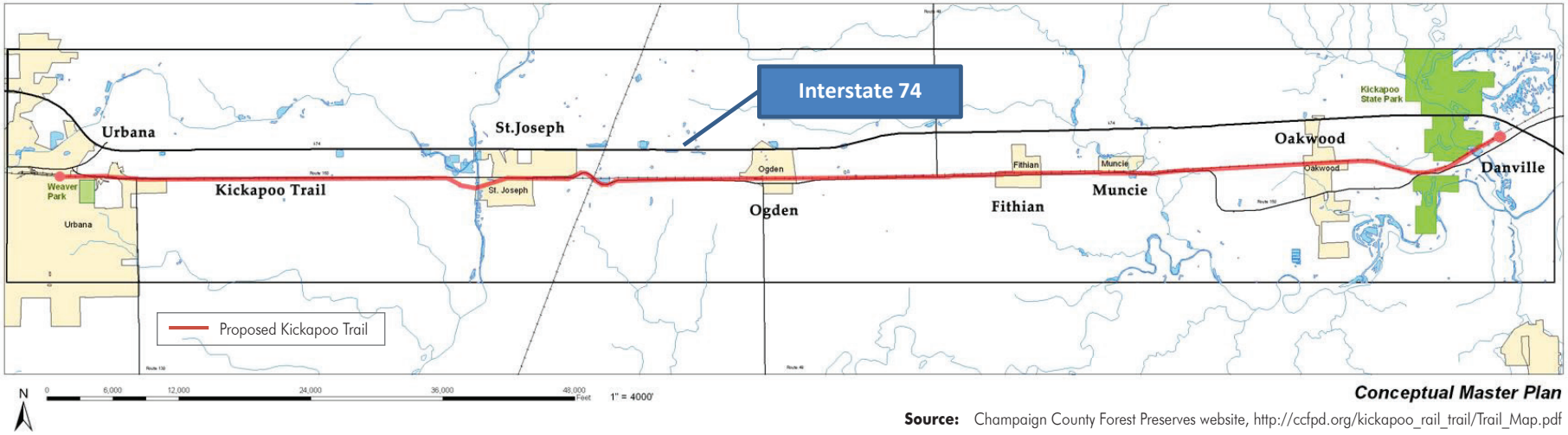
Encouragement
Promote and encourage the use of the local trail and bikeway networks to ensure residents understand the facilities and services they have access to, and the benefits of using them.

Enforcement
Work with local enforcement officers to assure public obedience of rules of the road and local agency regulations, coupled with education, to ensure safety for all roadway users.

FIGURE 12.3 KICKAPOO RAIL TRAIL FUTURE RENDERING FOR ST. JOESEPH MAIN STREET

Source: RATIO Architects

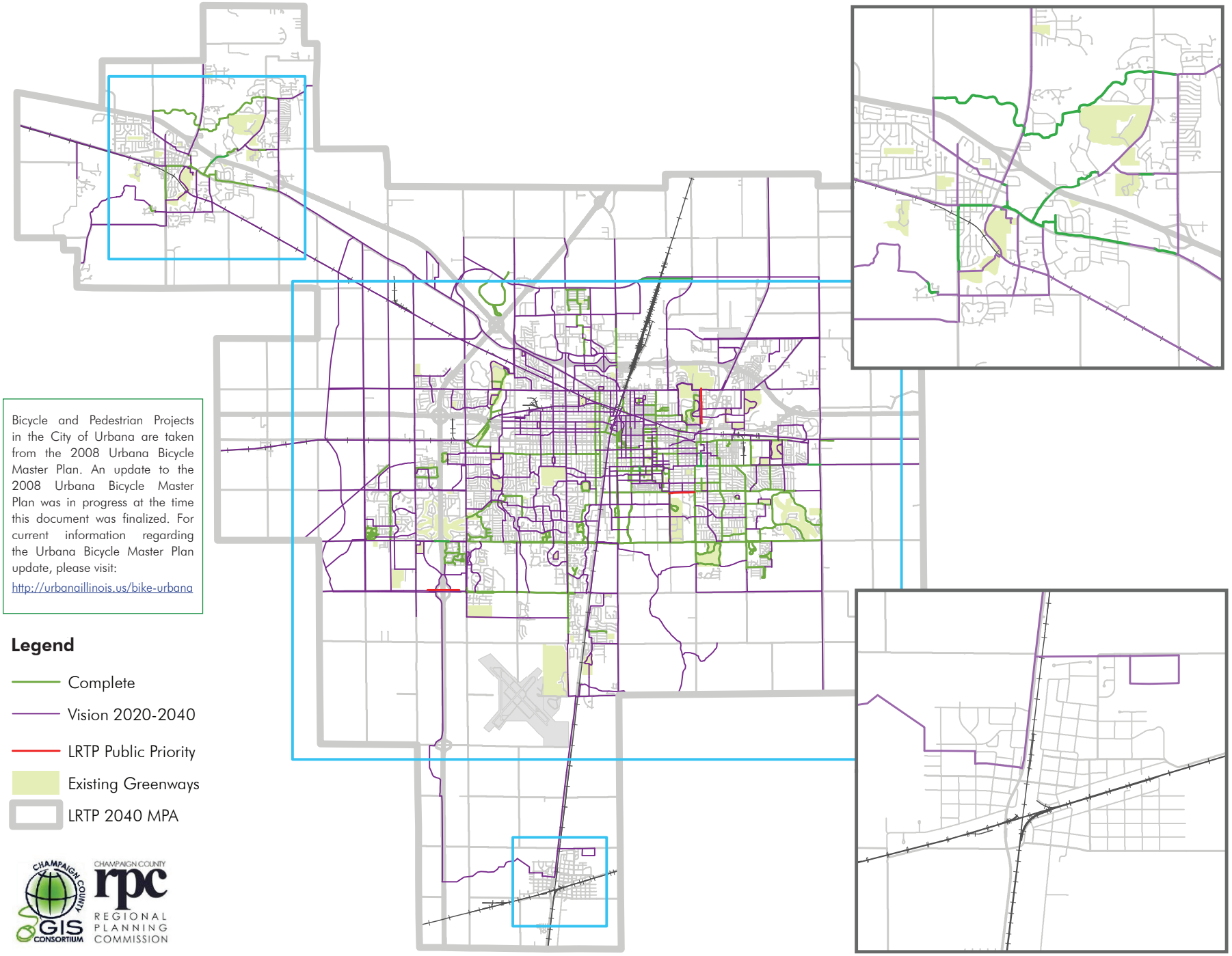
FIGURE 12.4 KICKAPOO RAIL TRAIL MAP



Conceptual Master Plan

Source: Champaign County Forest Preserves website, http://ccfpd.org/kickapoo_rail_trail/Trail_Map.pdf

FIGURE 12.5 *SUSTAINABLE CHOICES 2040*: BICYCLE AND PEDESTRIAN VISION PROJECTS



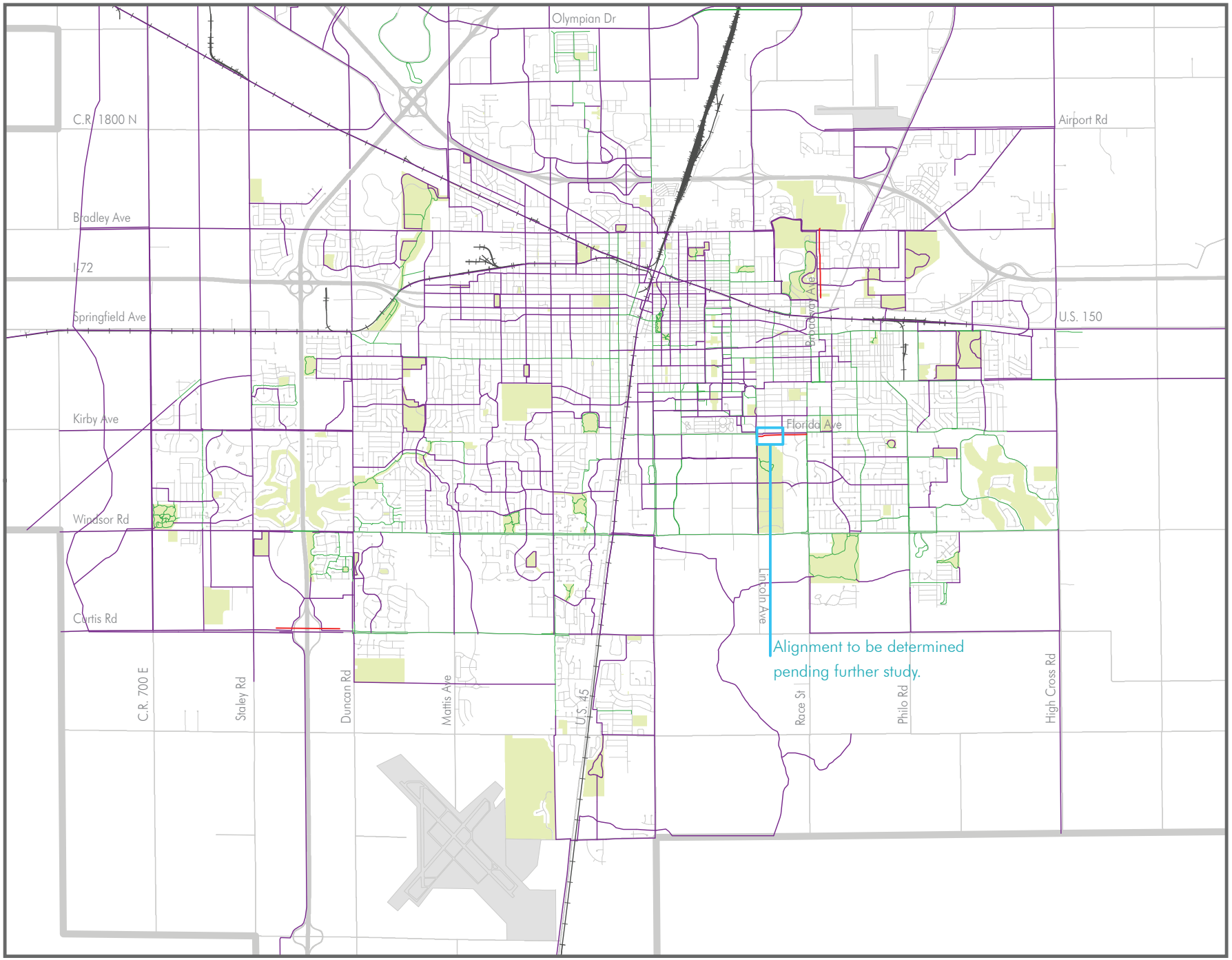
Bicycle and Pedestrian Projects in the City of Urbana are taken from the 2008 Urbana Bicycle Master Plan. An update to the 2008 Urbana Bicycle Master Plan was in progress at the time this document was finalized. For current information regarding the Urbana Bicycle Master Plan update, please visit:
http://urbanaillinois.us/bike-urbana

Legend

- Complete
- Vision 2020-2040
- LRTP Public Priority
- Existing Greenways
- LRTP 2040 MPA

CHAMPAIGN COUNTY GIS CONSORTIUM
CHAMPAIGN COUNTY rpc REGIONAL PLANNING COMMISSION

Champaign, Urbana, and Savoy (Detail)



SUSTAINABLE CHOICES 2040: TRANSIT, RAIL, AND AIR VISION

Shifting mode share away from personal vehicles requires a strong public transit system within the urbanized area, as well as efficient and affordable connections to other locations and regional centers outside the urbanized area. Local transit agencies, such as C-U 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 recommendations and some major projects that can help promote mode shift for these modes of transportation. The transit, rail, and air vision map is shown on the following page.

The project numbers are used only for the purpose of locating projects on the map, (Figure 12.10), and do not indicate level of priority.

1. ***High Speed Rail Corridor (Public Choice and Choices 2035):*** 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. The previous LRTP, *Choices 2035*, included a priority to have a preliminary corridor study funded. Now that is completed, *Sustainable Choices 2040* proposes to move forward with the next steps and start construction by 2035 (Figure 12.6).

2. ***Increase Amtrak Frequency:*** Amtrak ridership has grown significantly in the past decade, and the public has expressed appreciation for the access Amtrak provides to other regional centers. Increased frequency of Amtrak service through the Illinois Terminal would accommodate the increase in ridership and encourage additional riders with an expanded time table which would further reduce the number of vehicles using local roadways and interstates.

3. ***Multimodal Corridor Enhancement Project (Choices 2035 and MCORE):*** In 2009, C-U MTD instituted high capacity transit routes to serve the core of the urbanized area where greater transit frequency was needed. To enhance what has already been implemented, C-U MTD was recently awarded a TIGER grant to implement an upgraded multi-modal network of roads, on-street bike lanes, shared lane markings, bus-only lanes, and other transit services on sections of White St, Green St, Armory Ave, and Wright St, (see Figures 12.7-12.9 for proposed cross-sections).

4. ***Transit Hubs:*** To accommodate increased ridership while increasing service efficiency, C-U MTD could implement small satellite terminals or mini transit hubs in strategic locations in the community (see map) with feeder buses to more efficiently service the surrrounding neighborhoods.

5. ***C-U MTD Service Area (Choices 2035):*** It is important for C-U 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, particularly for developments that may house student populations or households that cannot afford the expenses of owning a car.

6. ***Illinois Terminal Expansion (Choices 2035):*** As a multi-modal hub connecting local public transit, intercity transit, and passenger rail, the Illinois Terminal is at capacity for the regional services it provides. The terminal could be expanded to include additional capacity for services as well as provide additional commercial or professional space for terminal users and downtown Champaign. Expansion would likely be inevitable in the event of a future high speed rail stop at the Terminal.

