

Chapter 1: Purpose and Need

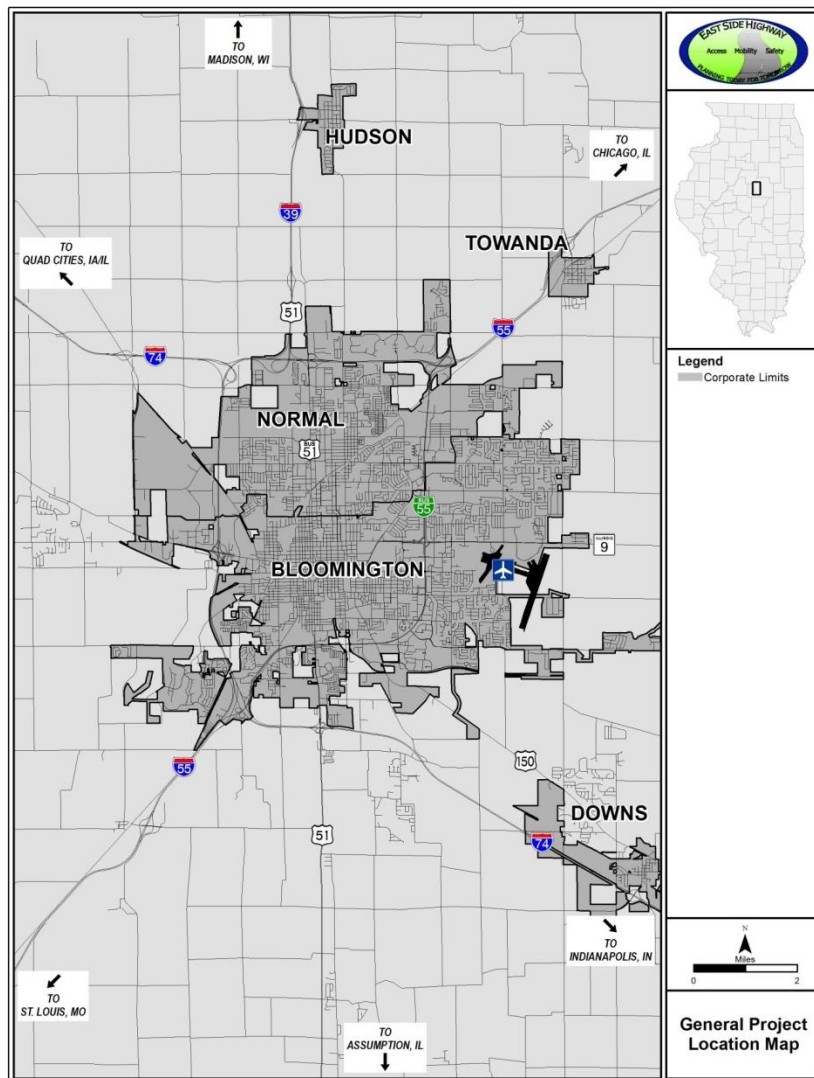
1.0 Purpose and Need

The Bloomington-Normal area, located in McLean County, Illinois, is centrally located in the state. It has benefited from regional connectivity to the Midwest via three Interstate highways (I-39, I-55, and I-74) and one partial access control freeway (U.S. 51) (see **Figure 1.1-1**).

Connectivity

Connectivity is defined as *efficient access for all types of transportation and effective movement of people, goods and services.*

Figure 1.1-1: General Project Location Map



The **Bloomington-Normal area** in this Environmental Assessment refers to the communities of Bloomington, Normal, Towanda, and Downs.



Due to its proximity to the Interstates, the Bloomington-Normal area could be considered a strategic location for businesses and is home to several large corporations that have more than 1,000 employees. Additionally, the Central Illinois Regional Airport (CIRA) provides national connectivity for business travelers and attracts employees and visitors from other areas in central Illinois, including Champaign-Urbana, Peoria, Decatur, and Springfield. Since the 1970s, the Bloomington-Normal area has been experiencing substantial population and employment growth. This trend is expected to continue, especially on the east side of Bloomington-Normal, as new commercial and residential development continues to occur.

What is the history of the project?

A transportation corridor on the east side of Bloomington-Normal that accommodates the projected growth in traffic has been the subject of study since the mid-1990s. Bloomington-Normal and McLean County have included a transportation improvement on the east side in their 1994 *Long*

Long Range Transportation Plan

A document resulting from regional or statewide collaboration and consensus on a region or state's transportation system, and serving as the defining vision for the region's or state's transportation systems and services. In metropolitan areas, the plan indicates all of the transportation improvements scheduled for funding over the next 20 years.

Range Transportation Plan 2025 (LRTP 2025), their 2007 *Long Range Transportation Plan 2035 (LRTP 2035)*, their 2012 *Long Range Transportation Plan Update (LRTP 2040)* and conducted a 2002 *East Side Highway Feasibility Study* and 2009 *East Side Highway Corridor Study*. Based on a 2035 planning horizon, the 2009 *East Side Highway Corridor Study* concluded with a recommended location for the East Side Highway (ESH) corridor, but with the understanding of the Project Study Group, that all of the evaluated corridors would be studied further in an Environmental Assessment (EA).

The *East Side Highway Corridor Study* was developed using the Illinois Department of Transportation's (IDOT) Context Sensitive Solutions (CSS) approach to public involvement. The CSS process is being continued for the EA and is discussed in greater detail in **Chapter 6**.

What is Context Sensitive Solutions?

