



⑧ Regional Vision: Transportation Network in 2035

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

8.1 Travel Demand Model Inputs

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

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

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

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

Table 8.1 - Population Projections

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



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

Table 8.2 - Employment Projections

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

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

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

8.2 Developing the Vision for 2035

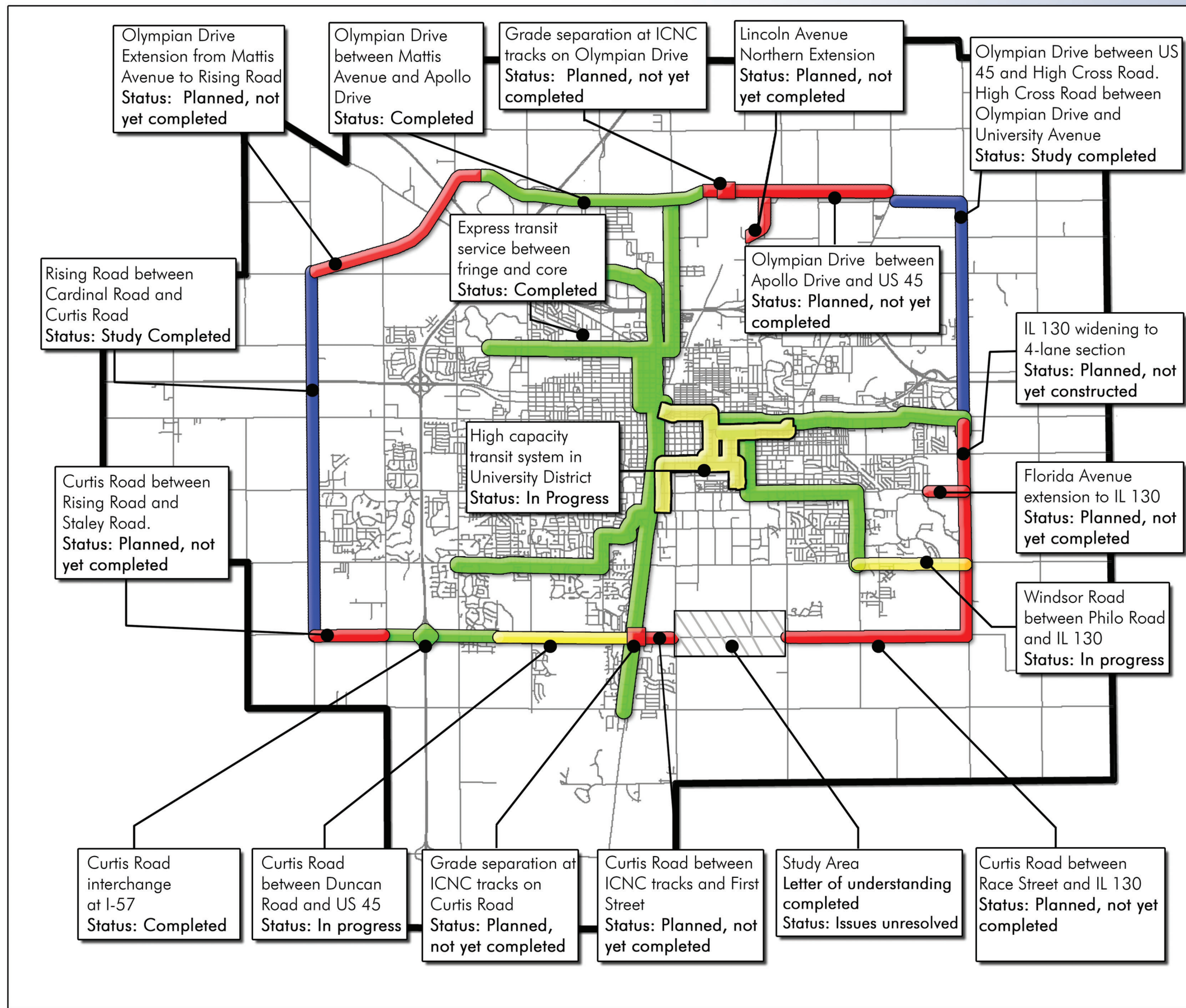
During this update of the LRTP, two separate concepts were developed. The first is the vision for the future, which is based on the principles and concepts found in the Future Conditions Chapter. Vision maps were created for roadway improvements, bicycle and pedestrian facilities, and public transit,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

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

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

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

Figure 8.1 2004 LRTP Preferred Transportation Project Status in 2009



2004 LRTP Preferred Transportation Project Status in 2009

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

Legend

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





Regional Roadway Network Vision for 2035

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

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

1. Possible interchange location with I-74 (West Champaign) - This project would provide funding for the completion of an Interchange Justification Study along I-74, west of the existing I-74/I-57 interchange. No funding has been secured for this study.
2. West Olympian Drive (east of Duncan Road to Rising Road) - This project is the western segment of the recently constructed Olympian Drive improvements between Apollo Drive and just east of Duncan Road. This extension will continue Olympian Drive west over I-74 and connect it with Rising Road in northwest Champaign.
3. I-74 widening from Prospect Avenue to IL-47 - Money from the 2010-2015 State Capital Bill has been allocated for the widening of I-74 from two lanes to three lanes in each direction. This project will reduce congestion along this section of I-74 and increase capacity along the entire section of the interstate.
4. Olympian Drive grade separation over CN railroad tracks - This project provides a grade separation over the CN railroad tracks for the extension of Olympian Drive between Apollo Drive and US 45.
5. Olympian Drive extension from Apollo Drive east to US 45 - Olympian Drive, between Apollo Drive and US 45, is proposed as an arterial roadway and would also include off-street bike and pedestrian facilities. This project has already received some federal and state funding to help with engineering costs and construction.
6. Lincoln Avenue extension to Olympian Drive - Lincoln Avenue is a heavily traveled north/south arterial providing access to I-74 and the University of Illinois campus. With the planned extension of Olympian Drive from Apollo Drive to US 45, extending Lincoln Avenue north to Olympian Drive will provide improved access to Lincoln Avenue.
7. High Cross Road preservation of rural roadway character - During the IL-130/High Cross Road Corridor Study, recommendations were made for the portion of High Cross Road between University Avenue north to Olympian Road as well as for Olympian Road between High Cross Road and US 45. The resulting recommendations suggested minor improvements to both sections of roadway to include repaving the existing surface and adding wider paved shoulders which could accommodate bicyclists. These minor improvements will help with safety concerns and add shoulders for bicyclists while still preserving the rural character of the area.
8. Possible interchange location with I-74 (East Urbana) - Funding has been allocated through the 2010-2015 State Capital Bill to complete an Interchange Justification Study in the east Urbana area of I-74. The study will determine the proper location, if any, for a new interchange in east Urbana connecting to I-74.
9. Florida Avenue extension to IL-130 - Currently, Florida Avenue ends just east of Abercorn Street in east Urbana. Florida Avenue does not intersect with IL-130, forcing traffic to use other east/west roadways such as Washington Street or Windsor Road for access to IL-130. The extension will also include an extension of the existing sidepath on