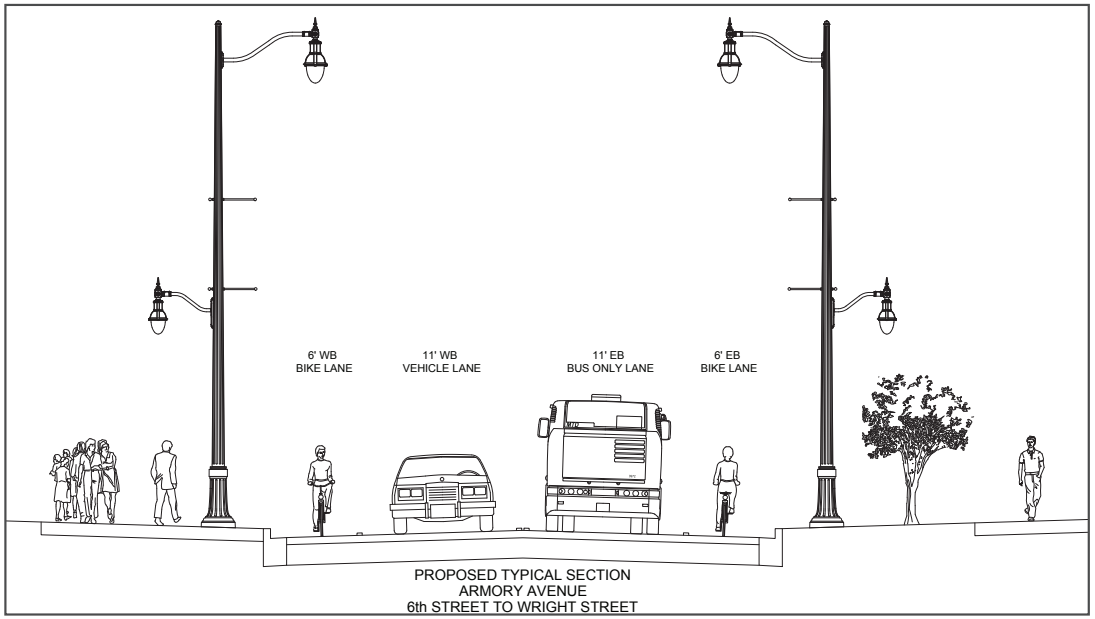
7. ***Willard Airport:*** Vision pending Willard Airport Taskforce findings.

FIGURE 12.6 PROPOSED MIDWEST HIGH SPEED RAIL NETWORK AROUND CHICAGO

Source: *The Economic Impacts of High Speed Rail: Transforming the Midwest*, Midwest High Speed Rail Association, 2011

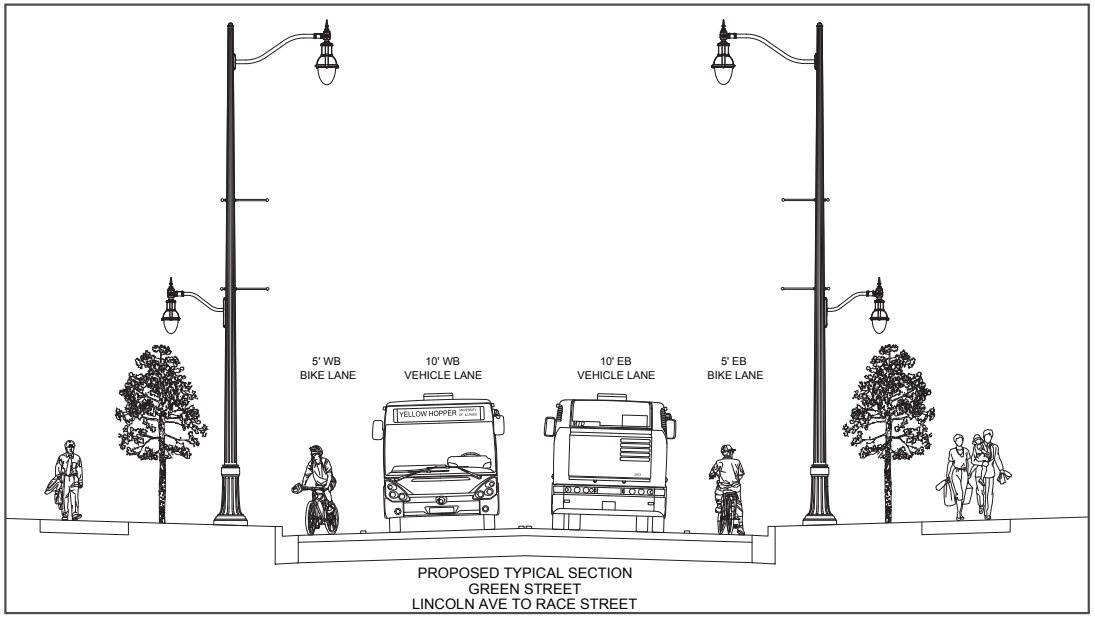
* Approximate travel time from the *220 MPH High Speed Rail Preliminary Feasibility Study,* University of Illinois at Urbana-Champaign and University of Illinois at chicago, 2013

FIGURE 12.7 MCORE: PROPOSED SECTION, ARMORY AVENUE FROM 6TH STREET TO WRIGHT STREET



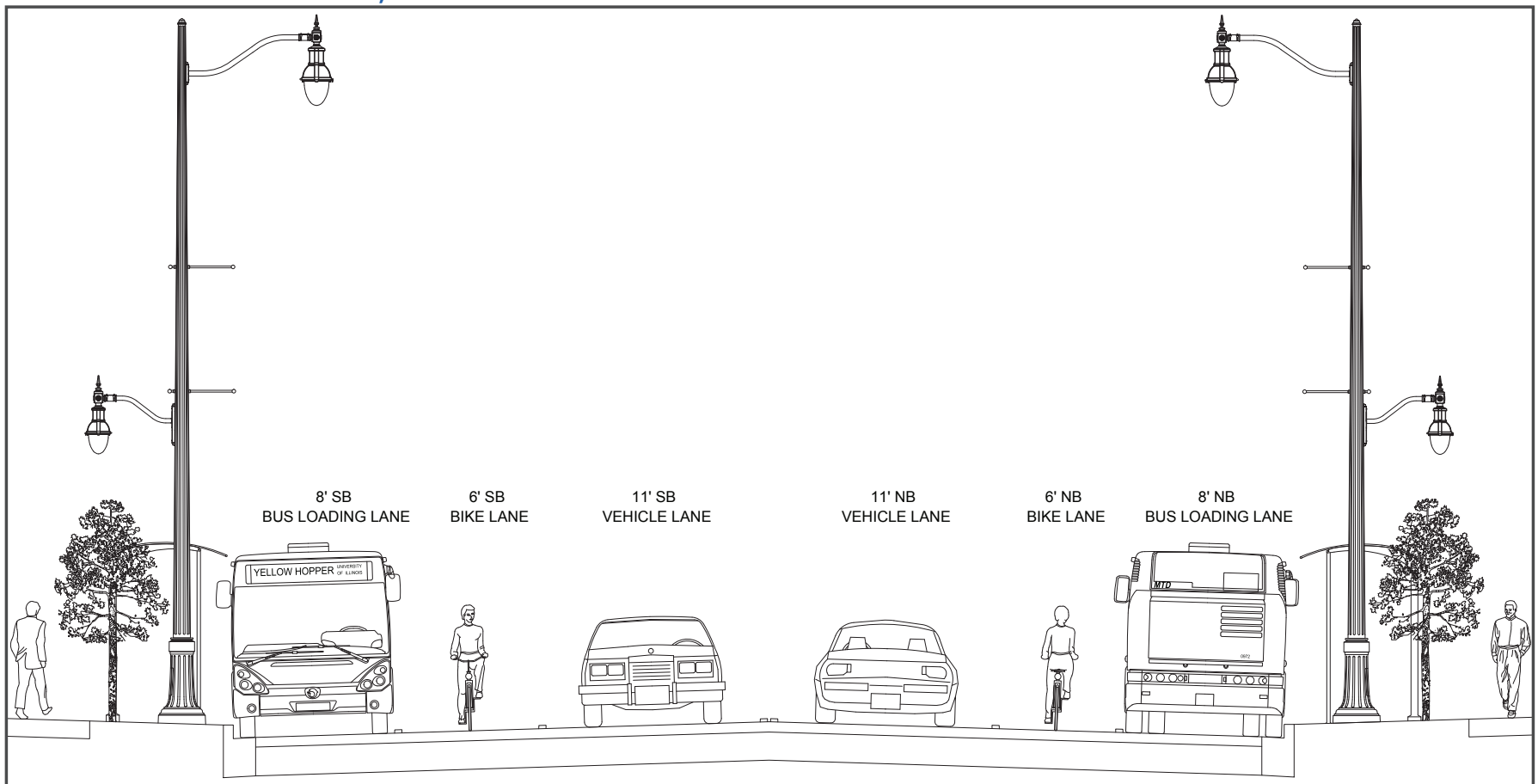
Source: Champaign-Urbana Multimodal Corridor Enhancement Project, TIGER grant plan sheets, FOTH, 2014

FIGURE 12.8 MCORE: PROPOSED SECTION, GREEN STREET FROM LINCOLN AVENUE TO RACE STREET



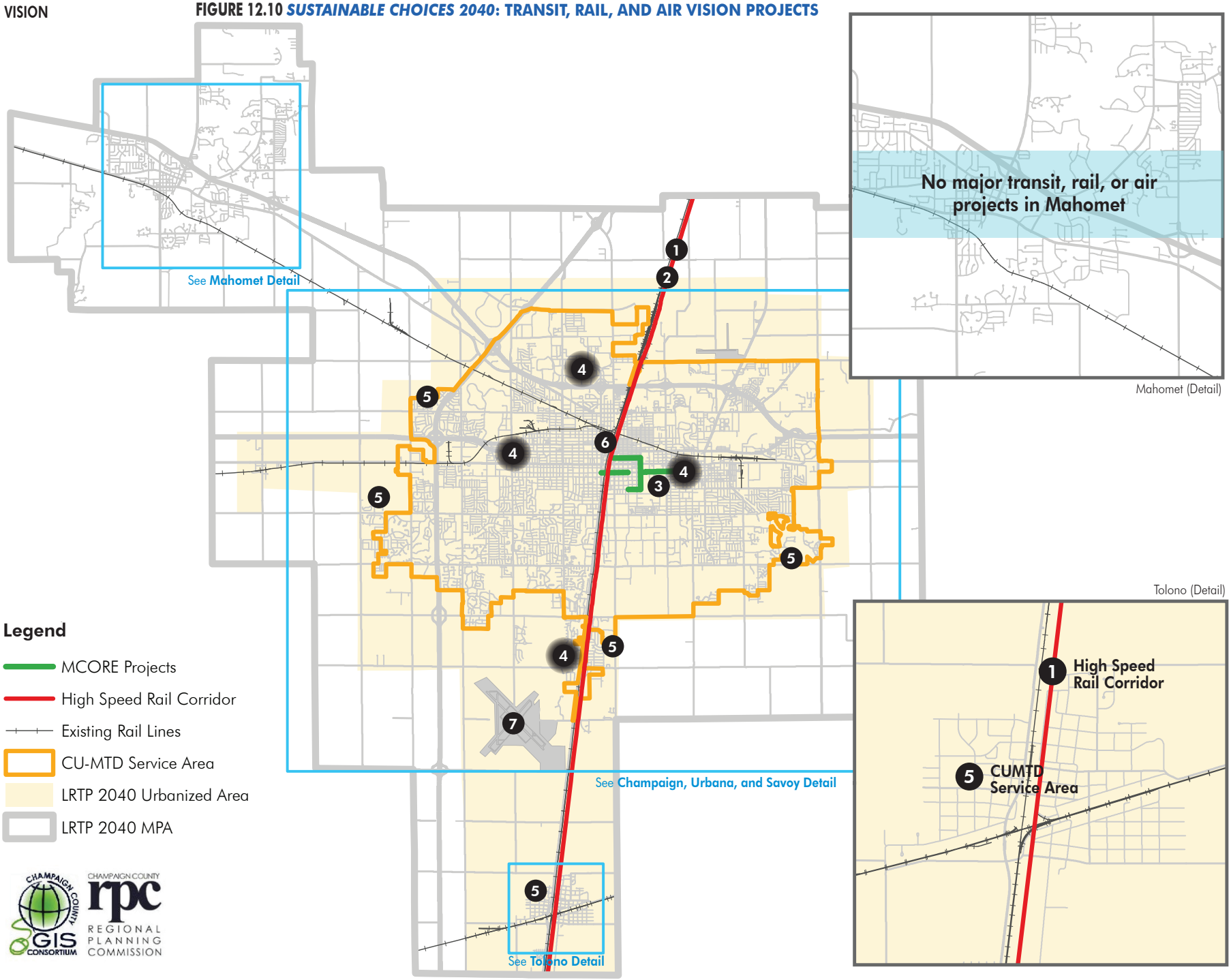
Source: Champaign-Urbana Multimodal Corridor Enhancement Project, TIGER grant plan sheets, FOTH, 2014