A Context Sensitive Solutions (CSS) project:

- Considers community context (the setting in which the project will exist and the features valued by a community)
- Includes stakeholder input (continuous communication and coordination with affected individuals and groups)

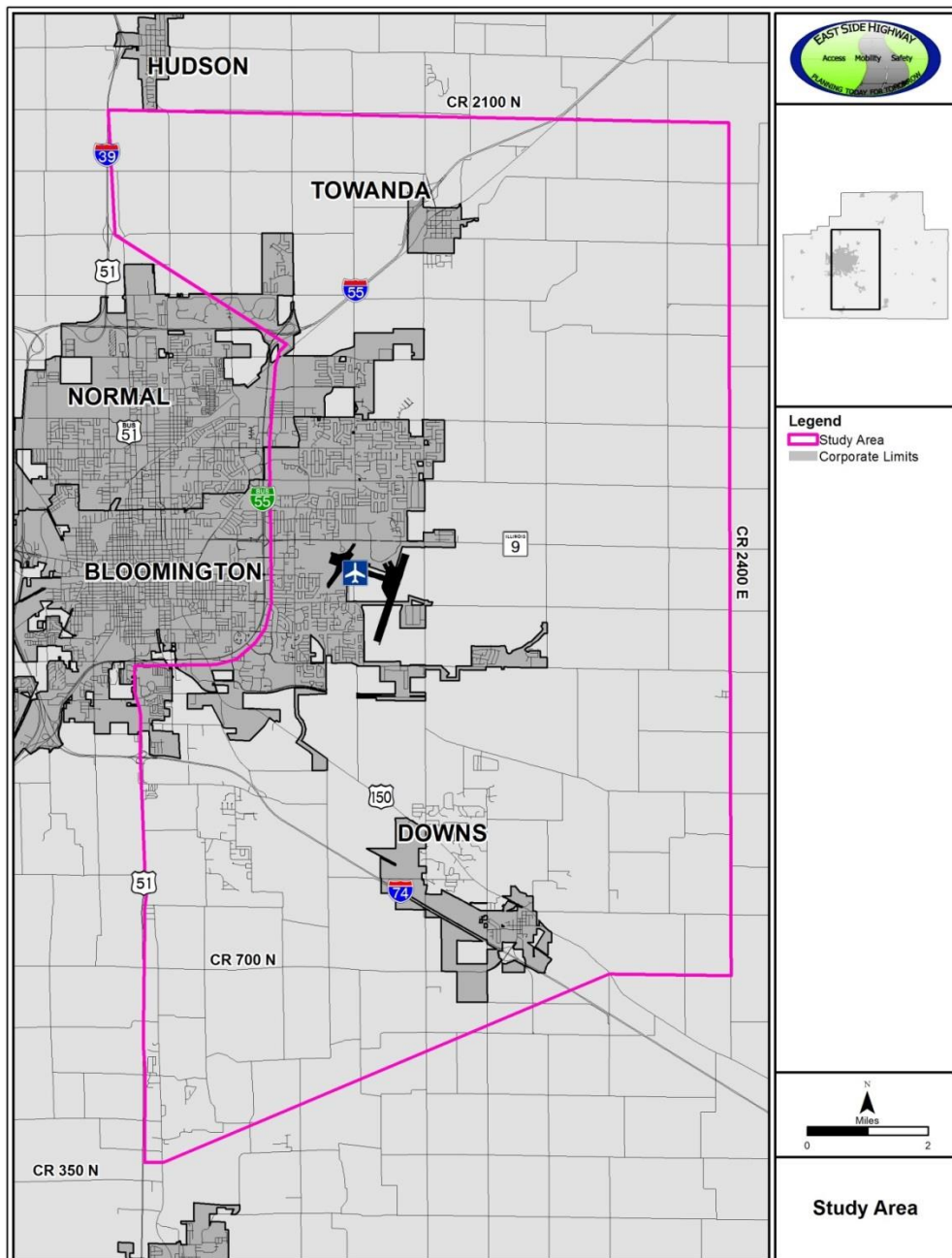


- Is environmentally sensitive (considers the natural and human environment)
- Is feasible and safe (is buildable and promotes safe travel)

What is the study area?

The study area for the EA (see **Figure 1.1-2**) was developed to address the projected growth areas to the east, northeast, and southeast of Bloomington-Normal.

Figure 1.1-2: Study Area



The EA does not include Veterans Parkway or U.S. 51 in the study area because these roadways do not serve the movements within the east side growth area. Veterans Parkway is three miles west of Towanda Barnes Road and approximately three and one-half miles west of the center of the forecasted growth area in the adopted land use plans. As a six-lane urban arterial, Veterans Parkway primarily serves destination traffic to the established retail development along its corridor. Outside of the municipal boundaries, U.S. 51 is a limited access controlled expressway. Business U.S. 51 is a north-south bisector of the urban core of Bloomington-Normal that provides interstate connectivity

Problem Statement

A problem statement, developed by CSS Stakeholders, is a concise description of the issues that need to be addressed, and is considered when developing the Purpose and Need for the project..

to I-55 and I-74. Although it does provide connectivity, efficient north/south travel using Business U.S. 51 is limited due to numerous established residential areas, business districts, and the campuses of Illinois State University and Illinois Wesleyan University along Business U.S. 51.

What is the purpose and need of the proposed

improvement?

Project Study Group (PSG)

This group provides project recommendations to the Joint Lead Agencies. The PSG includes representative from the Illinois Department of Transportation (IDOT), the Federal Highway Administration (FHWA), McLean County, the City of Bloomington, the Town of Normal, McLean County Regional Planning Commission, and the consultant engineering team.

During the 2009 *East Side Highway Corridor Study*, the Project Steering Committee and Project Study Group (PSG) followed the principles of CSS by working with the public through a series of meetings and workshops to reach consensus on a problem statement. Population, employment, and traffic growth projections were used in the stakeholder workshops to illustrate the projected growth on the east side of Bloomington-Normal.

Consensus was achieved for the following problem statement:

“Provide transportation infrastructure on the east side of Bloomington-Normal, defined by the study area map, that will accommodate managed growth and address future mobility and safety needs.”

The purpose of the project is to improve local and regional mobility and access to accommodate the managed growth forecasted on the east side of Bloomington-Normal. The need for this project is based on the inability of the current transportation system to accommodate projected traffic volumes and provide access for the future growth on the east side of the Bloomington-Normal area. Traffic growth in this area is directly related to the projected 2035 population and employment forecasts.



Two principal needs in the study area were identified from the problem statement:

- **Accommodate Managed Growth:** Provide a transportation system, consistent with local planning priorities, on the east side of Bloomington-Normal to accommodate projected traffic growth resulting from projected population and employment increases in the Bloomington-Normal area.
- **Provide Improved Mobility and Access:**
 - Improve Local (within Bloomington-Normal) and Regional (outside Bloomington-Normal) Mobility. Provide improved north-south and east-west mobility between residential areas and job centers, thereby reducing congestion and improving safety.
 - Address Local and Regional Access. Provide better local access between the east side of Bloomington-Normal and the urban core. Improve the linkage to the regional transportation system, including access to the Interstate System (I-55 and I-74) and CIRA.