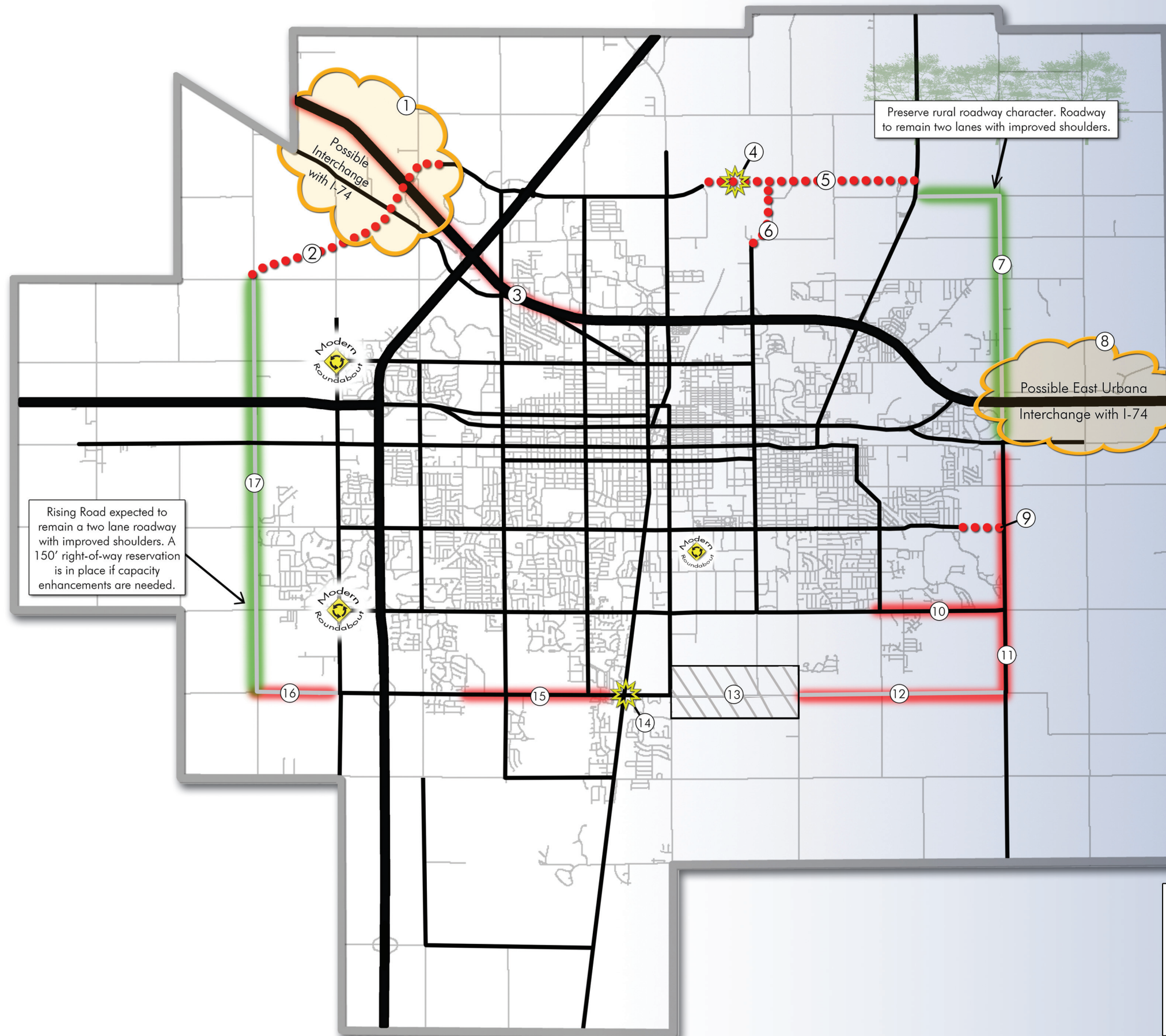
the south side of Florida Avenue. Extending Florida Avenue will provide access to IL-130 and create a more efficient travel path for all modes of transportation.