FIGURE 12.9 MCORE: PROPOSED SECTION, WRIGHT STREET FROM HEALEY STREET TO SPRINGFIELD AVENUE

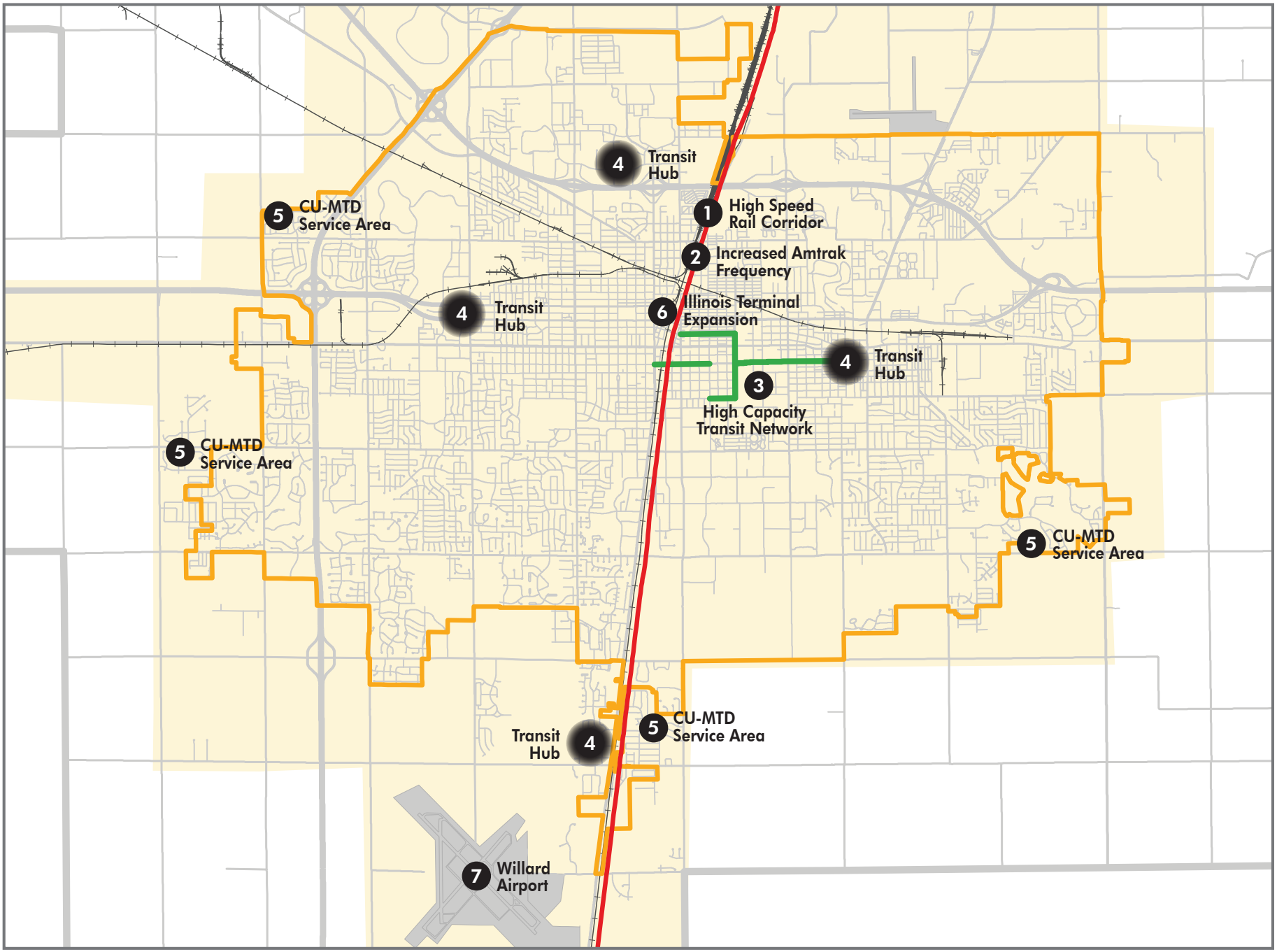


Source: Champaign-Urbana Multimodal Corridor Enhancement Project, TIGER grant plan sheets, FOTH, 2014

FIGURE 12.10 *SUSTAINABLE CHOICES 2040*: TRANSIT, RAIL, AND AIR VISION PROJECTS



Champaign, Urbana, and Savoy (Detail)



SUSTAINABLE CHOICES 2040: ROADWAY VISION

The projects and ideas that make up the visions for *Sustainable Choices 2040* contain illustrative projects for which funding has not yet been identified. 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. If the proposed roadway projects are implemented by the year 2040, 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 following information details the various projects that comprise the regional roadway vision for 2040. The Village of Mahomet is in the process of reviewing and approving a transportation plan with a horizon year of 2040. Projects 25-29 have been taken from the Village of Mahomet draft transportation plan.

Figures 12.11 and 12.12 show renderings of future conditions for the complete street reconstruction referenced in project numbers 3 and 13 on Rising Road and Bradley Avenue, respectively. The Rising Road rendering of a potential future redesign comes from the Staley/Rising Road Corridor Study written by CUUATS staff and approved in 2009. The Bradley Avenue rendering of a potential redesign of the I-57 overpass was done by CUUATS staff in 2014 based on the 2014 redesign of a similar overpass over I-57 on Windsor Road in Champaign. The regional roadway vision for 2040 can be seen in Figure 12.13.

The project numbers are used only for the purpose of locating projects on the map, (Figure 12.13), and do not indicate level of priority.

1. ***Possible interchange location along I-74 in West Champaign (Choices 2035):*** This project would provide funding for the completion of a new interchange west of Champaign along I-74, west of the existing I-74/I-57 interchange.

2. ***Olympian Drive east of Duncan Road to Rising Road (Choices 2035):*** This project is the western segment of the Olympian Drive improvements between Apollo Drive and Duncan Road. This extension will continue Olympian Drive west over I-74 and connect it with Rising Road in northwest Champaign.

3. ***Rising Road improvements from Cardinal Road to Curtis Road (Choices 2035)***: Rising Road needs to be improved to include shoulders for bicyclists and pedestrian facilities as part of the enhanced arterial system connecting to Olympian Drive on the north and Curtis Road on the south of the urbanized area (Figure 12.11). In anticipation of possible improvement needs, the City of Champaign and CUUATS' Technical and Policy Committees approved a right-of-way reservation resolution reserving 150' of right-of-way along Rising Road.

4. ***Curtis Road improvements between Staley Road and Rising Road (Choices 2035):*** The remaining section of Curtis Road, between Staley Road and Rising Road, is proposed to be upgraded to improve safety with multi-use trails on both sides of the roadway.

5. ***Curtis Road grade separation at US 45 (Choices 2035):*** 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 improvement will also compliment other recent and proposed Curtis Road improvements.

FIGURE 12.11 RENDERING: RISING ROAD SOUTH OF SPRINGFIELD AVENUE (#3)

Source: Staley/Rising Road Corridor Study: Plan Recommendations, Figure 3.5

6. ***Curtis Road Corridor Study between First Street and IL-130 (Choices 2035):*** This section is proposed for a Corridor Planning Study to determine a context-sensitive design that will increase safety for all road users while remaining compatible with adjacent land uses.

7. ***IL-130/High Cross Road widening with medians from Florida Avenue to Curtis Road (Choices 2035):*** This project involves reconstructing the segment of IL 130 between Florida Avenue and Curtis Road. No specific road design is being proposed at this time. The section of IL 130 from University Avenue to Windsor Road is currently being reconstructed as a four-lane section with medians.

8. ***Florida Avenue extension to IL-130/High Cross Road (Choices 2035 and Public Choice):*** Florida Avenue does not currently intersect with IL-130 forcing traffic to use other east/west roadways such as Washington Street or Windsor Road for access to IL-130. Extending Florida Avenue will provide a more efficient connection for all modes. Adjacent development will assist in funding this extension.

9. ***Possible interchange location with I-74 in East Urbana (Choices 2035):*** This project would provide funding for the completion of a new interchange just east of Urbana along I-74.

10. ***Preservation of rural roadway character (Choices 2035):*** IL-130/High Cross Road Corridor Study recommendations for High Cross Road between University Avenue north to Olympian Road and for Olympian Road between High Cross Road and US 45 include repaving and adding wider paved shoulders to accommodate bicyclists while still preserving the rural character of the area.

11. ***Olympian Drive extension from Lincoln Avenue to US 45 (Choices 2035):*** This portion of Olympian Drive is proposed as a four-lane section with off-street bike and pedestrian facilities. The section of Olympian Drive between Apollo Drive and Lincoln Avenue has received federal and state funding for engineering and construction, but the remaining portion from Lincoln Avenue to US 45 hasn't received funding.

12. ***I-57/I-74 interchange reconstruction (Public Choice):*** This project would replace the clover-leaf interchange (which are no longer compliant with modern safety standards) with an upgraded interchange. A redesign option has been selected by IDOT and approved by the Federal Highway Administration (FHWA).

13. ***Bradley Avenue over I-57 structure replacement (Public Choice):*** This project proposes replacing this structure as a complete street to include bike and pedestrian facilities to increase safety (Figure 12.12).

14. ***Prospect Avenue congestion mitigation from Springfield Avenue to Bradley Avenue (Public Choice):*** This section of Prospect Avenue emerged as a weakness in the transportation system during the LRTP public outreach. People complained about congestion and/or access for all modes of travel in this area.

15. ***IL 10/Springfield Avenue and Mattis Avenue intersection safety improvements (Public Choice):*** This is a large intersection with high traffic volumes and a high number of crashes relative to other intersections in the urbanized area. This project proposes implementing intersection improvements targeted at improving automobile traffic flow and safety conditions for all modes. A study needs to be completed to determine the type of improvements needed.

FIGURE 12.12 RENDERING: BRADLEY AVENUE OVER I-57 (#13)

Source: CUUATS

16. ***Duncan Road complete street widening from Springfield Avenue to Kirby Avenue (Public Choice):*** Significant residential growth has taken place along and around Duncan Road between Springfield Avenue and Kirby Avenue creating higher traffic volumes than in the past. This project would improve Duncan Road to include bike and pedestrian facilities (complete street) and possibly additional automobile lanes.

17. ***Kirby Avenue over I-57 structure replacement (Public Choice):*** This project proposes replacing this structure as a complete street to include bike and pedestrian facilities to increase safety.

18. ***Windsor Road complete street widening from Mattis Avenue to Duncan Road (Public Choice):*** This section of Windsor Road narrows from four lanes to two lanes west of Mattis Avenue. This project would widen Windsor Road to include bike and pedestrian facilities (complete street) and possible additional vehicle lanes.

19. ***Mattis Avenue complete street widening from Windsor Road to Curtis Road (Public Choice):*** This section of Mattis Avenue currently narrows to two lanes south of Windsor Road. This proposed project would widen Mattis Avenue to include bike and pedestrian facilities (complete street) and possible additional vehicle lanes.

20. ***St Mary's Road complete street resurfacing and road diet from Neil Street to Fourth Street (Public Choice):*** This project would upgrade St. Mary's Road to include facilities for all modes including installing bike lanes and sidewalks where there aren't any currently.

21. - 24. ***Complete street reconstruction for Green Street from Neil Street to Fourth Street and Wright Street to Race Street; White Street from Second Street to Wright Street; Wright Street from White Street to Armory Avenue; and Armory Avenue from Wright Street to Fourth Street, (MCORE):*** In 2009, CU-MTD instituted high capacity transit routes to serve the core of the urbanized area where greater transit frequency was needed. To enhance what has already been implemented, CU-MTD was awarded a federal TIGER grant in 2014 to implement an upgraded multi-modal network of roads including on-street bike lanes, shared lane markings, bus-only lanes, and other transit services.

25. ***IL 47 Improvements (Mahomet):*** Separate turn lanes at I-74, Franklin Street, Main Street, and US 150.

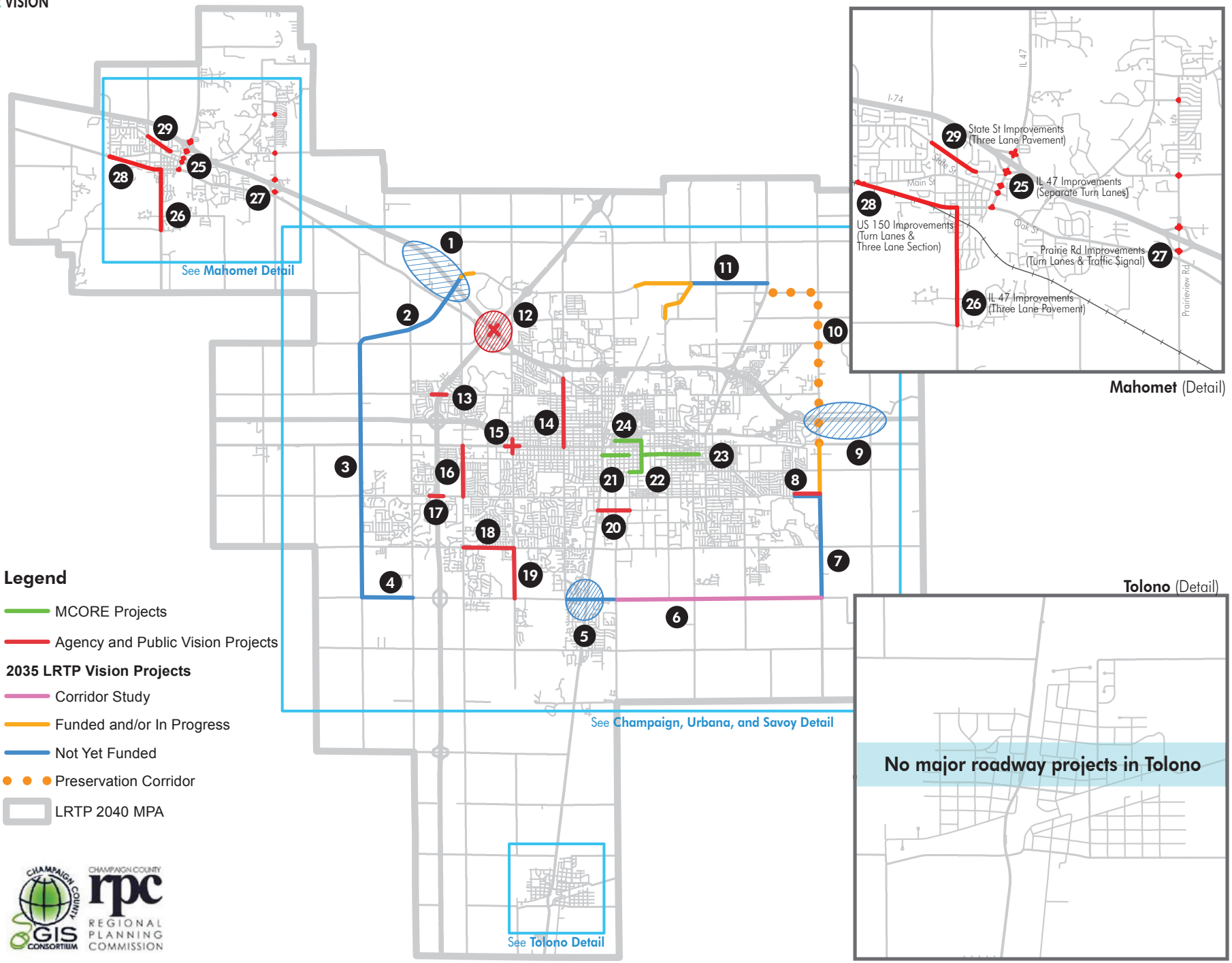
26. ***IL 47 Improvements (Mahomet):*** Complete the three-lane pavement section on IL 47/Division Street from US 150 to Mid-American Road.

27. ***Prairie Road Improvements (Mahomet):*** Separate turn lanes at Golf Drive and Tin Cup Drive. Improve I-74 exit ramps.