Mobility

Capability of moving or being moved.

Access

Ability to enter a facility.

How much growth is forecasted by 2035 in Bloomington-Normal?

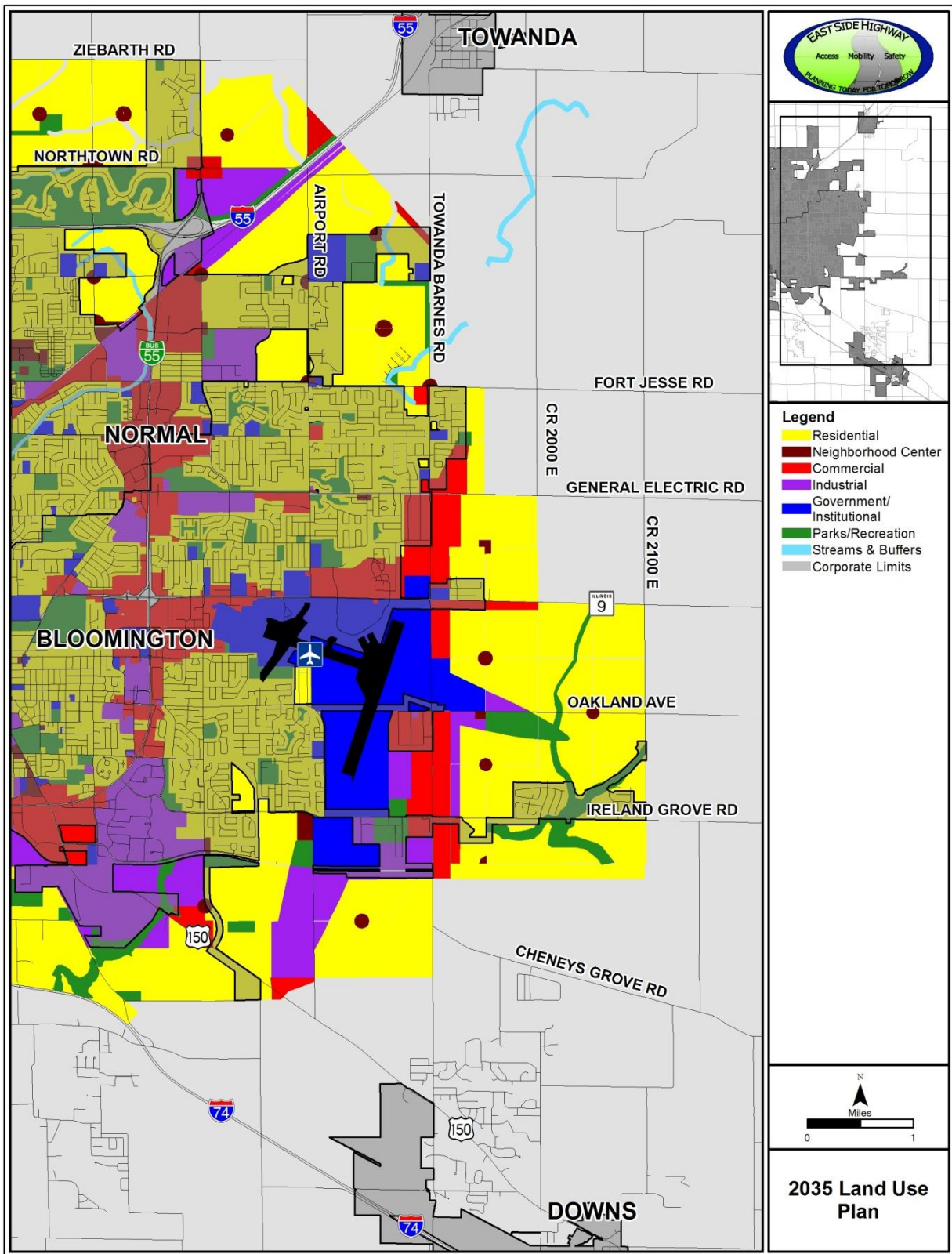
Through the municipal planning process, the local land use plans for Bloomington and Normal and the countywide comprehensive plan form the foundation of the population and employment growth forecasts. These are in turn used to assess future transportation needs in the urbanized area, which the McLean County Regional Planning Commission (MCRPC) documented in the 2007 *LRTP 2035*, and again in the 2012 *LRTP 2040*. The MCRPC is the metropolitan and regional planning organization for the Bloomington-Normal area. MCRPC works closely with McLean County, Bloomington and Normal to establish goals, objectives, and policies for regional land use planning.

What land use changes are anticipated by 2035?

The county and municipal land use plans indicate that agriculture is the predominant current land use within the study area and in McLean County. The cities of Bloomington and Normal comprise most of the urban land within the county. While agriculture is expected to continue to be the dominant land use in the county, its proportion to urban uses will decrease as development continues. According to the regional and local land use plans (see **Figure 1.1-3**), the principal areas of new development are projected to be around the fringe of the urbanized area. More specifically, development is expected to be concentrated to the east, southeast, and northeast.



Figure 1.1-3: 2035 Land Use Plan



The land use plans promote redevelopment and infill development within the existing communities. However, these plans also recognize that a change in land use is needed to meet the projected growth in population and employment. Recognizing the cultural, environmental, and economic role of agriculture in the community, the strategies aim to maximize existing resources and minimize loss of farmland by planning new areas for development that are contiguous to existing service areas.

How much is the population of Bloomington-Normal expected to grow?

According to U.S. Census data, together the communities of Bloomington, Normal, Towanda, and Downs had over 130,500 residents in 2010, approximately three-quarters of the total McLean County population of 169,570. McLean County ranked 7th in Illinois counties in population growth between 2000 and 2010. Between 2010 and 2013, this ranking increased to 2nd according to non-census year population estimates by the U.S. Census. Most of the other Illinois counties that experienced high growth in population were in or adjacent to the Chicago metropolitan area.

Bloomington-Normal and the surrounding communities have experienced decades-long growth in population with growth rates consistently above state averages since 1970 (see **Figure 1.1-4**, **Figure 1.1-5** and **Figure 1.1-6**). MCRPC predicts that substantial growth in the urbanized area will continue. Forecasts predict the McLean County population to increase by 28% between 2010 and 2035, to over 216,300. This population growth will generate demand for transportation infrastructure that effectively serves the developing areas.