10. Windsor Road reconstruction from Philo Road to IL-130 - This project will reconstruct Windsor Road between Philo Road and IL-130 as a four-lane section with medians, and extensions east and west of the existing sidepaths on the north and south side for bicyclists and pedestrians. This project will increase capacity on Windsor Road and ease current and future congestion. The reconstruction of Windsor Road is currently underway but not yet completed.
11. IL-130 widening with medians from University Avenue to Curtis Road - This project widens and improves the segment of IL-130 between University Avenue and Curtis Road from the current two-lane section to a four-lane section with medians. The segment of IL-130 between University Avenue and Windsor Road received a funding allocation for engineering and construction through the 2010-2015 State Capital Bill. The segment between University Avenue and Windsor Road will also have a sidepath on the west side of IL-130.
12. Curtis Road improvements between IL-130 and Race Street - This segment of Curtis Road is proposed to be constructed as a four-lane section to match the current improvements on Curtis Road from Staley Road to Wesley Avenue. This project will include off-street facilities for pedestrians and bicyclists.
13. Curtis Road, between First Street and Race Street, letter of understanding completed, issues unresolved - *Improvements to this area are pending further discussion with the University of Illinois, City of Urbana, Champaign County, Village of Savoy, and Urbana Township.*
14. Curtis Road grade separation at CN tracks - This grade separation just east of the Curtis Road and US 45 intersection will provide a safer crossing of the railroad tracks than the current at-grade crossing. This grade separation will also help create a more efficient travel route when coupled with the existing and proposed Curtis Road improvements.
15. Curtis Road improvements between Wesley Avenue and Wynstone Drive - This project improves Curtis Road, from Wesley Avenue to Wynstone Drive, to a four-lane roadway section with sidepaths on the north and south sides of the roadway. This improvement matches the segment of Curtis Road from the new I-57 interchange east to Wynstone Drive. This project is currently under construction.
16. Curtis Road improvements between Staley Road and Rising Road - The remaining section of Curtis Road, between Staley Road and Rising Road, is proposed to be improved to a four-lane section with ten-foot multi-use trails on the north and south sides of the roadway.
17. Rising Road improvements from Cardinal Road to Curtis Road - The results of the Staley/Rising Corridor Study stated that if development patterns follow what is proposed in the study, Rising Road could remain a two-lane collector with improved six foot shoulders without experiencing large amounts of congestion. However, if fringe development continues as it is now, Rising Road may need to be improved to a four-lane arterial with off-street pedestrian and bicycle facilities. In anticipation of possible future improvement needs, the City of Champaign and CUUATS' Technical and Policy Committees approved a right-of-way reservation resolution reserving 150 feet of right-of-way along Rising Road.

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

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

Figure 8.2 LRTP 2035: Roadway Vision for the Future



LRTP 2035 Vision for the Future

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

- LRTP 2035 Vision Project List**
- ① Possible interchange location along I-74 in west Champaign; interchange justification study not yet funded
 - ② Olympian Drive extension east of Duncan Road to Rising Road
 - ③ I-74 widening from Prospect Ave to IL-47 in Mahomet
 - ④ Olympian Drive grade separation at CN tracks
 - ⑤ Olympian Drive extension from Apollo Drive to US 45
 - ⑥ Lincoln Avenue northern extension to Olympian Drive
 - ⑦ Preserve rural character of northeast Urbana roadways
 - ⑧ Possible interchange location along I-74 in east Urbana; interchange justification study funded but not yet completed
 - ⑨ Florida Avenue extension to IL-130
 - ⑩ Windsor Road reconstruction between Philo Road and IL-130
 - ⑪ IL-130 widening with medians from University Ave. to Curtis Road
 - ⑫ Curtis Road improvements between IL-130 and Race Street
 - ⑬ Curtis Road letter of understanding completed, issues unresolved
 - ⑭ Curtis Road grade separation at CN tracks
 - ⑮ Curtis Road improvements between Wesley Avenue and Wynstone Drive
 - ⑯ Curtis Road improvements between Staley Road and Rising Road
 - ⑰ Rising Road: resurface, stripe, and add 6' shoulders

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

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





Fiscally Constrained Projects for 2035

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

1. I-74 widening from IL-47 to Prospect Avenue - This project widens and improves the segment of I-74 between IL-47 and Prospect Avenue from two lanes in each direction to three lanes in each direction. The added capacity will help reduce current congestion and deal with future demands on this section of the interstate. This project received funding through the 2010-2015 State Capital Bill.
2. Olympian Drive extension from east of Duncan Road to I-74 - This segment of Olympian Drive from east of Duncan Road to I-74 is proposed as an arterial with off-street bicycle and pedestrian facilities. This project has already received some federal and state funding to help with engineering and construction.
3. Olympian Drive extension from Apollo Drive to US 45 - Olympian Drive, between Apollo Drive and US 45, is proposed as an arterial and would also include off-street bike and pedestrian facilities. This project has already received some federal and state funding to help with engineering costs and construction.
4. Olympian Drive grade separation over CN railroad tracks - This project provides a grade separation over the CN railroad tracks for the extension of Olympian Drive between Apollo Drive and US 45.
5. IL-130 widening with medians from University Avenue to Windsor Road - This project widens and improves the segment of IL-130 between University Avenue and Windsor Road from the current two-lane section to a four-lane section with medians. This project will include a sidepath on the west side of IL-130. The project received a funding allocation for engineering and construction through the 2010-2015 State Capital Bill.
6. Florida Avenue extension to IL-130 - Currently, Florida Avenue ends just east of Abercorn Street in east Urbana. Florida Avenue does not intersect with IL-130, forcing traffic to use other east/west roadways such as Washington Street or Windsor Road for access to IL-130. The extension will also include an extension to the existing sidepath on the south side of Florida Avenue. Extending Florida Avenue will provide access to IL-130 and create a more efficient travel path for all modes of transportation. This project received local funding through the City of Urbana in the 2010-2013 TIP.
7. Windsor Road reconstruction from Philo Road to IL-130 - This project will reconstruct Windsor Road between Philo Road and IL-130 as a four-lane section with medians, and extensions east and west of the existing sidepath on the north side for bicyclists and pedestrians. This project will increase capacity on Windsor Road and ease current and future congestion. The reconstruction of Windsor Road is currently under construction but not yet completed.
8. Curtis Road improvements between Wesley Avenue and Wynstone Drive - This project improves Curtis Road, from Wesley Avenue to Wynstone Drive, to a four-lane roadway section with a sidepath on the north and south sides of the roadway. This improvement matches the segment of Curtis Road from the new I-57 interchange east to Wynstone Drive. This project is currently under construction.
9. High Capacity Transit Network - In the fall of 2009, CU-MTD instituted new high capacity transit routes to serve the core of the urbanized area where greater transit frequency was needed and warranted. These routes are currently being implemented. While not directly a roadway improvement project, it is a fiscally constrained transportation project that does promote mode shift and reduces automobile trips.