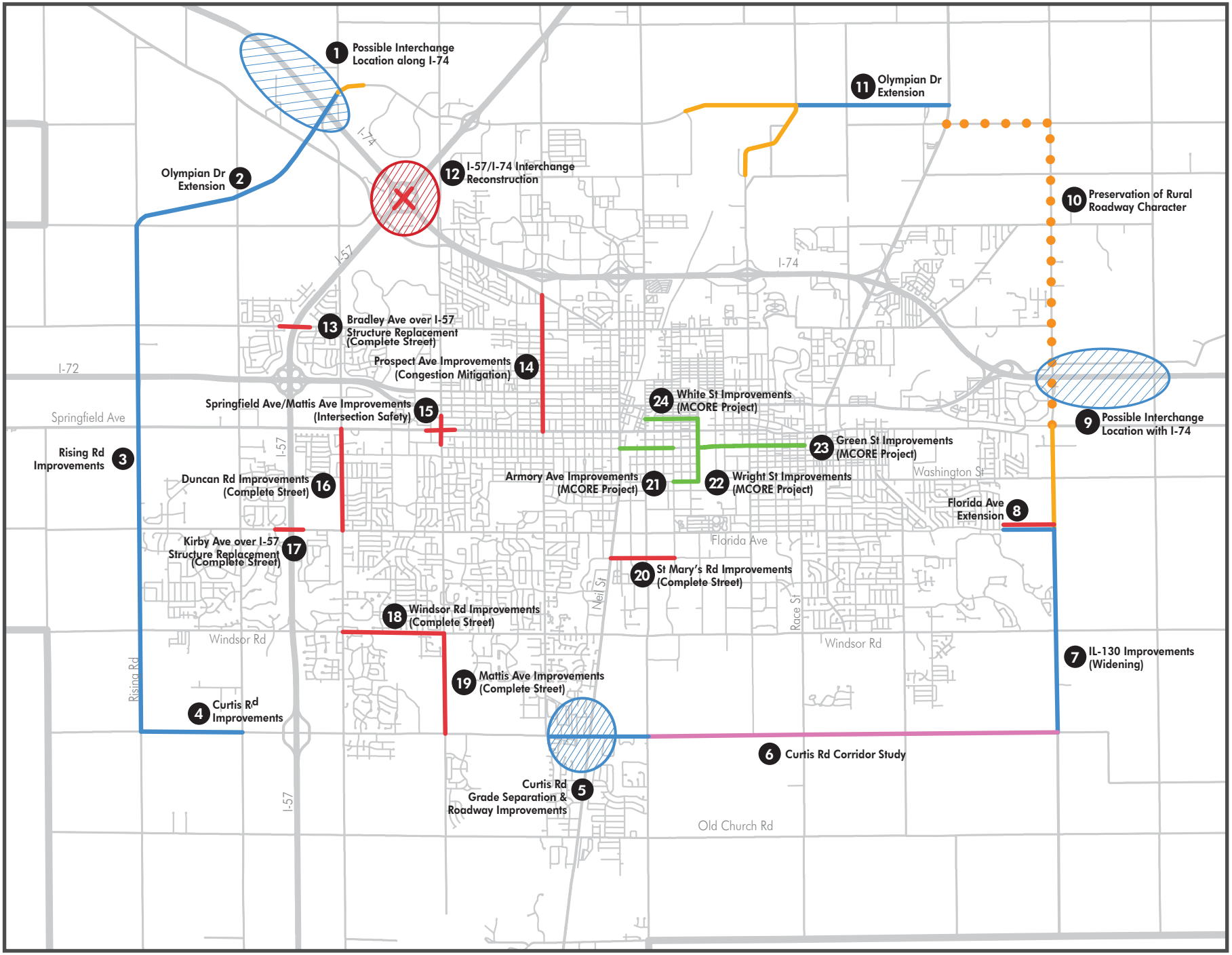
28. ***US 150 Improvements (Mahomet):*** Turn lanes at Turkey Farm Road and Main Street. Complete three lane section from Turkey Farm Road to IL 47/Division Street. Realign the intersections of Main Street with US 150 and State Street with Franklin Street.

29. ***State Street Improvements (Mahomet):*** Provide three lanes on State Street from Crowley Road to Franklin Street.

FIGURE 12.13 *SUSTAINABLE CHOICES 2040*: ROADWAY VISION PROJECTS



Champaign, Urbana, and Savoy (Detail)



13 2040 Vision FUNDING

FUNDING

The 25-year vision for the urbanized area transportation system is defined, in part, by how much money there is to fund the infrastructure projects needed to realize it. Ideally, the ability of the long range transportation planning process to identify collective transportation goals (Chapter 8) for the future will allow the individual jurisdictions within the planning area to maximize their limited public resources by working together to accomplish these goals. This chapter will detail existing revenue sources and expenditures for the transportation system as well as document how staff and local agencies projected revenues for the 25-year planning horizon.

Predicting future revenues is a somewhat elusive exercise, especially given the recent economic recession affecting our region, the State of Illinois, and the nation as a whole. By federal law, the LRTP must include lists of future transportation investments within the urbanized area that are "fiscally constrained," which means that they have reasonably guaranteed funding sources. 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)

In order to address this requirement, this chapter will focus exclusively on the projects, agencies, and federal funding sources that directly impact the transportation system in the urbanized area despite the fact that the metropolitan planning area includes additional land and an entire municipality (The Village of Mahomet) outside the urbanized area. The Village of Mahomet and other non-urbanized land that falls within the MPA boundaries receive separate transportation funding specifically designated for non-urbanized areas.

There are two basic categories for transportation spending:

1. Operations and Maintenance – keeping the existing transportation infrastructure in good operational standing through resurfacing, reconstruction, and repairing as periodically needed

2. Expansion – creating new transportation infrastructure to increase access for additional transportation modes or for all modes to additional locations.

Securing funding for expansion projects also means the need to increase the operations and maintenance budget to accommodate the ongoing upkeep of additional transportation infrastructure. In order to effectively choose where and how roadways are resurfaced, upgraded, or expanded it is important to use asset management practices, such as life cycle cost analyses, to maximize transportation funding resources, including taxpayer dollars.

REVENUES

Federal

On July 6, 2012, President Obama signed into law the current federal transportation legislation, Moving Ahead for Progress in the 21st Century (MAP-21), to support the maintenance of the country's existing transportation infrastructure and guide future growth and development of the transportation network. The Federal Highway Administration works with local stakeholders to ensure that individual communities are able to both maintain and construct safe, multimodal, sustainable transportation projects ranging from passenger rail and public transportation infrastructure to bicycle and pedestrian facilities.

Federal transportation grants require different levels of local matching funds, ranging from 10% to 50%. The five main funding sources currently available through MAP-21 are as follows:

- National Highway Performance Program - NHPP
- Surface Transportation Program - STP(U), STP(R)
- Congestion Mitigation and Air Quality Improvement Program - CMAQ
- Metropolitan Planning Program - MPP
- Highway Safety Improvement Program - HSIP

State

The Illinois Department of Transportation (IDOT) receives funding from the state to maintain its highways and is also charged with distributing federal funding from the aforementioned MAP-21 Programs to the state Metropolitan Planning Organizations (MPO). 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 an MPO member agency or outside source such as a private party.

IDOT also collects revenues at the state level and disperses transportation funding for expansion and improvement projects; these funds also require a minimum 20% local match. For example, 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.

In 2009 Governor Quinn implemented the Illinois Jobs Now! (IJN) Program, which provides funds for transportation infrastructure that supports economic development opportunities. Area municipalities have benefitted from these additional funds for a variety of projects. However, since fiscal year 2015 will be the last year IJN funding will be awarded, they do not constitute any impact on future budget considerations.

The Illinois Department of Natural Resources (IDNR) also provides funds for greenways and trails projects with a required local match. Many local bike paths and trails have been funded, in part, by IDNR.

Local

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

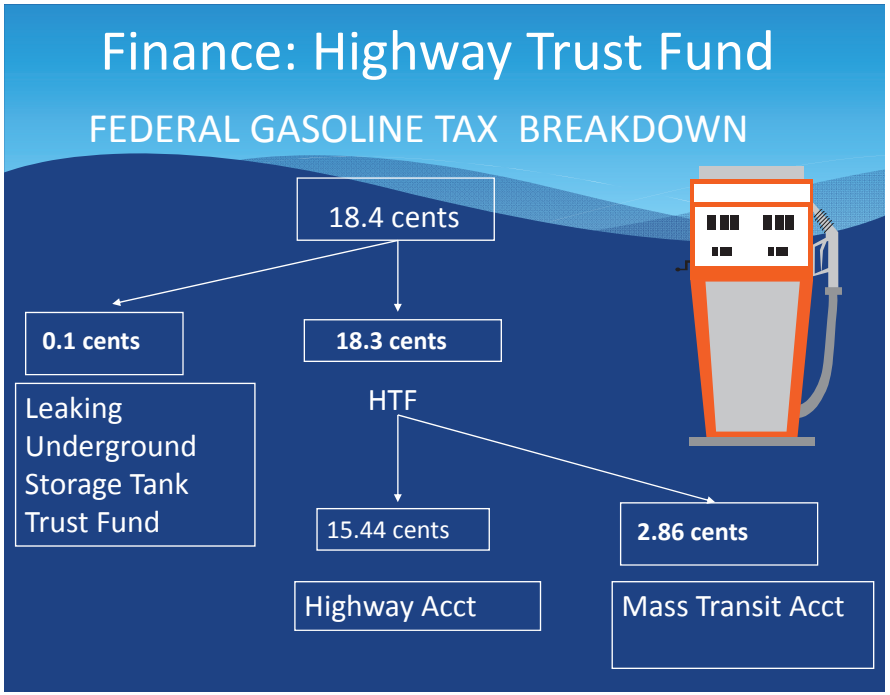
FORECASTING REVENUES

CUUATS staff 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. As with most projections about the future, uncertainty increases as they move farther out in the planning horizon. Funding for transportation projects is complex at all levels of planning and government. The funding projections shown in this chapter are based on five-year averages from years 2010 to 2015, as well as future growth rates provided by the different agencies involved.

One of the most pressing funding uncertainties has to do with the current Motor Fuel Tax (MFT) revenue system that provides much of the transportation funding at the local level as well as the state and federal levels. The Motor Fuel Tax is type of user-based fee wherein an excise tax is imposed on the sale of motor fuel in order to fund transportation system maintenance and improvements for motor vehicles. The federal motor fuel tax of $0.184/gallon has not been increased to keep up with inflation or increasing construction costs since 1993. In addition, the number of US residents driving has been steadily decreasing over the past decade, which means MFT revenues have been gradually decreasing as well. The environmental benefits of increasing fuel efficiency in motor vehicles has also proven detrimental to the MFT revenue stream in that drivers are no longer required to contribute MFT dollars at the same levels as they did in the past since they can operate their vehicles on increasingly smaller amounts of fuel.

To begin to address these funding shortfalls, both the Cities of Champaign and Urbana have imposed an additional $0.04/gallon Motor Fuel Tax at the local level, but the decrease in overall revenues continues to grow.

There are many different strategies being tested around the country to address this funding predicament, including mileage based user fees, local sales taxes, public-private partnerships, infrastructure banks, short-term federal discretionary grants, and additional toll roads. It is unknown at this time if any of these revenue sources will replace MFT revenues at the local, state, and/or federal levels.



Source: Federal Highway Administration

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 2015-2018 Transportation Improvement Program (TIP). The four-year anticipated funding level was $24,871,800.
2. In order to determine the remaining 21 years of federal funding, an average was taken of the previous five years' (FY 2010 through FY 2014) federal funding allocations. A 4% annual inflation rate was applied to funding each year over the 21-year period. The 21-year estimate for federal funding, not including the STP-U Local and transit apportionment, would be $281,629,131.
3. STP-U Local funding was calculated by multiplying the FY 2014 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 $49,898,421.
4. The Champaign-Urbana Mass Transit District estimates there will be $90,000,000 available in the next 25 years through FTA Formula Capital funds, which are used for fleet expansion and replacement.

Total for all Federal programs: $446,399,353

State

The forecast for future state funding is composed of three steps: total annual state-only funds allocated for projects in the FY 2015-2018 TIP, projected state-only funds available for FY 19-40 based on the FY10-14 average, and total annual funds allocated for projects in the TIP FY 15-18 by the Illinois Department of Natural Resources.

1. Total state-only funds allocated for projects in the FY 2015-2018 is $12,771,250.
2. To estimate state funds allocated for the subsequent horizon years, an average was taken for operations/maintenance funds projects from FY2010-2014, then multiplied by 21 with a 4% annual inflation. (Since Illinois Jobs Now! (IJN) was a temporary funding program that expires in FY2015, IJN funds were excluded from the FY2010-14 average). The estimated 21-year state funding, not include IJN funding, would be $154,597,944.
3. Funding from the Illinois Department of Natural Resources is not a fixed part of the annual budget; rather, it is based on the approval of intermittent grant applications. The only reasonably guaranteed funding from this source is that which would be listed in the current TIP. At this time, estimated IDNR funding is $30,000 from FY2015-40.

Total for all State programs: $167,399,194

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, the FY 2015-2018 TIP was used to estimate the first four fiscal years. For fiscal years 2019 through 2040, 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. Municipal staff also provided yearly growth rates.

- An annual growth rate of 1% was applied to funding for the City of Champaign between 2019-2040 for an estimated total of: $233,426,138
- An annual growth rate of 0% was applied to the operations and maintenance funding for the City of Urbana from 2019-2040 for an estimated total of: $59,800,000
- An annual growth rate of .6% was applied to overall transportation funding revenues for the Village of Savoy for an estimated total of: $36,441,100
- The Village of Tolono does not have any official long-range plan for transportation project funding. However, $72,000 is listed for annual street maintenance in the FY2015-2018 TIP. CUUATS staff took the FY 2015 budget and multiplied it by 25 to project the possible 25 year funding total if funding remains at its current level for an estimated total of: $1,800,000
- The Village of Bondville does not have any official long-range plan for transportation project funding. No reasonably guaranteed funding is anticipated from this municipality.

The projected total future revenues for the 25-year planning horizon available for the City of Champaign, City of Urbana, Village of Savoy, and Village of Tolono are $329,667,238.