The **MCRPC** predicts major growth areas around the Bloomington-Normal area to be concentrated in the east, southeast, and northeast. (**Figure 1.1-3**)



Figure 1.1-4: Population Percent Growth per Year*

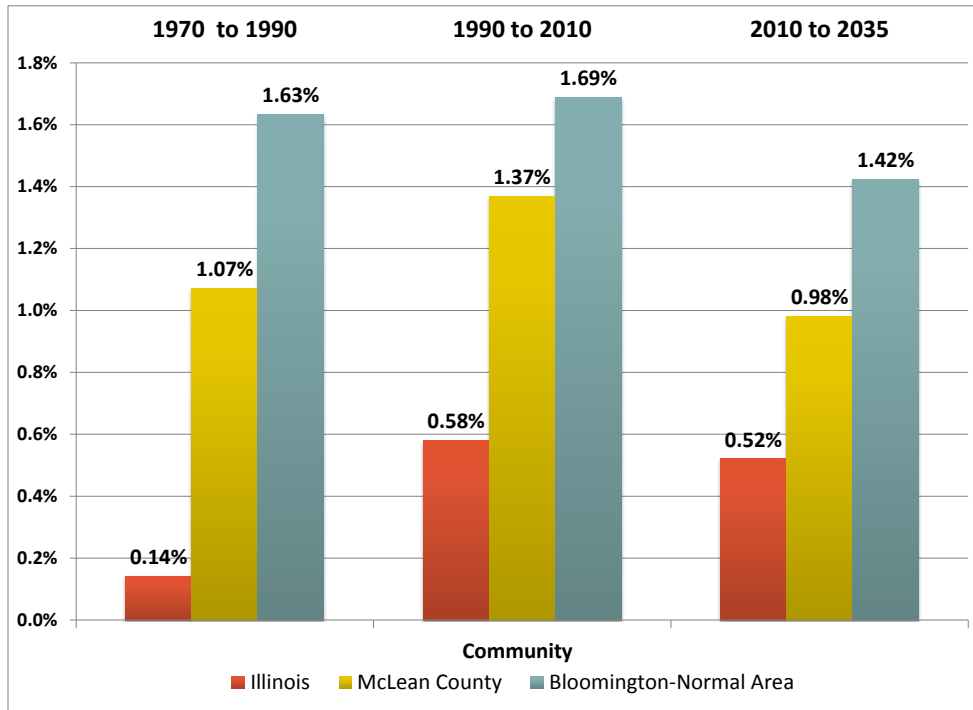
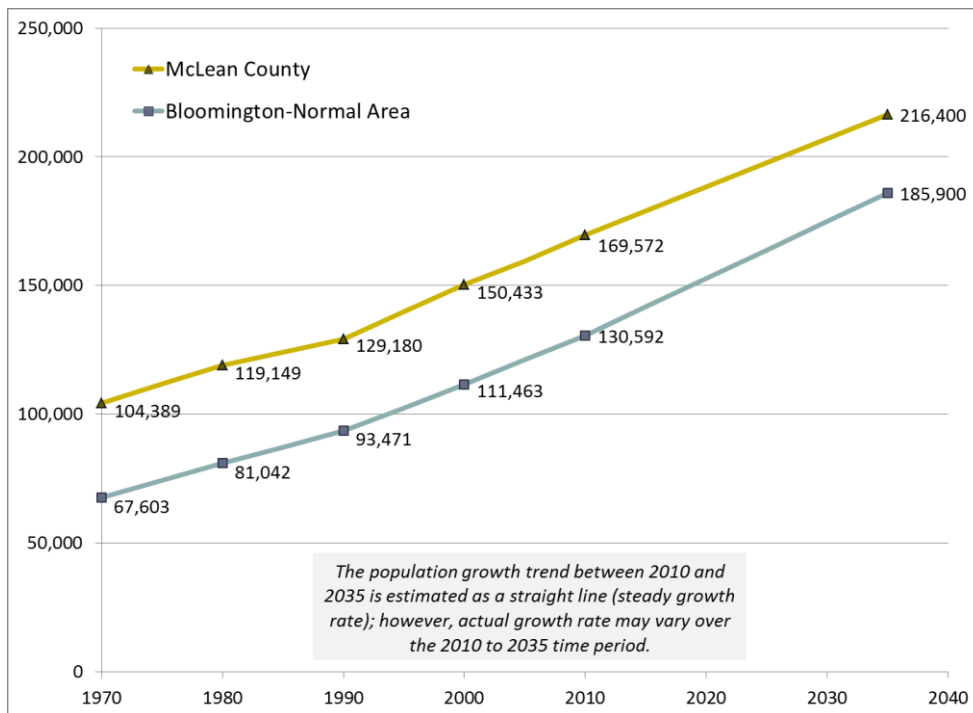