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



Locally Funded Projects (FY 2010 - FY 2019)

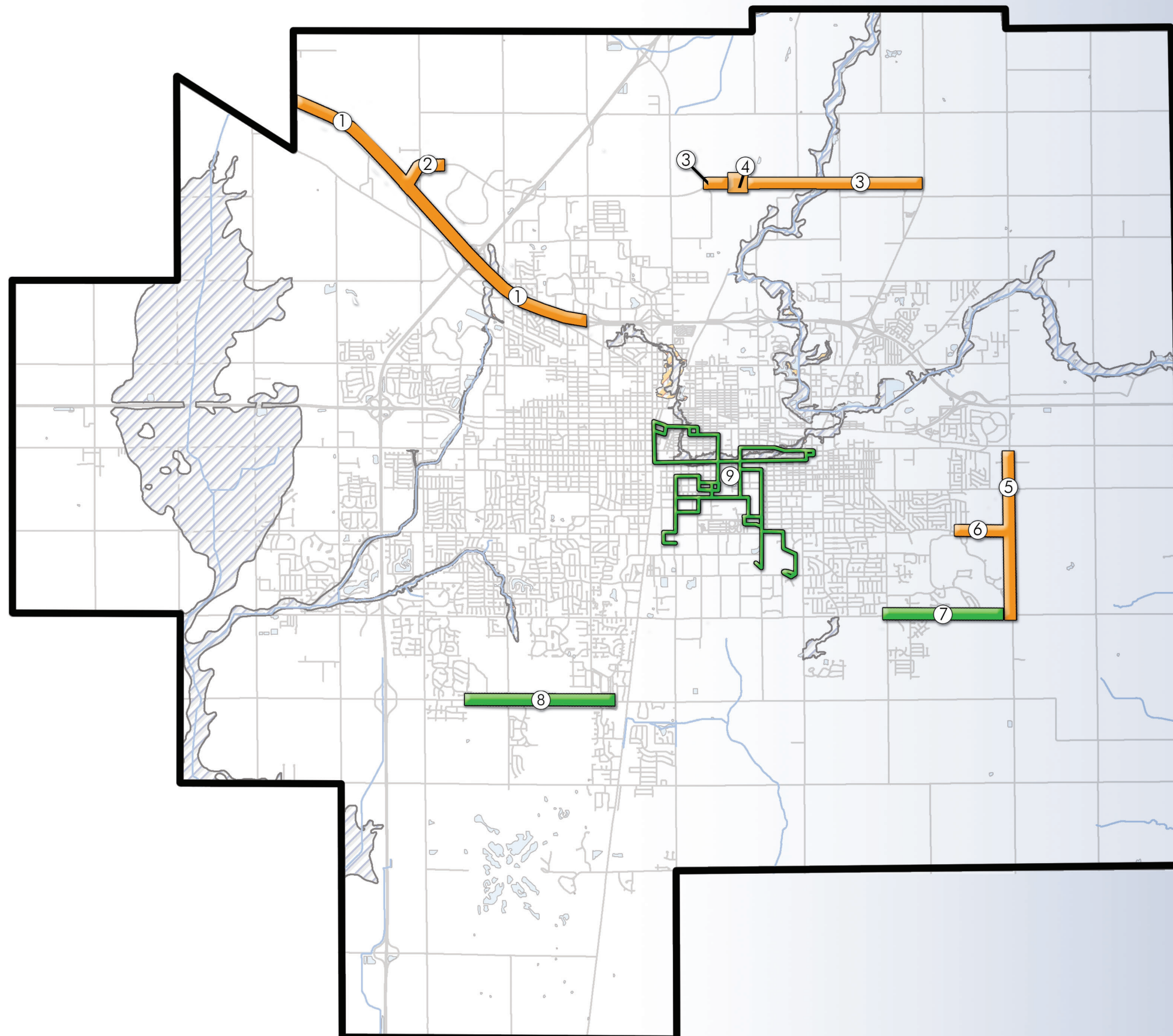
The third and final map which makes up the roadway vision for 2035 is one which identifies locally funded projects. While the LRTP is only responsible for identifying regionally significant transportation projects that could be targeted for federal funding, it is important to identify locally funded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