Champaign County contributions within the urbanized area are on a project-by-project basis. Only those projects that have established agreements with the County for urbanized area transportation projects, as documented in the FY 2015-2018 TIP can be considered reasonably guaranteed. At this time, estimated funding from the County is $1,100,000 for the 25-year planning horizon.

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 $977,900,000 in revenues that will fully cover operations and maintenance for the 25-year planning horizon. CU-MTD staff applied an average annual growth rate of 0% over the next 25 years.

The University of Illinois has no reasonably guaranteed funds for transportation improvements or maintenance with the exception of what is listed in the FY 2015-2018 TIP. Estimated funding from this source based on the TIP is $740,000.

The University-owned Willard Airport in Savoy reported $2,500,000 in revenues for FY 2015. Staff at the University was unable to provide a formal projection to the year 2040 due to the uncertainty of airline travel and airline funding in the future. CUUATS staff took the FY 2015 budget and multiplied it by 25 to estimate funding for the planning horizon if current funding remains the same for an estimated total of: $62,500,000.

Another source of local funding for transportation projects is private sources. The only reasonably guaranteed monies from this source are found in the FY 2015-2018 TIP, where there are currently no projects that will be partially or fully financed with private funds.

Total for all Local programs: $1,373,707,238

To operate, maintain, and expand our local area transportation network, total revenues have been estimated to be $1,987,505,785 between the years 2015 and 2040. Table 13.1 shows the budget summary for each agency.

TABLE 13.1 FUTURE FUNDING PROJECTIONS

Agency/Fund Type	Revenues	Expenditures	Balance
Federal Total	$446,399,353	$122,021,800	$324,377,552
Transit *	$90,000,000	$90,000,000	$0
STP-U	$49,898,421	$7,150,000	$42,748,421
Non STP-U	$306,500,931	$24,871,800	$281,629,131
State Total	$167,399,194	$12,801,250	$154,597,944
Champaign County	$1,100,000	$1,100,000	$0
City of Champaign	$233,426,138	$206,042,210	$27,383,928
City of Urbana	$59,800,000	$59,800,000	$0
Village of Savoy	$36,441,100	$36,228,828	$212,272
Village of Tolono	$1,800,000	$1,800,000	$0
Village of Bondville	$0	$0	$0
Mass Transit District	$977,900,000	$977,900,000	$0
University of Illinois	$740,000	$740,000	$0
Willard Airport	$62,500,000	$62,500,000	$0
Private	$0	$0	$0
Total	**$1,987,505,785**	**$1,480,934,088**	**$506,571,696**

* Not included: $15.7 million recently approved, but not yet appropriated, in the form of a federal TIGER grant for C-U MTD to complete a $34.88 million Multimodal Corridor Enhancement project (MCORE) on Wright Street, Armory Avenue, White Street, and Green Street.

From top to bottom: McKinley Avenue north of Springfield Avenue, Champaign; Windsor Road, Urbana; Busey Avenue, Urbana; 2014

FISCALLY CONSTRAINED PROJECTS FOR 2040

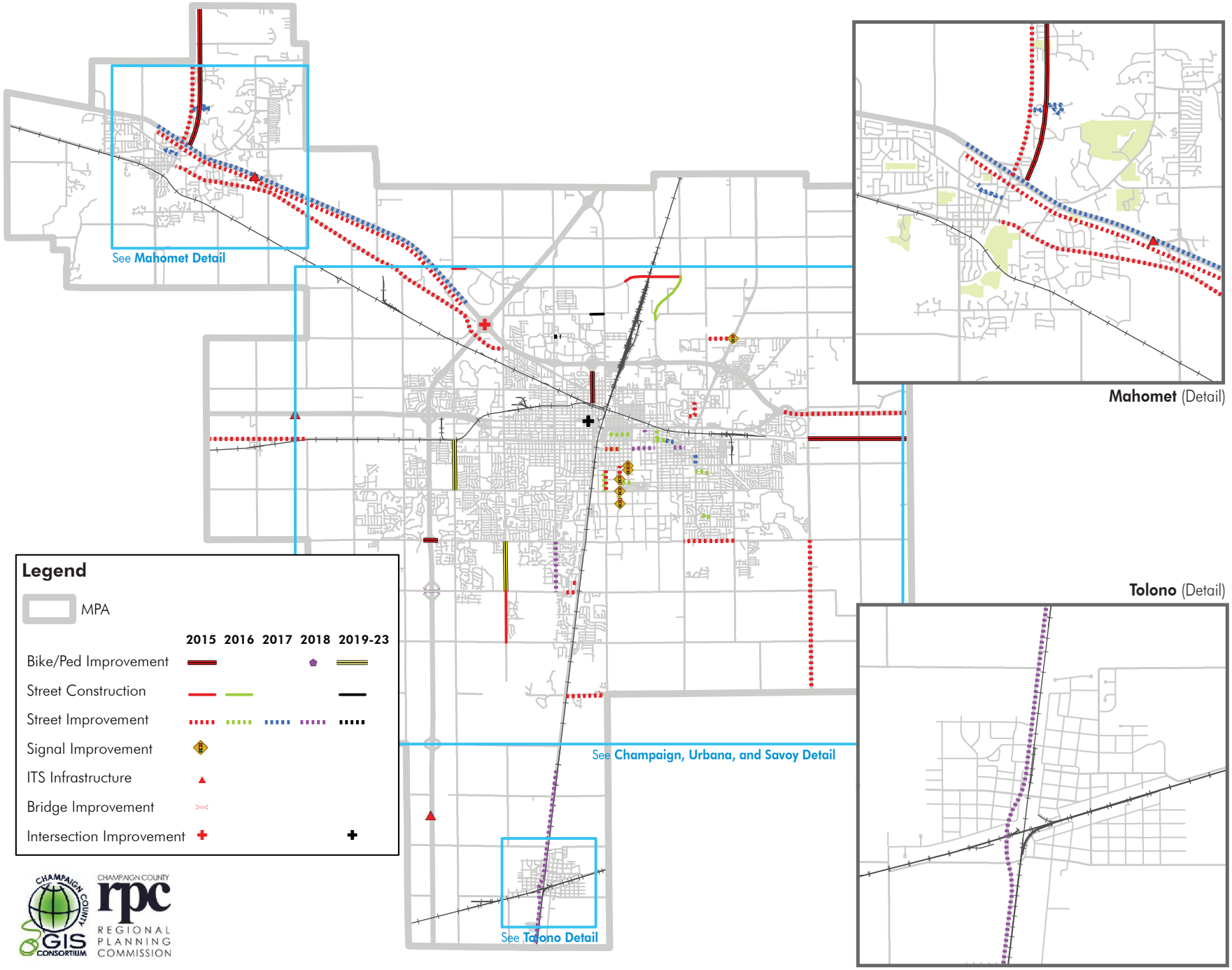
As part of the LRTP, the Federal Highway Administration requires a listing of the fiscally constrained projects that are part of the overall vision for the urbanized area. The fiscally constrained projects are those that have either guaranteed or reasonably guaranteed funding secured for the completion of the project. Although there are no fiscally constrained projects in the *Sustainable Choices 2040* Vision, there are many local projects listed in the fiscally constrained Transportation Improvement Program (TIP), created by CUUATS staff and its member agencies. Additionally, the fiscally constrained Capital Improvement Plans (CIP) created by the City of Champaign and City of Urbana 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 (2015-2018) of the 25-year planning horizon for roadway projects. The CIPs will be used to determine the project list for fiscal years five through nine (2019-2023). The 2010-2015 State Highway Improvement Program will be used to determine state projects that fall within the urbanized area boundaries. The fiscally constrained roadway projects are mapped in Figure 13.1 and listed in Tables 13.2 to 13.12.

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. 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 costs associated 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 Table 13.13 as well as in Figure 13.2.

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.

Urbana, 2014

FIGURE 13.1 TRANSPORTATION PROJECTS FROM TIP FY 15 - 19 AND CIP FY 2015 - 2023



Champaign, Urbana, and Savoy (detail)

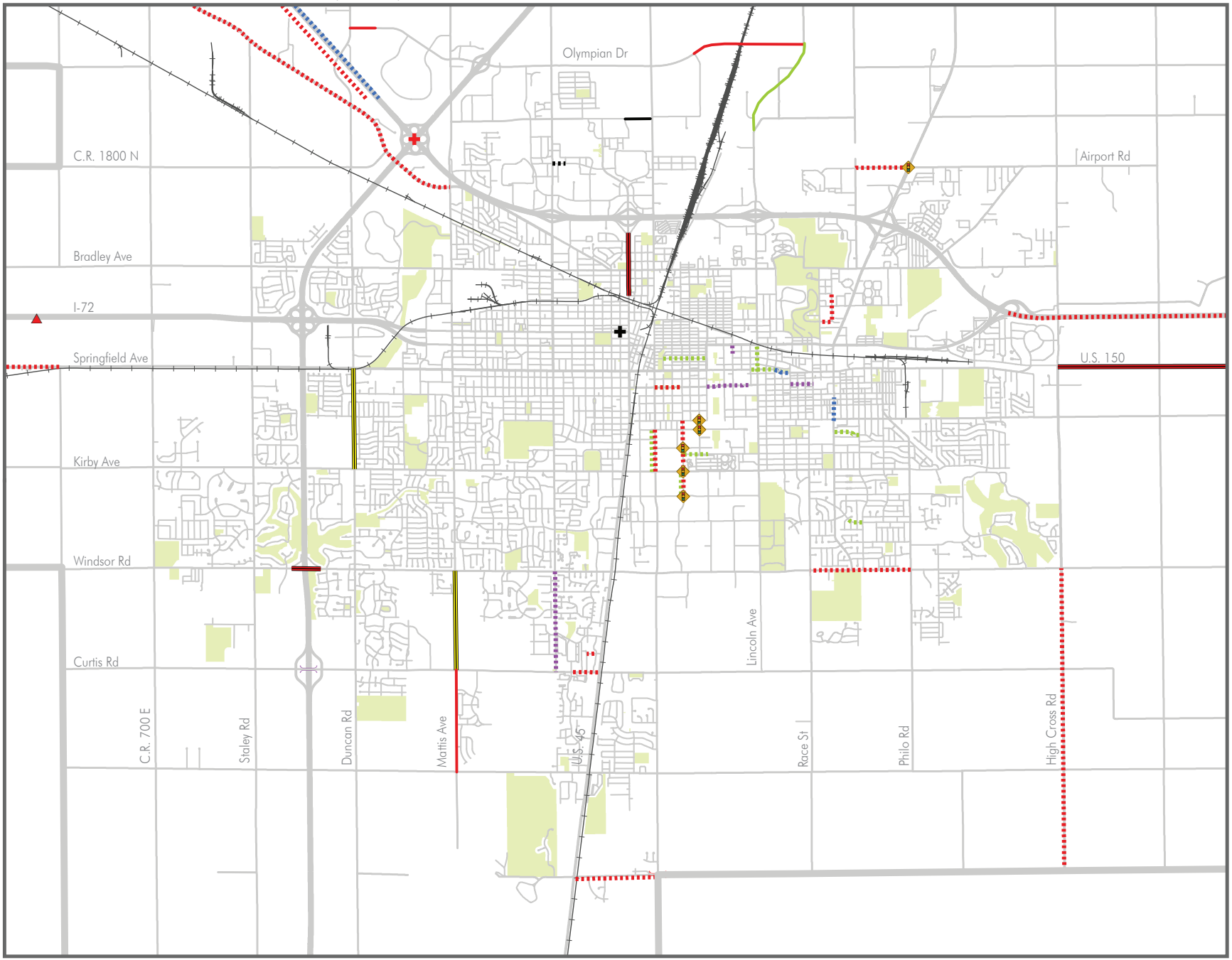


TABLE 13.2 CITY OF CHAMPAIGN TIP (FY 2015 - 18)

Fiscal Year	Project	From	To	Total Cost (in 1,000's)	Notes
2015	Asphalt Overlay 2014	Various		$1,087.09	Rehabilitate Asphalt Streets
2015	2014 Local Street Rehab - Asphalt	Various		$367.86	Rehabilitate Asphalt Streets
2015	Asphalt Overlay 2015	Various		$45.70	Rehabilitate Asphalt Streets
2015	2015 Local Street Rehab - Asphalt	Various		$6.00	Rehabilitate Asphalt Streets
2015	Green Street Improvements	First St	Fourth St	$406.09	Street Reconstruction
2015	PCC Patching 2014	Various		$693.73	Rehabilitate Concrete Streets
2015	PCC Patching 2015	Various		$186.00	Rehabilitate Concrete Streets
2015	Stratton Neil Street SRTS Project	Kenyon Rd	North St	$7.53	Pedestrian crossing improvements, sidewalk construction
2015	Windsor Road Complete Street Project	Eagle Ridge Rd	Briar Hill Dr	$50.00	Bike lanes, sidewalks, lighting, retaining walls, pedestrian railings
2015	Olympian Drive Extension West	Olympian Dr	Duncan Rd	$1,875.00	Olympian Dr extension incl 10' HMA shoulders and 10' bikepath
2015	First Street UIUC Project	Gregory Dr	Kirby Ave	$170.00	Street Reconstruction
2015	Fourth Street UIUC Project	Kirby Ave	St. Mary's Rd	$240.00	Street Reconstruction and Signal Replacement
2016	Asphalt Overlay 2015	Various		$889.00	Rehabilitate Asphalt Streets
2016	2015 Local Street Rehab - Asphalt	Various		$367.82	Rehabilitate Asphalt Streets
2016	Asphalt Overlay 2016	Various		$240.40	Rehabilitate Asphalt Streets
2016	2016 Local Street Rehab - Asphalt	Various		$6.00	Rehabilitate Asphalt Streets
2016	Green Street Improvements	First St	Fourth St	$6,002.85	Street Reconstruction
2016	PCC Patching 2015	Various		$647.00	Rehabilitate Concrete Streets
2016	PCC Patching 2016 - 2024	Various		$197.35	Rehabilitate Concrete Streets
2016	First Street UIUC Project	Gregory Dr	Kirby Ave	$1,080.00	Street Reconstruction
2016	Fourth Street UIUC Project	Kirby Ave	St. Mary's Rd	$1,560.00	Street Reconstruction and Signal Replacement
2016	Pennsylvania Avenue UIUC Project	Fourth St	City Limit	$300.00	Street Reconstruction
2017	Asphalt Overlay 2016	Various		$889.00	Rehabilitate Asphalt Streets
2017	2016 Local Street Rehab - Asphalt	Various		$367.85	Rehabilitate Asphalt Streets
2017	2017 Local Street Rehab - Asphalt	Various		$6.00	Rehabilitate Asphalt Streets
2017	Asphalt Overlay 2017	Various		$240.40	Rehabilitate Asphalt Streets
2017	PCC Patching 2016 - 2024	Various		$844.35	Rehabilitate Concrete Streets
2017	Pennsylvania Avenue UIUC Project	Fourth St	City Limit	$1,920.00	Street Reconstruction
2018	Asphalt Overlay 2017	Various		$889.00	Rehabilitate Asphalt Streets
2018	Annual Local Street Rehab - Asphalt	Various		$373.85	Rehabilitate Asphalt Streets
2018	Asphalt Overlay 2018	Various		$240.40	Rehabilitate Asphalt Streets
2018	PCC Patching 2016 - 2024	Various		$844.35	Rehabilitate Concrete Streets
2018	Prospect Avenue Reconstruction	Curtis Rd	Windsor Rd	$2,180.00	Complete Street Engineering and Reconstruction