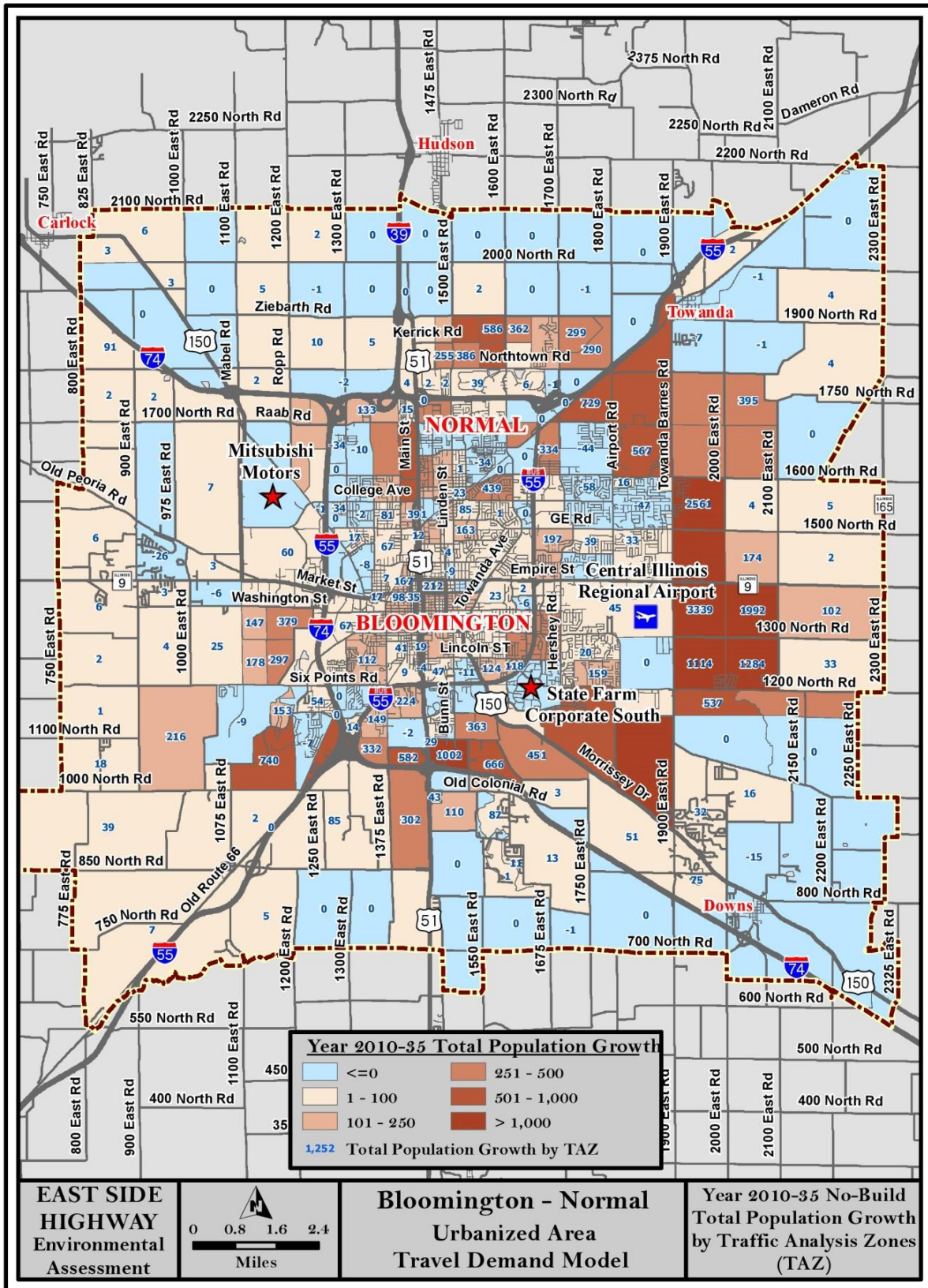
Figure 1.1-5: Population Growth 1970 to 2035*



Sources for Figures 1.1-4 & 1.1-5: U.S. Bureau of Census Data: 1970, 1980, 1990, 2000, and 2010. * 2035 County and municipal projections adopted from Long Range Transportation Plan 2040 - Bloomington-Normal, Illinois Urbanized Area, October 2012. McLean County Regional Planning Commission, The source of the 2035 State of Illinois projections is the 2010 Complete Economic and Demographic Data Source (CEDDS), Woods and Poole Economics, release date January 2013.



Figure 1.1-6: Year 2010-2035 Population Growth by Transportation Analysis Zones (TAZ)

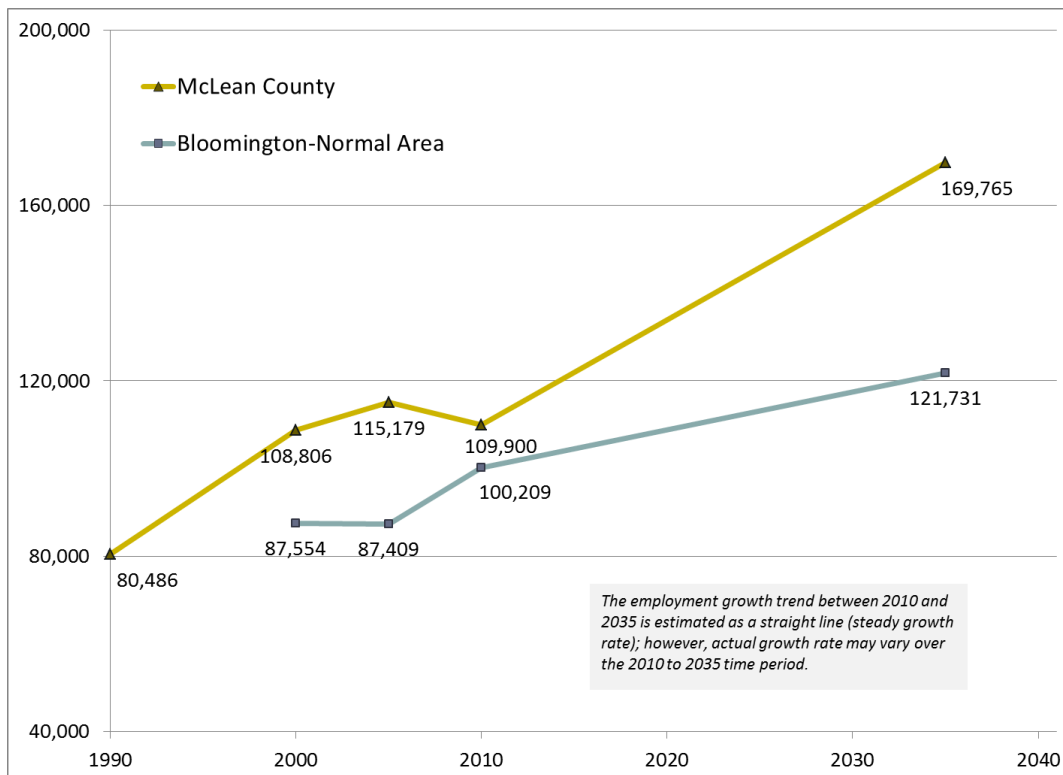


How much is employment in Bloomington-Normal expected to grow?

Between 1990 and 2000, McLean County outpaced the State of Illinois in employment growth by approximately 2:1 (35.2% vs. 15.2%). Between 2000 and 2010, employment in McLean County grew at a much lower rate (1%) than during the 1990s, primarily because of the 2001 and 2008-2009 recessions. Both recessions caused employment to decline in McLean County and throughout the U.S. Independent national forecasters (e.g. Woods & Poole Economics – W&P) anticipate employment growth to resume, but at rates lower than those experienced in the 1990s.