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

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

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

Figure 8.3 Fiscally Constrained Projects: 2010-2035



L RTP 2035 Fiscally Constrained Projects

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

L RTP 2035 Fiscally Constrained Projects List

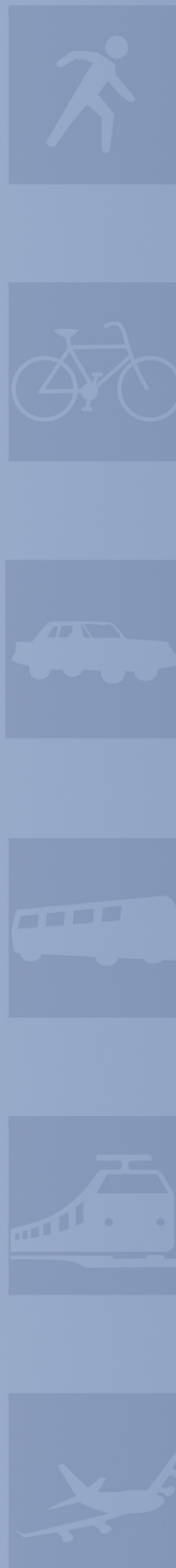
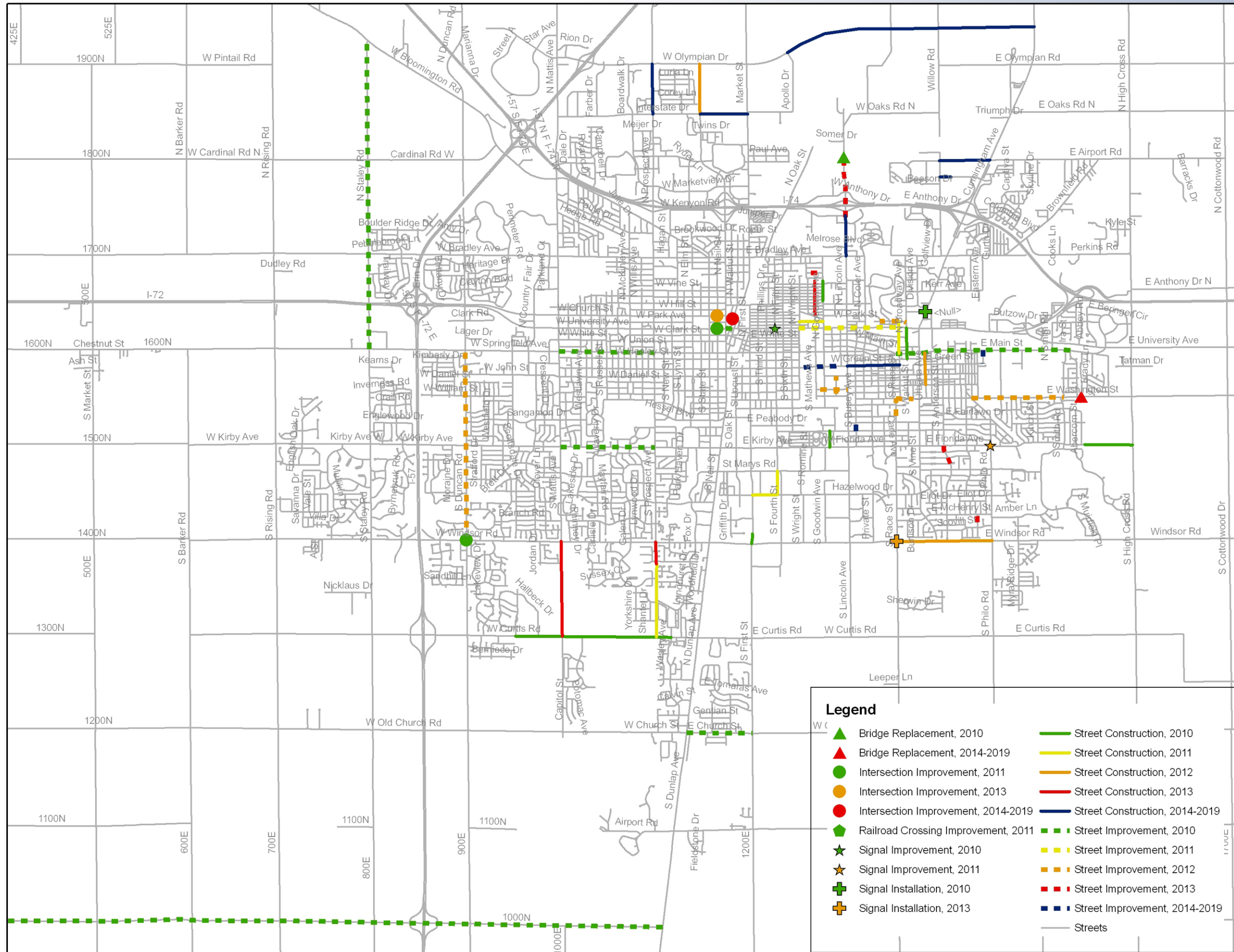
- ① I-74 widening from Prospect Ave to IL-47 in Mahomet
- ② Olympian Drive extension east of Duncan Road to I-74
- ③ Olympian Drive extension from Apollo Drive to US 45
- ④ Olympian Drive grade separation at CN tracks
- ⑤ IL-130 widening with medians from University Ave. to Windsor Road
- ⑥ Florida Avenue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