TABLE 13.3 CITY OF URBANA TIP (FY 2015 - 18)

Fiscal Year	Project	From	To	Total Cost (in 1,000's)	Notes
2015	2015 Street Reconstruction/Resurfacing	Various Locations		$2,321.25	Reconstruct/Resurface various streets
2015	2015 Pavement Patching	Various Locations		$595.00	Patch various asphalt and concrete streets
2015	2015 Pavement Preservation	Various Locations		$100.00	Preserve and seal various streets
2015	Bicycle Master Plan bike lanes, routes, signage, sidepaths	Various Locations		$55.00	Instal Bicycle Master Plan bike lanes and routes
2015	Airport Road West Reconstruction	Willow Rd	Cunningham Ave	$3,145.90	Street reconstruction/signal modernization
2015	Windsor Road Reconstruction	Race St	Philo Rd	$4,700.00	Street Reconstruction Sec 13-00540-00PV
2015	Olympian Drive Extension West	Olympian Dr	Duncan Rd	$1,875.00	Olympian Dr extension incl shoulders and bikepath
2015	Broadway Avenue Reconstruction	N of Stebbins Dr	Oakland Ave	$600.00	Street reconstruction
2016	2016 Street Reconstruction/Resurfacing	Various Locations		$1,810.00	Reconstruct/Resurface various streets
2016	2016 Pavement Patching	Various Locations		$400.00	Patch various asphalt and concrete streets
2016	2016 Pavement Preservation	Various Locations		$200.00	Preserve and seal various streets
2016	Bicycle Master Plan bike lanes, routes, signage, sidepaths	Various Locations		$55.00	Instal Bicycle Master Plan bike lanes and routes
2016	North Lincoln Avenue Construction	Saline Ct	Olympian Dr	$3,600.00	Roadway extension, median shoulder, outside curb & gutter
2017	2017 Street Reconstruction/Resurfacing	Various Locations		$1,200.00	Reconstruct/Resurface various streets
2017	2017 Pavement Patching	Various Locations		$350.00	Patch various asphalt and concrete streets
2017	2017 Pavement Preservation	Various Locations		$200.00	Preserve and seal various streets
2017	Bicycle Master Plan bike lanes, routes, signage, sidepaths	Various Locations		$55.00	Instal Bicycle Master Plan bike lanes and routes
2018	2018 Street Reconstruction/Resurfacing	Various Locations		$1,220.00	Reconstruct/Resurface various streets
2018	2018 Pavement Patching	Various Locations		$350.00	Patch various asphalt and concrete streets
2018	2018 Pavement Preservation	Various Locations		$150.00	Preserve and seal various streets
2018	Bicycle Master Plan bike lanes, routes, signage, sidepaths	Various Locations		$55.00	Instal Bicycle Master Plan bike lanes and routes

TABLE 13.4 VILLAGE OF SAVOY TIP (FY 2015 - 18)

Fiscal Year	Project	From	To	Total Cost (in 1,000's)	Notes
2015	Public Works Building Construction	NA	NA	$1,000.00	Construct 12,400 SF Shop and Maintenance Facility
2015	Curtis Road Resurfacing	Wesley Ave	US 45	$125.00	Resurfacing of Curtis Road from Wesley Ave to US 45
2015	Street Patching	Various		$225.00	Street patching at various locations in Village
2015	Airport Road Reconstruction - Design Engineering	US 45	First St	$150.00	Design of Airport Rd reconstruction
2015	Guardrail Replacement - First St. Bridge	300' North of Airport Road		$30.00	Upgrade to current standards of guardrail terminal sections
2015	Arbour Towne Place Reconstruction	Woodfield Dr	West Terminus	$260.00	Widening and Overlay of Arbour Towne Place
2018	Prospect Avenue Reconstruction	Curtis Rd	Windsor Rd	$2,180.00	Complete Street Engineering and Reconstruction

TABLE 13.5 VILLAGE OF TOLONO TIP (FY 2015 - 18)

Fiscal Year	Project	From	To	Total Cost (in 1,000's)	Notes
2015	Street Maintenance	Various Locations		$72.00	Street Maintenance
2016	Street Maintenance	Various Locations		$72.00	Street Maintenance
2017	Street Maintenance	Various Locations		$72.00	Street Maintenance
2018	Street Maintenance	Various Locations		$72.00	Street Maintenance

TABLE 13.6 UNIVERSITY OF ILLINOIS TIP (FY 2015 - 18)

Fiscal Year	Project	From	To	Total Cost (in 1,000's)	Notes
2015	Fourth Street Partial Reconstruction	Kirby Ave	Armory Ave	$1,985.00	Reconstruct Kirby to Peabody, Resurface Peabody to Armory, Drainage improvements and New Traffic Signal at Peabody and Fourth
2015	Sixth Street Reconstruction	Gregory Dr	Armory Ave	$1,096.00	Reconstruct Gregory to Armory and New Traffic Signals at Sixth/Gregory and Sixth/Armory
2015	Misc. Pavement Maintenance	Various		$300.00	Miscellaneous patching and cracksealing

TABLE 13.7 CHAMPAIGN COUNTY TIP (FY 2015 - 18)

Fiscal Year	Project	From	To	Total Cost (in 1,000's)	Notes
2015	Olympian Drive Extension West	Olympian Dr	Duncan Rd	$1,875.00	Olympian Dr extension including 10' HMA shoulders and 10' bikepath, Sec 11-00290-00-PV
2016	North Lincoln Avenue Construction	Saline Ct	Olympian Dr	$3,600.00	Lincoln Ave extension including 6' median shoulder and outside curb & gutter, Sec 11-00334-01-PV

TABLE 13.8 CHAMPAIGN-URBANA MASS TRANSIT DISTRICT TIP (FY 2015 - 18)

Fiscal Year	Project	Total Cost (in 1,000's)
2015	Maintenance Facility Demolition & Expansion (West)	$14,700.00
	Land Purchases	$4,000.00
	Fueling System	$185.00
	(2) Vehicle Lift Replacements	$110.00
	Vehicle Digital Radios	$150.00
2016	(10) 40-Foot, Hybrid Buses	$6,500.00
2016	Maintenance Storage Expansion (East)	$1,125.00
2017	(12) 60-Foot, Hybrid Buses	$10,440.00

TABLE 13.9 WILLARD AIRPORT TIP (FY 2015 - 19)

Fiscal Year	Project	Total Cost	Notes
2015	Remove Runway Pavement; New Connecting Taxiway; Geometry Improvements	$6,150,000	Remove Runway 18/36 Pavement; Construct New Connecting Taxiway B1; Construct Geometry Improvements at Taxiways A5/A6
2015	Roadway and Parking Lot Improvements	$1,376,341	Rehabilitation of existing roadway and parking lots that are in poor condition. Project is requesting State/Local funds at 90/10
2016	Conduct EA Study for Runway 4/22 Parallel	$100,000	Removal of Runway 18/36 as shown on the ALP will leave the airport in need of a GA cross wind runway. The EA study for the new parallel is the first step to facilitate the parallel runway. 2016 entitlements used.
2017	Rehabilitate T-Hangar and GA Apron Pavements	$1,900,000	Pavements at the T-Hangar site are among the worst PCIs on the Airport. Project will rehabilitate existing taxiways and replace partial approach pavements with full width approaches. Project will also rehabilitate the adjacent portion of the GA ramp. 2017 Entitlements and Discretionary
2018	Upgrade Perimeter Roadway System	$980,000	Existing perimeter road system to FAA features has been constructed. Paving these roadways will allow all weather access without having to contact ATCT. Preliminary wildlife assessment has noted that gravel roads are a bird attractant. 2018 Entitlement.
2019	Construct Runway 4/22 Parallel	$4,900,000	A parallel Runway 4/22 will give the GA flight school a viable cross wind runway without interruption to traffic on the higher category runway.
2019	Construct Perimeter Roadway System	$2,000,000	Existing perimeter of the Airport is unreachable by exterior pavements and is not readily accessible. Project would continue the existing aggregate perimeter roads that have been constructed. Discretionary Seeking
2020	General Aviation Apron Rehabilitation	$2,500,000	Existing Apron has low PCI values.
2020	Realign Taxiway D	$1,800,000	Project fixes the 90 Degree requirement by the FAA. Project cannot be constructed until FAA moves ducts within project limits.
2021	Land Acquisition	$1,820,000	Additional Land acquisition for the protection of the Runway Approaches.

TABLE 13.10 CITY OF CHAMPAIGN CIP (FY 2015 – 2023)

Fiscal Year	Project	From	To	Total Cost
2015	Local Street Rehab - Asphalt			$367,856
2015-2016	Local Street Rehab - Asphalt			$373,823*
2015	Asphalt Overlay			$1,083,700
2015-2022	Asphalt Overlay			$1,129,400 **
2015-2023	PCC Patching			$770,419**
2015-2023	Bridge Maintenance (Annual)			$168,556***
2015-2016	Mattis Ave Ext	South of Curtis Rd		$1,109,100*
2015-2023	Pavement Marking (Annual)			$213,641**
2015-2023	Street Pavement System Plan			$131,850***
2015	Subdivision Sidewalk Assessment Project			$94,727
2015, 2017	Subdivision Pavement Exp Remediation			$125,000***
2015-2023	Traffic Safety & Management (Annual)			$22,777**
2015-2023	Traffic Signal Upgrades (Annual)			$101,017***
2015-2023	LMFT Local Street Reconstruction			$400,000***
2015	Windsor Rd Bridge Approaches			$50,000
2015-2016	Green St streetscape	First St	Fourth St	$6408,938*
2016-2017	Local Street Rehab – Asphalt (Annual)			$373,853*
2016-2023	Infrastructure Enhancement Maintenance			$41,200**
2016-2023	Infrastructure Maintenance (Annual)			$525,414**
2016-2018	White St	Second St	Wright St	$2,485,000*
2018-2020	Prospect Ave	Windsor Rd	Savoy	$990,000*
2019-2021	Town Center Safety Improvement	Prospect Ave	Target entrance	$765,000*
2019-2020	Interstate Dr	West from Market St		$1620,312*
2020-2022	Church & Randolph Intersection Improvement			$902,750*
2022-2023	Duncan Rd Complete Street	Springfield Ave	Kirby Ave	$750,000*
2023	Mattis Ave Complete Street	Curtis Rd	Windsor Rd	$510,000

* total ** average *** per FY

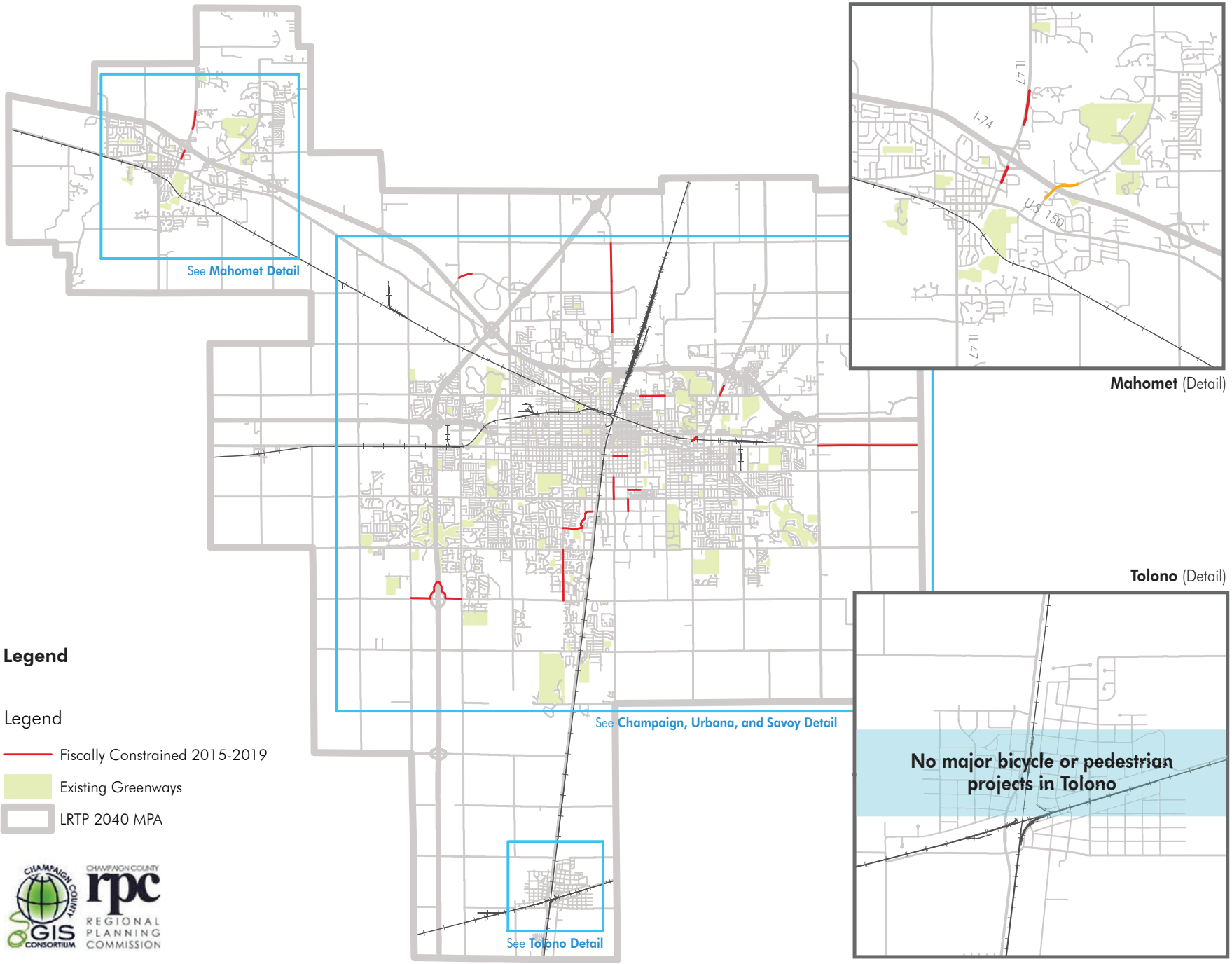
TABLE 13.11 CITY OF URBANA CIP (FY 2015 – 2023)