Between 1990 and 2010, employment in Illinois increased by 0.59% per year. Employment in McLean County increased by 1.57% per year during this time. Year 2035 employment projections show Illinois employment increasing 25% by 2035, with McLean County employment increasing 55% by 2035, and Bloomington-Normal area employment increasing 22% by 2035. **Figure 1.1-7** shows the employment trends and forecasts for McLean County and Bloomington-Normal. **Figure 1.1-8** shows the areas of projected employment growth between 2010 and 2035.

Figure 1.1-7: Employment Growth



Note: Employment data for Bloomington and Normal is unavailable for 1990.

Source: All employment data reflect Bureau of Economic Analysis (BEA) definitions. The primary source for 1990, 2000, 2005 and 2010 data is BEA. The source of the 2035 State of Illinois projections is the 2010 Complete Economic and Demographic Data Source (CEDDS), Woods and Poole Economics – release date January 2013. The source of 2035 County and Bloomington-Normal forecasts is ACG, as part of this study. Woods & Poole (W&P) 2010 CEDDS. County and sub-county forecasts are from the 2009 East Side Highway Corridor Study. Sub-County 2000, 2005 and 2009 are from Nielsen/Claritas, as published by Tetrad Computer Application, Inc.

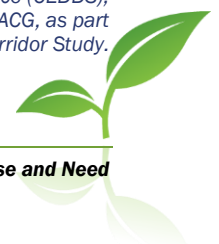
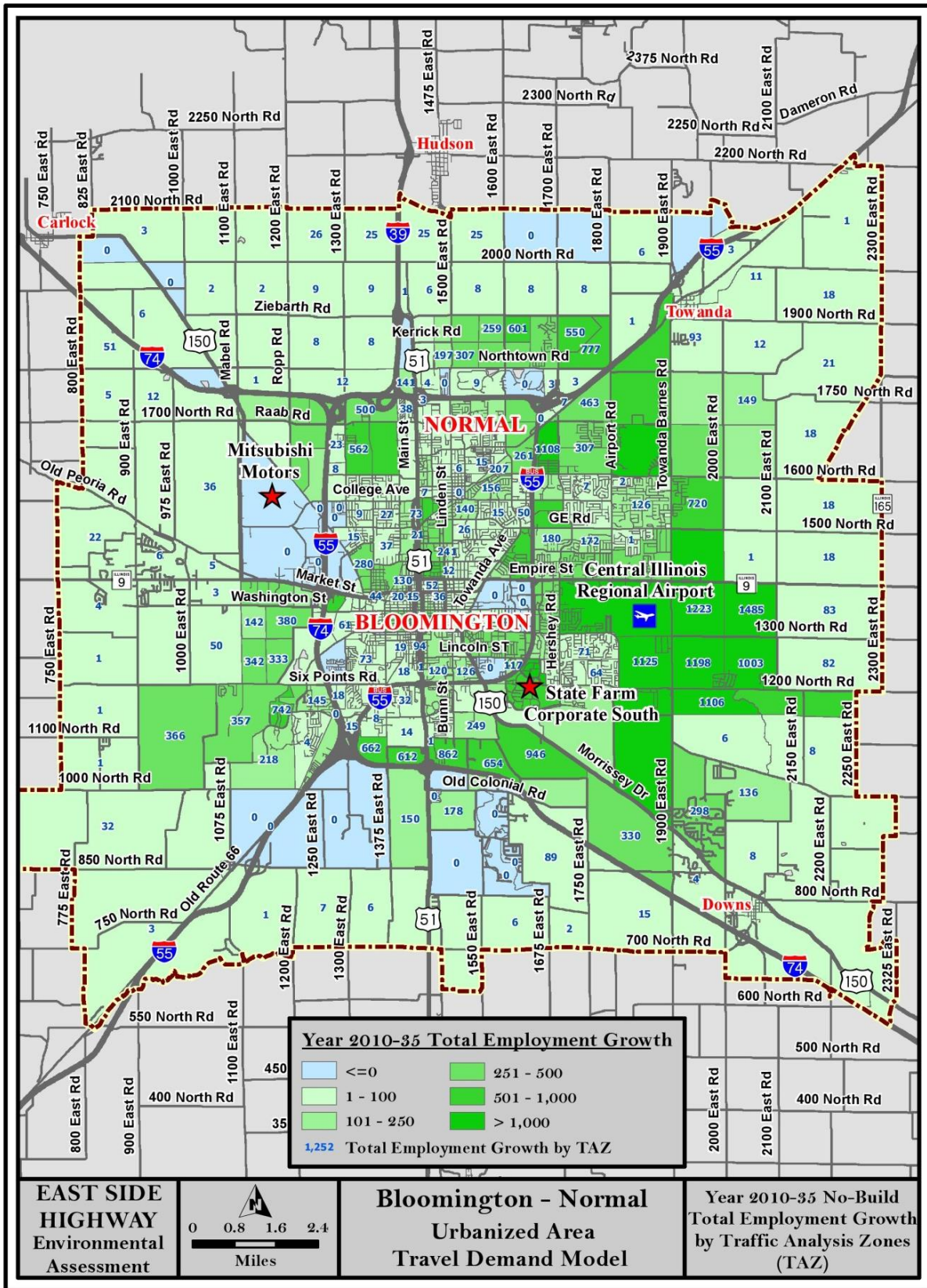


Figure 1.1-8: Year 2010-2035 Employment Growth by Transportation Analysis Zones (TAZ)



There are various reasons for future employment growth in the Bloomington-Normal area. The economy of the Bloomington-Normal area is diverse, with industries such as agriculture, finance and insurance, higher education, and manufacturing. It is home to a number of large employers (more than 1,000 employees), including State Farm Insurance, Country Insurance and Financial Services, BroMenn Healthcare, and Illinois State University. These and other employers make the Bloomington-Normal area a regional employment location, attracting employees from within as well as from outside the region.

The region is also at the convergence of three Interstate highways in central Illinois (I-55, I-74, and I-39) providing the community and employers access to and from the Interstate system for transporting goods, services and commuters to and from work, further enhancing its economic and employment strength. As with population, the forecasted employment growth will generate demand for transportation infrastructure to effectively serve these developing areas.

How much is the Central Illinois Regional Airport (CIRA) expected to grow?