Legend

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



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





Bicycle and Pedestrian Vision for 2035

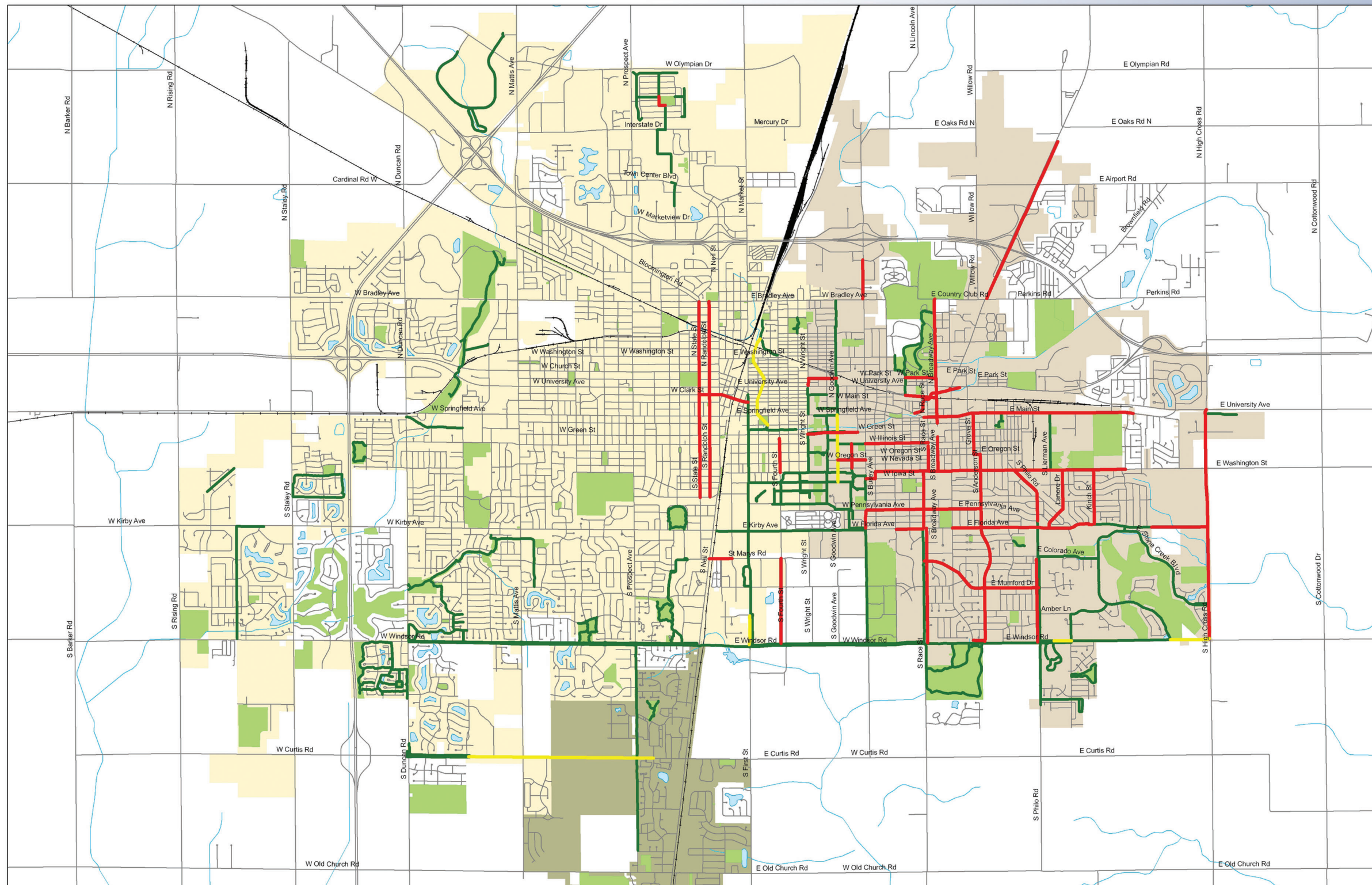
One important goal for the future transportation network is to provide choices to all users in how they travel from place to place. Whether users choose to drive, ride a bicycle or walk, facilities will be in place to make travel convenient, safe and timely. Increasing the amount of facilities for active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

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

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

1. Safety and Education - As more bicyclists and pedestrians share the road and adjacent right-of-way with vehicles, the need for additional safety aspects and educational components will become greater. Bicyclists and vehicles must be aware of each other while traveling and know the proper rules of the road to ensure safe and predictable travel behaviors. Safety courses and events need to continue in the urbanized area to educate all users.
2. Interagency Coordination - With the completion of the three bicycle/pedestrian plans and their ongoing implementation, coordination between the local agencies is more important than ever. The bicycle and pedestrian facilities need to connect to each other to make travel between the municipalities safe and efficient. As facilities are constructed along streets that connect municipalities to each other or to the University, it is important to make sure the plans are consistent and the facilities constructed are similar in type, dimension and properly signed.
3. Technology and Techniques - Between 2010 and 2035, traffic patterns, technology and techniques regarding bicycling and walking are going to change. It will be important for the local agencies implementing and updating the plans to adapt to any changes and adopt new techniques and technology where applicable.

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



LRTP 2035 Vision for the Future
The LRTP Bicycle and Pedestrian Vision Map is based on the 2009 Greenways and Trails update but also includes facilities that are currently under construction and those that will be constructed through the year 2015. Due to the large amount of bicycle facilities planned in the urbanized area, this map only shows those projects that are fiscally constrained and will be constructed by 2015.

What's the Plan for Bikes and Peds?

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

Why Bike or Walk?

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

Legend

- Green line: Projects Completed
- Yellow line: Projects Under Construction
- Red line: Projects Not Yet Completed
- Light yellow: Champaign
- Light brown: Urbana
- Light green: Savoy
- Light green: Open Space
- Blue: Water
- Black line: Streets

What Else Can Be Done?