Fiscal Year	Project	From	To	Total Cost	Notes
2015	Airport Road West	Willow Road	Cunningham Avenue	$3,145,902	Street Maintenance
2015	Bridge Maintenance	Various Locations		$22,500	
2015	Broadway Avenue	N Of Stebbins Drive	Oakland Ave	$600,000	
2015	Cunningham Ave Beautification			$185,000	Streetscape, Landscape, Public Art
2015	Lincoln Avenue Engineering	Extension To Olympian Drive		$220,000	
2015	Lincoln Avenue Street Maintenance	570Ft S of Killarney	N of Saline Court	$1,840,000	Street Maintenance
2015	Olympian Drive Construction	CNRR	Lincoln Avenue	$12,939,100	
2015	Bike Lane Striping Maintenance			$55,000	
2015	Brick Sidewalks Various Locations			$50,000	
2016	Bridge Maintenance	Various Locations		$22,500	
2016	Cunningham Ave Beautification			$185,000	Streetscape, Landscape, Public Art
2016	Cunningham Ave Beautification			$20,000	Curb Cuts
2015	Concrete Sidewalks	Various Locations		$50,000	
2016	Fairlawn Drive Resurfacing	Vine Street	Anderson Street	$400,000	
2016	Lincoln Avenue Resurfacing	Western Avenue	University Avenue	$650,000	
2016	Mumford Drive Resurfacing	W of Zuppke Drive	Anderson Street	$250,000	
2016	Springfield Avenue Resurfacing	Gregory Street	Coler Avenue	$310,000	
2016	Bike Lane Striping Maintenance			$55,000	
2016	Brick Sidewalks Various Locations			$50,000	
2016	Bridge Maintenance	Various Locations		$22,500	
2017	Cunningham Ave Beautification			$185,000	Streetscape, Landscape, Public Art
2017	Cunningham Ave Beautification			$20,000	Curb Cuts
2017	Springfield Avenue Reconstruction	Coler Avenue	Mccullough Street	$750,000	
2017	Vine Street Resurfacing	S of Washington Street	N of California Avenue	$350,000	
2017	Bike Lane Striping Maintenance			$55,000	
2017	Brick Sidewalks Various Locations			$50,000	
2017	Bridge Maintenance	Various Locations		$22,500	
2018	Green Street Resurfacing	Wright Street	Gregory Street	$720,000	
2018	Bike Lane Striping Maintenance			$55,000	
2018	Brick Sidewalks Various Locations			$50,000	
2018	Bridge Maintenance	Various Locations		$22,500	
2018	Goodwin Avenue Reconstruction	S of Clark Street	University Avenue	$350,000	
2018	Green Street Reconstruction	McCullough Street	Race Street	$980,000	

TABLE 13.12 STATE CAPITAL IMPROVEMENT PROGRAM (FY15-20)

Fiscal Year	Project	From	To	Total Cost	Notes
2014-2018	Transit: Equipment	Champaign County		$15,780	
2014-2018	Transit: Rolling Stock	Champaign County		$490,000	7 buses for service expansion
2014-2018	Transit: Facility Replacement	CU-MTD, Champaign County		$13,700,000	Facility addition for bus storage
2015	I57 Bridge Maintenance	Over IL 10 & IC RR W of Champaign		$3,000,000	Bridge Rehabilitation / Bridge Deck Repairs
2015	I-74 System Maintenance	0.5 mi W of IL 47, Mahomet	0.5 mile W of I-57	$8,580,000	Resurfacing / Safety Improvement
2015	I-74 System Maintenance	I-57 interchange		$2,500,000	P.E. (Phase II); P.E. (Consultant Plans)
2015	US 150 System Maintenance	Sangamon River, Mahomet	Mattis Ave In Champaign	$2,600,000	Safety / Preserve System
2015	ILL 10 System Maintenance	I-72	Bondville	$1,605,000	Resurfacing, Safety Improvements
2015	ILL 47 System Maintenance	US 136	I-74 at Mahomet	$6,963,000	Resurfacing, New Shoulders, +
2015	ILL 47 System Maintenance	US 136	I-74 at Mahomet	$100,000	Utility Adjustment
2015	IL 130 System Maintenance	Windsor Rd in Urbana	Madison St in Philo Rd	$2,810,000	Safety / Preserve System
2015	Local: Windsor Rd	Race St	Philo Rd	$3,000,000	Reconstruction
2016-2017	Airport: Preserve Safety System	University of Illinois - Willard Airport		$2,500,000	Remove/replace apron portions
2016-2020	I-57 System Maintenance	Sadorus Rd	1 mi S of I-74 in Champaign	$14,161,000	Resurfacing and Bridge Deck Repairs
2016-2020	I-57 Congestion Mitigation	At Curtis Rd SW of Champaign		$1,250,000	Pedestrian Overpass
2016-2020	I-74 System Maintenance	University Ave, Urbana	2 mi E of St Joseph interchange	$10,230,000	Resurfacing, Bridge Deck Repairs
2016-2020	US45 System Maintenance	NCL of Tolono	1.1 mi S of I-57 at Pesotum	$1,810,000	Resurfacing, Guardrail, Pedestrian Ramps
2016-2020	US 150 Bridge Maintenance	Ditch SE of Mahomet & Ditch NW of Champaign		$600,000	Culvert Replacement
2016-2020	Leverett Rd Bridge Maintenance	Ditch W of Leverette		$800,000	Bridge Replacement
2016-2020	Local: Lincoln Ave	Olympian Dr	Saline Ct	$3,060,000	New Construction
2016-2020	US 150 Bridge Maintenance	Ditch SE of Mahomet & Ditch NW of Champaign		$600,000	Culvert Replacement
2017-2018	Airport: Preserve System	University of Illinois - Willard Airport		$980,000	Construct bituminous surface on perimeter roadway

FIGURE 13.2 FISCALLY CONSTRAINED BICYCLE & PEDESTRIAN PROJECTS (FY 2015 - 2040)



Champaign, Urbana, and Savoy (detail)

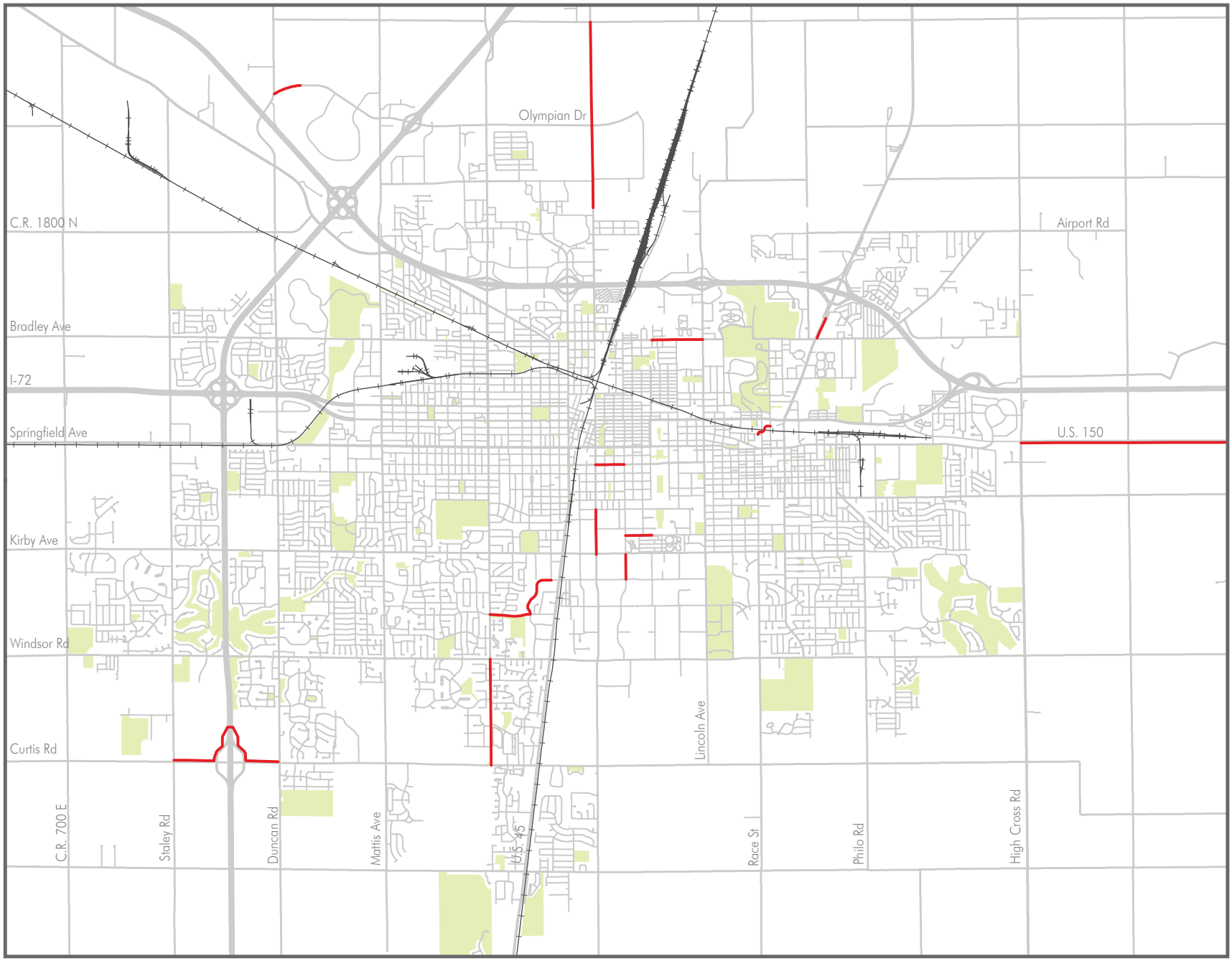


TABLE 13.13 FISCALLY CONSTRAINED BICYCLE & PEDESTRIAN PROJECTS (FY 2015 -2019)

Fiscal Year	Project	From	To	Notes
2015-2019	Bradley Avenue Bike Lane	Lincoln Ave	Goodwin Ave	
2015-2019	Kickapoo Rail Trail	Main St, St. Joseph	High Cross Rd (IL 130)	Rail-Trail to Danville
2015-2019	Race Street Bike Lane	Elm St	S of Illinois St	Road Diet + Paint a widened median
2015-2019	Boneyard Creek Path	Broadway Ave	Griggs St	Five Points to Downtown
2015-2019	Market Street Bike Lane	Olympian Dr	Market Place Mall	Additional width
2015-2019	Devonshire Drive Bike Lane	Fox Dr	Prospect Ave	
2015-2019	IL 47 N Path	Briarcliff Dr	Lake of the Woods Path	
2015-2019	First Street Bike Lane	Gregory Dr	Kirby Ave	Trail exists on W side
2015-2019	Fourth Street Bike Lane	Gregory Dr	Kirby Ave	
2015-2019	Fourth Street Bike Lane	Kirby Ave	St. Mary's Rd	Road Diet
2015-2019	Green Street Bike Lane	Fourth St	First St	Lane reduction
2015-2019	Pennsylvania Avenue Bike Lane	Champaign limits	Fourth St	
2015-2019	Market Street Bike Lane	Ford Harris Rd	Champaign limits	Additional width
2015-2019	Bradley Avenue Bike Lane	Goodwin Ave	Carver Dr	
2015-2019	Prospect Avenue Bike Lane	Windsor Rd	Champaign City Limit	Additional width needed
2015-2019	Fox Drive Bike Route	State St	Devonshire Dr	
2015-2019	Curtis Road Multi-Use Trail	Duncan Rd	Staley Rd	
2015-2019	Market Street Bike Lane	Champaign limits	Olympian Dr	Additional width
2015-2019	IL 47 N Path	I-74 S ramp	Franklin St	
2015-2019	Future Olympian Drive Extension Sidepath	Street terminus	Duncan Rd	Both sides of street
2015-2019	Prospect Avenue Complete Street Reconstruction	City limits	Curtis Rd	
2015-2019	US 45 East Sidepath	Kenyon Rd	Perkins Rd	

14 2040 Vision IMPLEMENTATION

IMPLEMENTATION

Implementing the LRTP is not only about completing the projects identified in the plan but also taking steps to incorporate the broader goals and objectives and strategies identified within each of the planning pillars in addition to those established in MAP-21. As evidenced by the myriad issues that came up during the public involvement portions of the plan, the transportation network is intricately tied to many other conditions in the community such as land-use, public health, the environment, and the economy. The overall built environment operates most effectively when all these different processes can work together to facilitate safe and efficient access and mobility from different points in the community to serve each of our daily needs.

ROUTINE IMPLEMENTATION TASKS

Plan implementation also involves certain standard routine 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 transportation projects.