Major carriers at **CIRA**:

- Allegiant Air
- American Airlines
- Delta Air Lines
- Frontier Airlines

McLean County and much of Central Illinois is served by CIRA, located at Towanda Barnes Road and Empire Street on the east side of Bloomington. The airport is used by major carriers providing direct flights to major destinations around the country, including two of the nation's most heavily trafficked airports, Chicago-O'Hare and Atlanta-Hartsfield, and by air cargo operators, private planes, charter services, and flight instruction schools. Upgrades at CIRA have included widening taxiways and lengthening its primary runway to accommodate larger cargo aircraft. CIRA also has the only Instrument Landing System in Central Illinois, allowing aircraft the opportunity to land during adverse weather conditions.

It also provides a conference center, business center, free parking and access to the local bus system for travelers. Because of the operational and passenger amenities that CIRA has to offer, it is an attractive option for residents and businesses in Bloomington-Normal as well as for those outside of the urbanized area. More than half of CIRA's frequent flyer membership program is registered to addresses outside of Bloomington-Normal, and 13% are from outside Illinois.

The number of passengers at CIRA has increased steadily between 2001 and 2008. In 2008, the number of passengers flying on CIRA's commercial airlines was approximately 270,000. In 2009 and 2010, passenger traffic at CIRA declined, as did air traffic across the country, due to the economic downturn. Projected passengers in 2028 are estimated between 400,000 and 500,000 and are dependent on local factors (i.e. demand and competition), as well as impacts of the regional



and national market. Future aviation demand at CIRA is based, in part, on the projected population and employment in the Bloomington-Normal area.

CIRA is well suited to continue increasing its passenger and freight operations and enplanements in the future, as described in the *Central Illinois Regional Airport Final Airport Master Plan Update*, April 2009. As enplanements increase, so too will the number of vehicles accessing the airport. This growth will generate demand for transportation infrastructure to effectively serve this important destination.

What are the mobility and access issues in the study area in 2035?

The existing transportation system does not provide adequate north-south and east-west mobility on the east side to and from residential areas and job centers in the Bloomington-Normal area.

Population and employment growth is expected to lead to increases in travel to, from, and within the study area by both local and regional travelers. The increase in travel can lead to congestion and potential changes in safety conditions.

Residential areas are generally located on the northern, eastern and southern sections of Bloomington and Normal. Major employment centers in the Bloomington-Normal area are identified on **Figure 1.1-2**.

The only major north-south road in the study area is Towanda Barnes Road, which currently carries the majority of north-south traffic east of Bloomington and Normal. However, Towanda Barnes Road does not directly connect to I-55 or I-74. No other north-south roads on the east side of Bloomington-Normal are continuous through the study area, nor do they connect directly to the interstates. There are numerous roads that provide east-west access between Towanda Barnes Road and Bloomington-Normal; however, only a few provide continuous access to the urban core of the Bloomington-Normal area. Fort Jesse Road, General Electric Road, Empire Street, and U.S. 150 connect directly into the urban core, and also run the width of the study area.

What are the existing traffic volumes and mobility issues in the study area?

Figure 1.1-9 is a graphical representation of 2009 Average Annual Daily Traffic (AADT) in the Bloomington-Normal area. The major north-south and east-west roadways within the study area are generally two or four-lane roadways. Volume-to-capacity ratio (v/c) is a measure that is used to determine the traffic's ability to flow for a given road section. A v/c of less than 0.8 indicates that a section

Average Annual Daily Traffic (AADT) is the total volume of vehicle traffic on a road for a year divided by 365 days and is measured as the number of vehicles per day (VPD).



is performing under capacity; in other words, traffic is relatively free-flowing. A v/c of 1.0 indicates that a roadway segment is performing near or at capacity, or is supporting the maximum amount of traffic it is designed to carry, and additional traffic may lead to congestion. Sections operating between 1.0 and 1.2 are slightly over capacity, and those over 1.2 are substantially over capacity. When roadways operate over capacity, motorists experience congestion, mobility is limited, and safety is compromised.

Volume to Capacity:

Each section of a roadway has the capacity for a certain number of vehicles. The volume to capacity ratio (v/c) is a measure used to determine the traffic's ability to flow efficiently for a given road section. The lower the v/c ratio, the less congestion you will experience.

v/c < 0.8 Roadway Section is Under Capacity

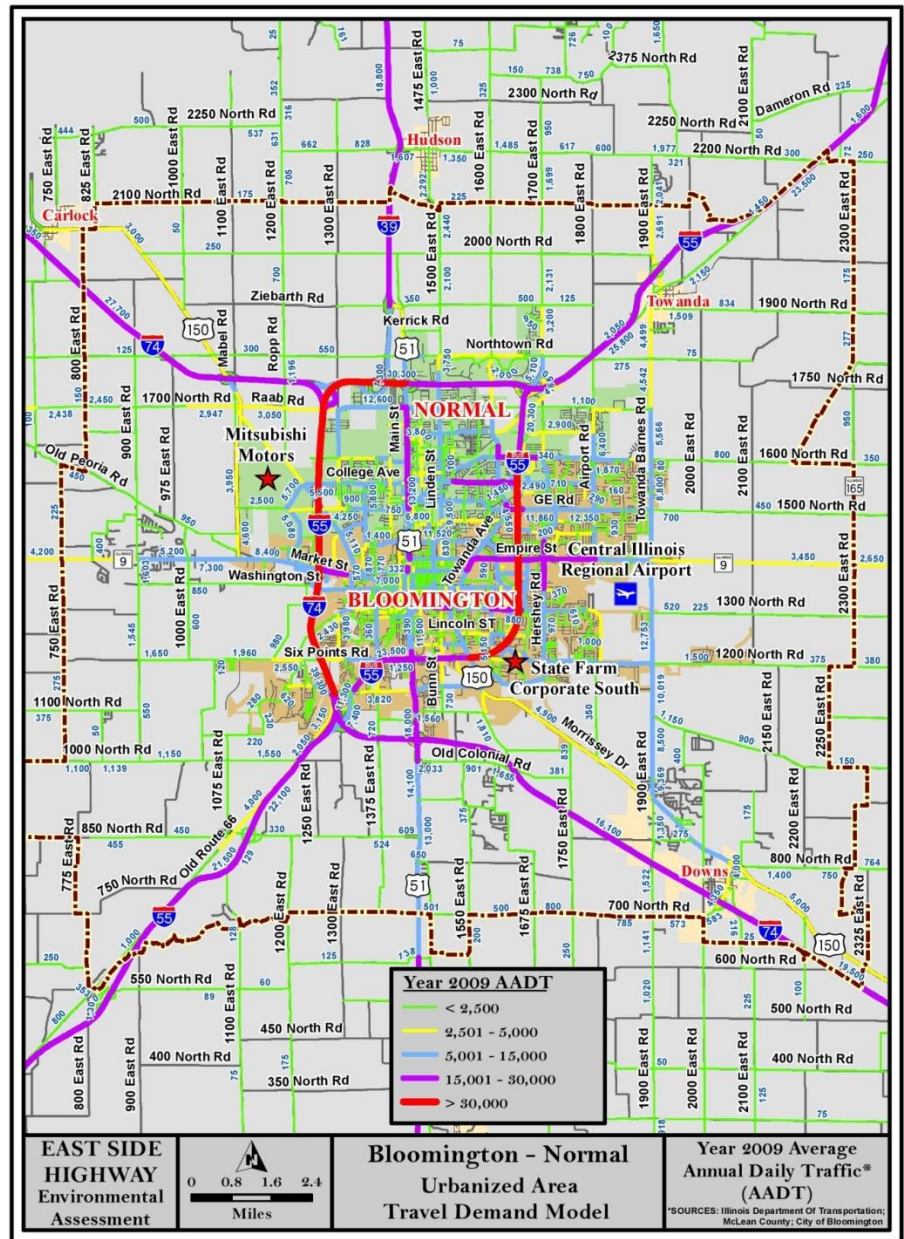
v/c = 0.8-0.99 Roadway Section is Near Capacity