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

Safety and Education

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





Public Transit, Rail and Air Travel Vision for 2035

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

Local Public Transit

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

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

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

Intercity Bus System

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

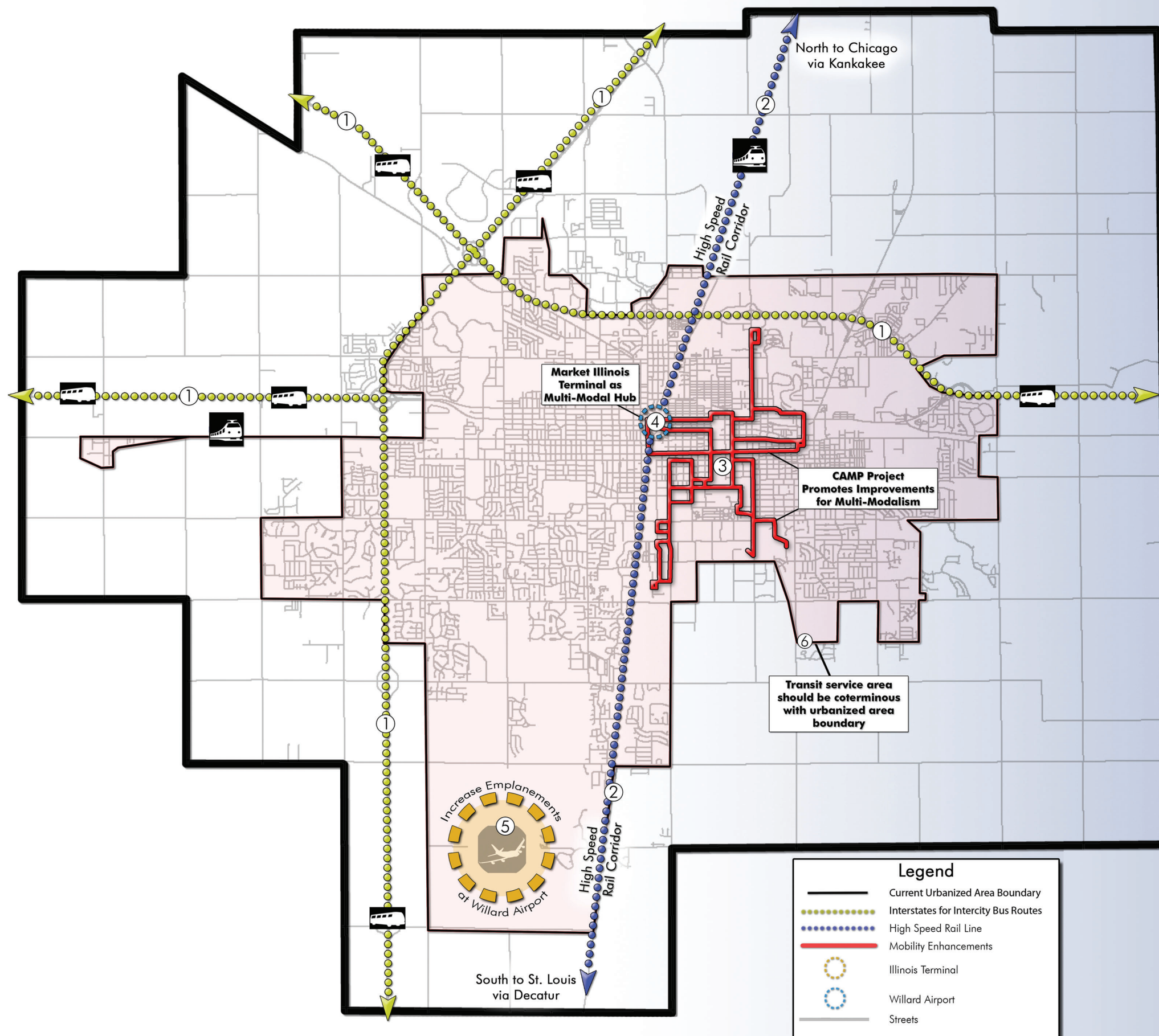
Rail

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

Air Travel

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

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



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

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

- LRTP 2035 Vision Project List**
- ① Market excellent interstate connectivity in the urbanized area to attract additional intercity transit carriers.
 - ② Secure funding to complete a feasibility study for a high speed rail connection between Chicago and St. Louis via Illinois Terminal utilizing rail lines within the urbanized area.
 - ③ Secure funding and implement the Core Area Mobility Project (CAMP) within the urbanized area. Project will improve core area roadways to support additional transit, bicycle and pedestrian traffic. Project will also add facilities which increase the safety for all modes of transportation utilizing the network.
 - ④ Market Illinois Terminal as a multi-modal hub connecting local public transit (CU-MTD), intercity transit and passenger rail. Create a marketing plan that can be distributed to travelers notifying them of the different modes of travel at Illinois Terminal and the corresponding schedules.
 - ⑤ Increase emplanements at Willard Airport in order to attract new carriers which may serve more destinations than what currently exists.
 - ⑥ The transit service area boundary should be coterminous with the urbanized area boundary in order to provide transit service to all residents within the urbanized area. As the urbanized area expands, so should transit service.





8.3 Modeling the Vision for 2035

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

Modeled Scenarios

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

1. 2005 Base Year Scenario - The model uses the year 2005 as the base year for all future comparisons. The model has been calibrated using actual traffic counts completed for the urbanized area during the 2004 LRTP update process. Updates to the model are completed as CUUATS staff receives updated traffic count information. Population and employment projections for the model are based on 2000 Census figures.
2. 2035 No Improvements Scenario - This scenario reflects the future conditions of the transportation network in 2035 if no changes are made to the network between the years 2005 and 2035. This scenario provides a comparison for the year 2035 to see how congested the current system would be if no improvements are made.
3. 2035 Full Improvement Scenario - This scenario reflects the future conditions of the transportation network in 2035 if all proposed transportation improvements are made to the existing network. This scenario is compared to the “no improvement” scenario to determine how much the proposed changes would improve the system.