Project-Related Tasks

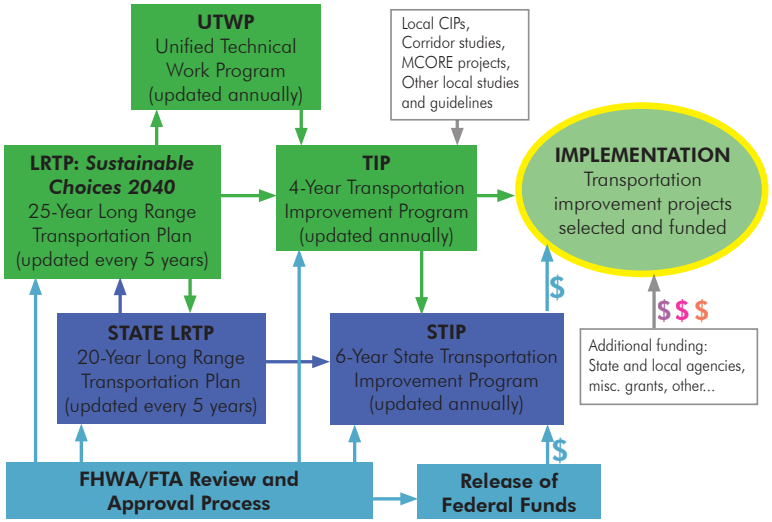
Review Project Priorities Periodically Projects in the LRTP have undergone an initial prioritization process; this prioritization should be reviewed periodically to include new projects and change priorities if new funding or information becomes available. This can be aided by continuing to complete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

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.

FIGURE 1.1 CUUATS PLANNING AND IMPLEMENTATION PROCESS



Concept-Related Tasks

Complete Benchmarks from Plan Performance Measures are based on the LRTP goals and objectives as well as the project lists; they are measurable events that signify progress and/or lack of progress toward defined goals. Every effort should be made to update data sets related to the Performance Measures and produce the LRTP Report Card 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 Models The CUUATS Modeling Suite must be updated as continually as staff and funding permit. Updated traffic volumes, population forecasts, employment forecasts, and other inputs are essential elements to have accurate working models.

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.

Develop a Freight Plan Without a local truck route system in place, trucks can travel on any road between these state truck routes to load or unload, which can create congestion, raise safety concerns, and increase wear and tear on roads that were not constructed to handle commercial truck traffic.

Complete a Curtis Road Planning Corridor Study The section of Curtis Road between First Street and IL-130 is proposed for a Corridor Planning Study to determine a context-sensitive design that will increase safety for all road users while remaining compatible with adjacent land uses.

SUCCESSFUL PLAN IMPLEMENTATION: OBSTACLES

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 in the future. If the transportation network fails to evolve to accommodate changing social, economic, and health trends, our community will experience longer travel times, more roadways with congestion, fewer opportunities to promote mode shift, and the inability to realize the social, environmental, and health goals set forth in this plan. Diverging from the status quo requires openness to new ideas. In order to realize these goals, there are numerous obstacles to overcome.

Accessible Pedestrian Signal on Bradley Avenue, Champaign, 2010

Safety and Security

This planning pillar defines safety and security as including crash data statistics, tracking and understanding regional commodity flows as they relate to hazardous materials and potential exposure, and coordinating with agencies in charge of emergency vehicle access.

Obstacle: According to the Center for Disease Control (CDC), automobile crashes are the leading cause of death for those aged 5-34 in the United States. Despite the best efforts of transportation planners, engineers, and vehicle operators, cars remain a dangerous form of transportation due to their speed and the inevitability of human error.

Obstacle: The Champaign-Urbana area does not currently have a high level of awareness regarding hazardous material locations and transportation routes. CUUATS staff is currently undertaking the task of completing a study that will detail hazardous material locations and transportation routes in the area that will include the identification of vulnerable locations and corresponding recommendations for specific routes that minimize risks for area residents and environmental health.

Obstacle: While there currently exist many opportunities for road users to become more educated about how to safety share the road with different modes, this community has a relatively high population turnover rate due to the nature of the student population and academic calendar. Targeted and periodic efforts should be implemented to target temporary residents for transportation safety outreach.

Resilient Economy

If a transportation system cannot adequately support residents, businesses, and institutions, economic growth is 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 facilitate development in an efficient and cost effective fashion rather than the current pattern of building infrastructure for specific projects. This would help facilitate more 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.

Obstacle: Transportation planners currently have limited information regarding the relationships between area businesses and the transportation network. In order to better facilitate economic development and meet the changing needs of existing business owners and entrepreneurs, planners should be better educated about how, why, and when area businesses use the different transportation modes in the region. RPC staff is currently working with the Champaign County Economic Development Corporation on a project that will document area business uses and needs for the transportation system to help address this deficiency.

Multimodal Connectivity

The vision for 2040 calls for an increase in active modes of transportation and a decrease in personal vehicle use. Such a shift in mode choice would take some cars off the roadways, thus decreasing congestion, lessening air pollution, reducing roadway expenditures, and improving population health by increasing daily physical activity. In order for residents to change their travel habits, facilities for active modes of transportation must become more accessible, affordable, and efficient.

Obstacle: Because cars are such a dominant form of travel, alternative forms of transportation are often seen as less convenient or more time-consuming. It will be important to improve facilities for active modes of transportation so that they can be more appealing than driving a car in locations where active transportation is feasible and convenient. Ideally, the transit service area would be expanded to be coterminous with the urbanized area and transit service would be able to offer more direct routes and high capacity routes along major corridors, linking residential developments to large employers and other popular destinations. The amount of funding local transit agencies are able to secure will likely help determine how effective our public transit system can be.

Obstacle: Current development patterns cause many people to be dependent on their cars. Land use policies and ordinances regulating development are tailored toward suburban style development, making it more difficult and/or expensive to incorporate higher density development into the current mix. Higher density development makes the 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: Funding for pedestrian and bicycle projects tend to lose priority behind roadway projects. In addition, adding active transportation mode facilities to the existing roadway network, such as public transit stops, bike facilities, and sidewalks, can be difficult due to limited space on or adjacent to existing roadways. 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 in accordance with the CUUATS Complete Street Policy.

Accessibility and Affordability

Major arterial routes that traverse the urbanized area need to operate under conditions that guarantee all road users a high level of mobility and an affordable way to access vital services in a safe manner. 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. Implemented in conjunction with CUUATS Complete Streets Policy, higher access for walking, biking, and public transit will also provide more affordable access options for all road users.

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-friendly. Guidelines for Accessible Pedestrian Signals, streetscaping, crosswalk installation, and trails facilities are all available in existing CUUATS documents and plans.

Obstacle: Corridor management can be challenging because it involves both transportation and land use issues. Negotiating with business owners and property owners to close access points can 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 at the same time. This will save time, 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 multiple jurisdictions.

Obstacle: Consensus-building among local government and private agencies to implement common CUUATS 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: 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.

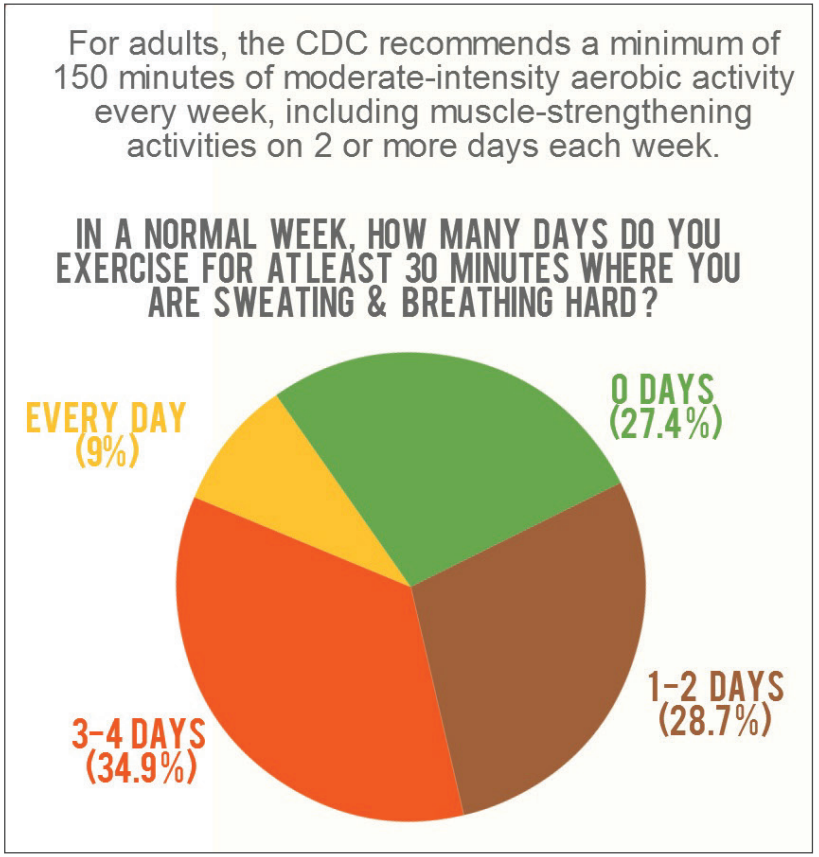
Healthy Neighborhoods

In Champaign County, approximately 34% of adults are overweight and of those 34%, 27% are obese. Obesity can lead to many other health conditions but is preventable; transportation planners should take advantage of the opportunity to increase daily physical activity in order to reduce obesity by facilitating active transportation. The 2014-2016 Champaign County Community Health Improvement Plan lists obesity as one of four health priorities for Champaign County.

Obstacle: The amount of daily physical activity each resident engages in is a personal choice. Planners can't make decisions for people, but can and should provide appealing active transportation choices for people to facilitate healthier lifestyles.

Obstacle: Despite the availability of good choices, illnesses result from intersections of multiple factors and risk modifiers. There is no one thing that planners can to do automatically improve population health. CUUATS intends to be a small part of a larger approach to improve local health working with local health agencies and municipalities in a coordinated effort.

FIGURE 1.2 SELF-REPORTED LEVELS OF PHYSICAL ACTIVITY IN CHAMPAIGN COUNTY



Source: Champaign County Community Health Improvement Plan, CUPHD, 2014-2016

Balanced Development

Traveling between home, work, shopping, neighborhoods, 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 public transit to travel between these activity centers. In addition, focusing development within the existing municipal boundaries will reduce greenfield development and associated expenditures for service and roadway extensions.

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.

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 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 including walking and/or biking connections to transit stops where appropriate. Site design and development standards should be reviewed and improved cooperatively by the relevant jurisdictions in the urbanized area.

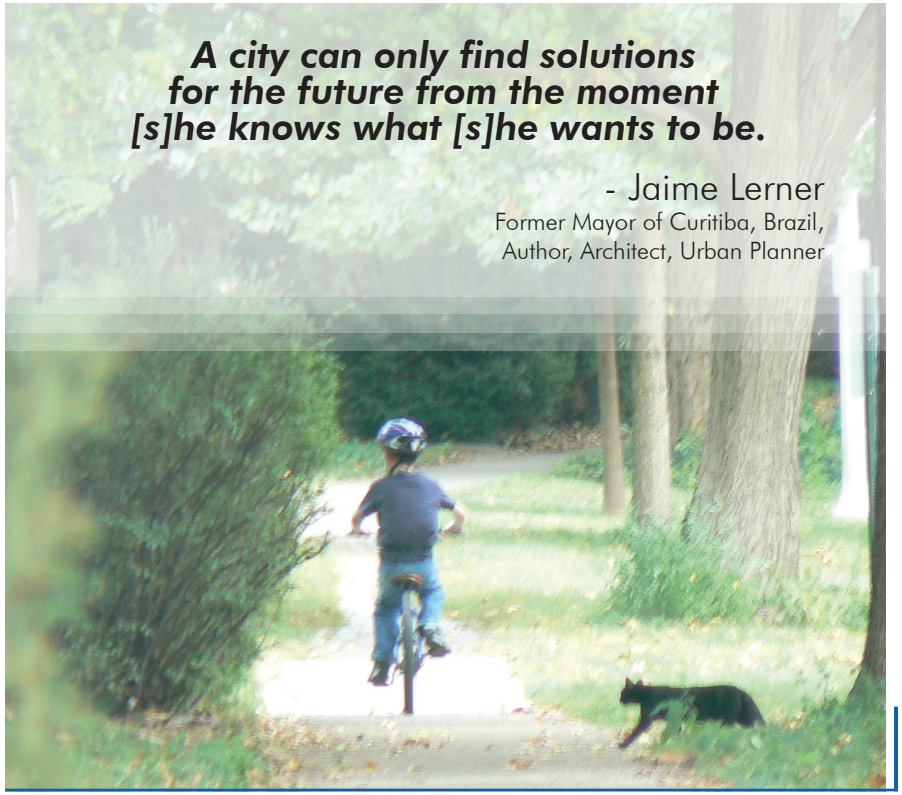
Obstacle: Consumer preferences, market forces, and government policies creating incentives and disincentives can determine how a community develops. For the most part these forces (e.g. interest rates, overall economic growth, state and federal subsidies) are beyond local control. Local government policies 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 direct public investment in infrastructure and services. Local governments in the urbanized area should continue 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.

Main Street, Urbana, 2014

CONCLUSION

In conclusion, the Champaign-Urbana region is already in a good position to achieve the transportation goals set forth in this document because the different municipalities that make up the region have been working on many of these issues at the local level for years. In fact, the Champaign-Urbana area has a national reputation for making prudent decisions about the ways in which the region has grown over time. According to the organization, Smart Growth America, in 2014 the Champaign-Urbana metropolitan area ranked number 5 in most compact, connected metro areas out of all 221 metropolitan statistical areas and 994 counties in the nation based on a collective score of development density, land-use mix, activity centering, and street accessibility (Measuring Sprawl 2014). In addition, the area is known for its active transportation behavior. In 2014 a Census Bureau report ranked the City of Urbana number 15 among small cities in the United States for the number of residents who walk or ride a bike to work. The City of Urbana, the City of Champaign, and the University of Illinois all have achieved "bike-friendly" designation by the League of American Bicyclists.

In order to track the implementation of the plan and the progress toward the goals and objectives identified within it, CUUATS staff compiles an Annual Report Card for the current LRTP to document changes in the data used to track the goals and objectives. The report cards are posted publically on the CUUATS website each year and they serve to provide greater transparency to the public in terms of the function of the plan and how public input gets incorporated into the planning process. The report cards also serve as a way for CUUATS member agencies to revisit the goals and objectives on an annual basis and evaluate how far the area is from attaining them, potential obstacles to attainment, and/or if certain goals need to evolve or be removed to adapt to changing priorities or conditions. Proactive planning must be used to foresee these changes as time progresses so costly reactionary measures can be avoided. In summary, the success of this plan depends on the effort local agencies and residents put into its implementation.



Main Street, Urbana, 2007