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

Model Results

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

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



Table 8.3 - Model Results

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

Congested and Nearly Congested Corridors

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

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

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

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

Conclusion

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

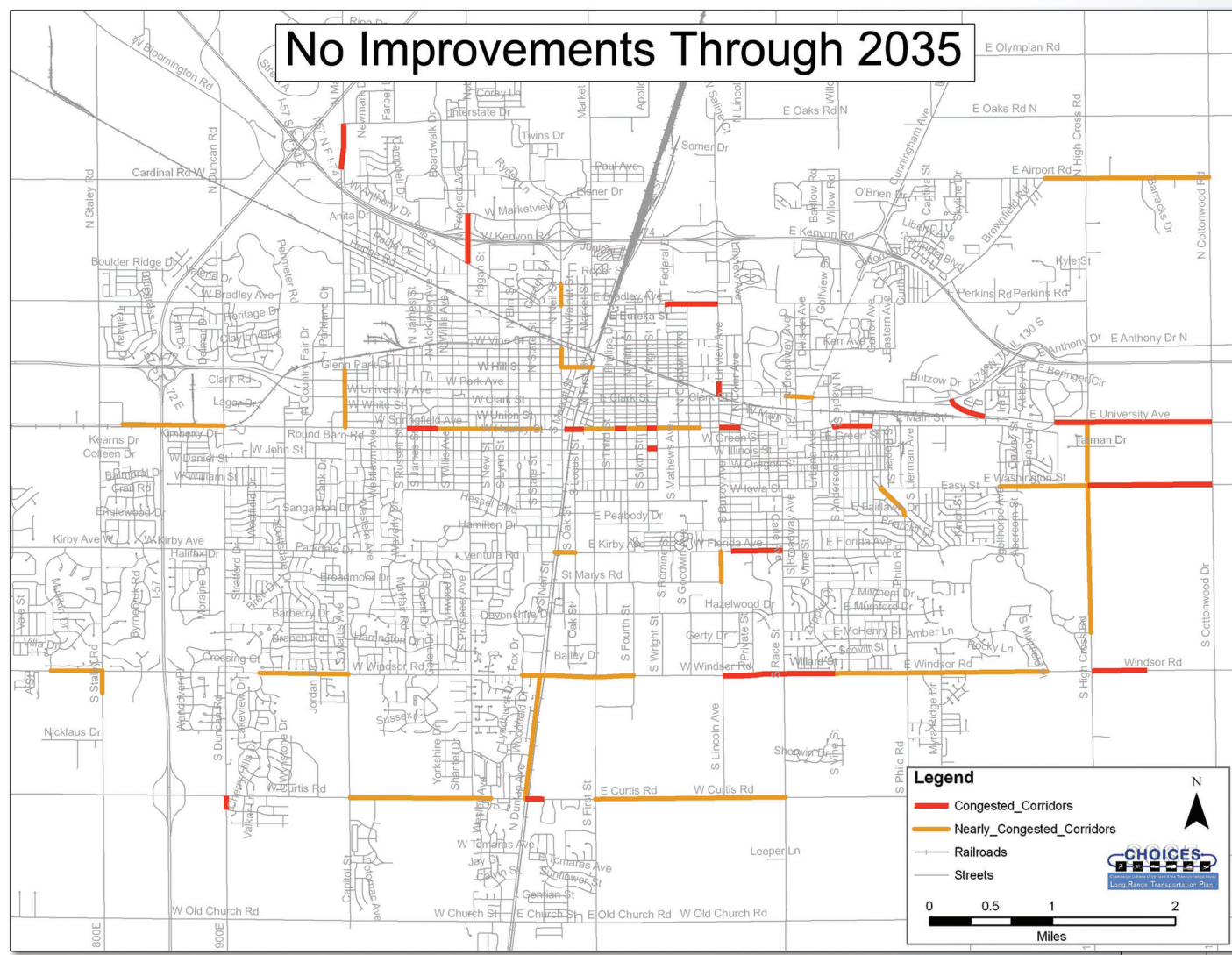
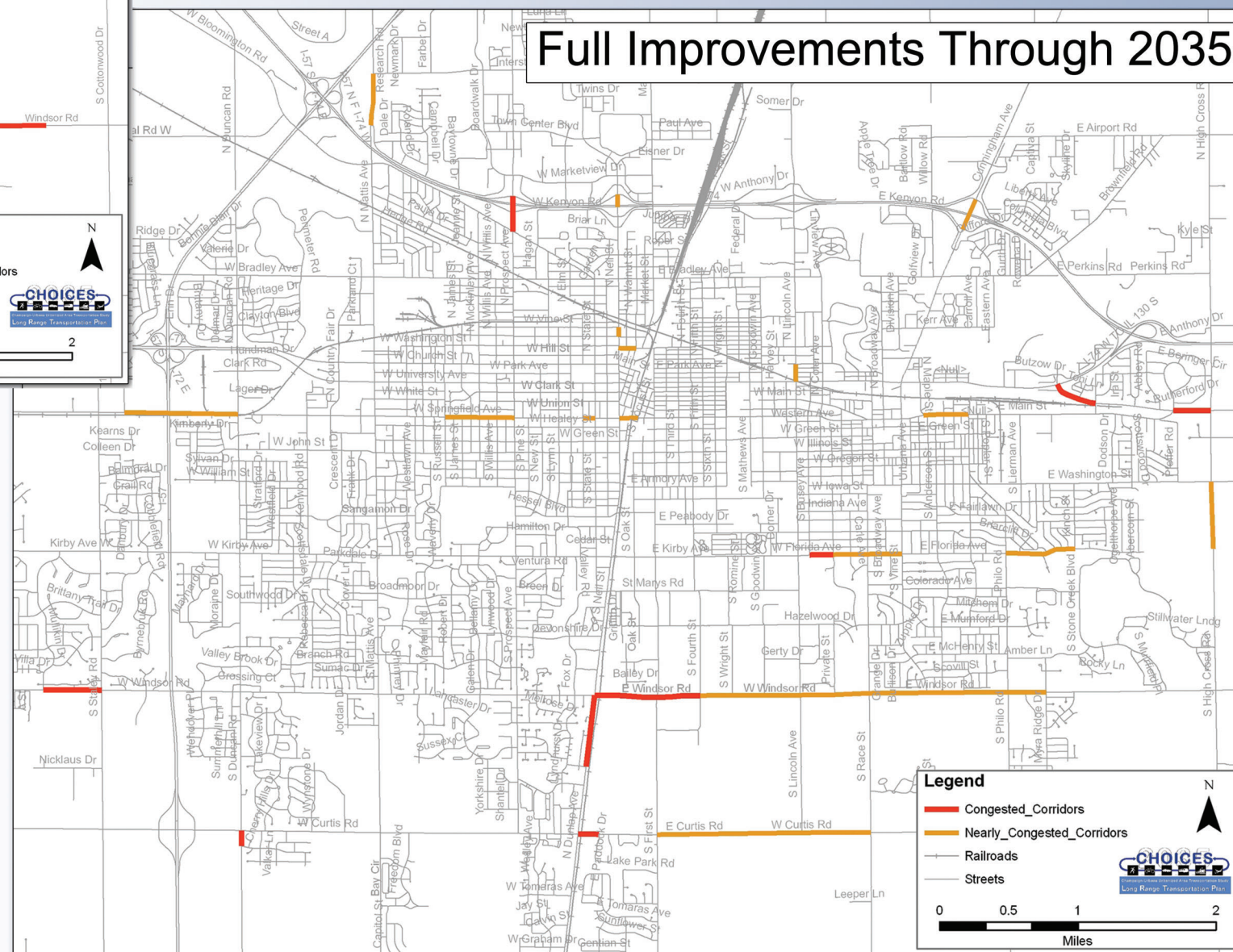


Figure 8.7 LRTP 2035:
 Congested and
 Nearly Congested Corridors



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

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

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