v/c = 1.0-1.19 Roadway Section is Slightly Over Capacity

v/c ≥ 1.2 Roadway Section is Substantially Over Capacity

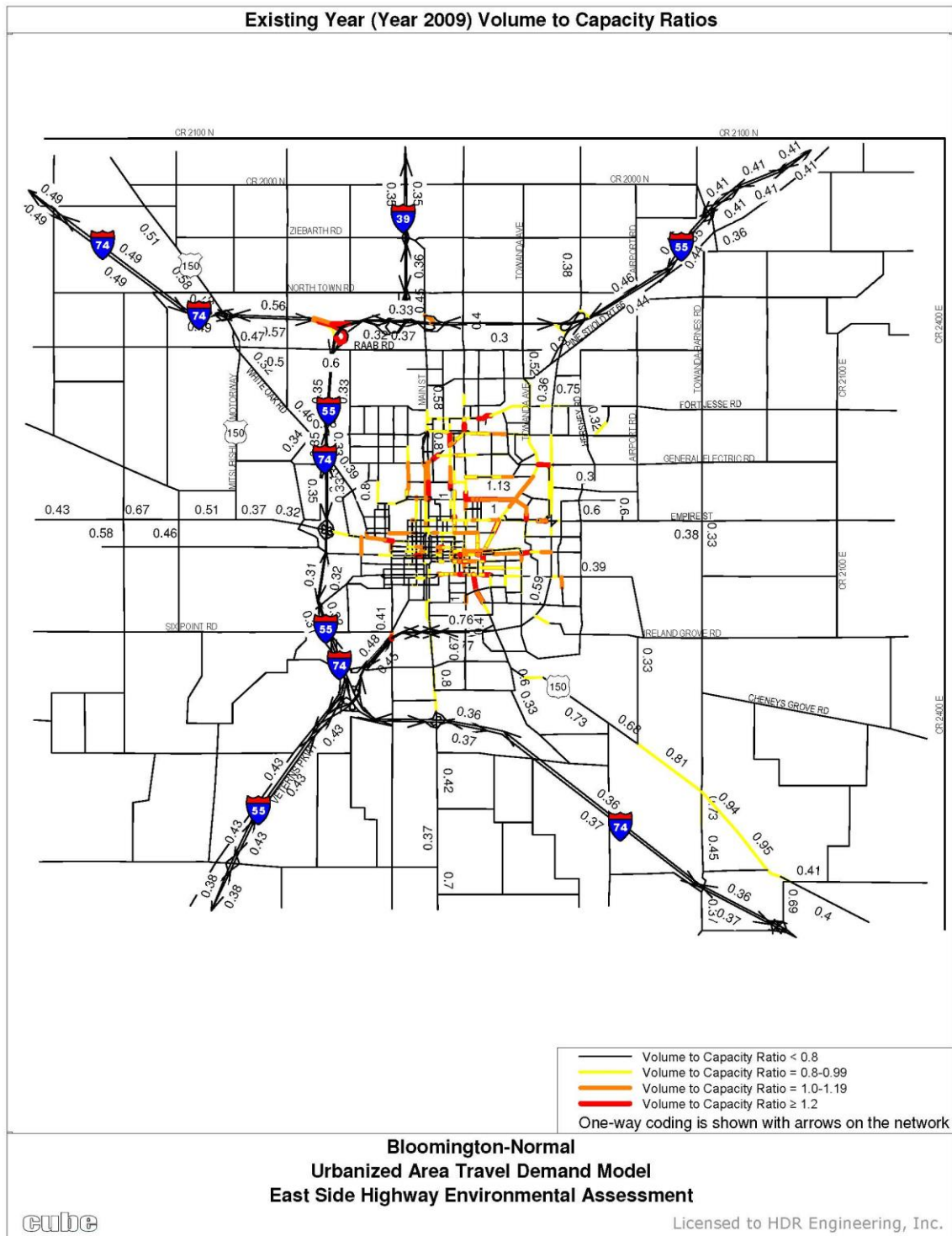
Source: Transportation Research Board, Highway Capacity Manual 2010, 5th Edition and Federal Highway Administration, Traffic Signal Timing Manual

Figure 1.1-9: Year 2009 Average Annual Daily Traffic



An analysis of the traffic operations of the existing (2009) system of roadways in terms of daily v/c ratio determined that the majority of the roads in the study area are currently performing under capacity (v/c is less than 1.0). **Figure 1.1-10** represents the existing traffic v/c ratios.

Figure 1.1-10: Year 2009 Volume to Capacity Ratios



What are the projected 2035 traffic volumes and mobility issues?

No-Build (2035) traffic volumes were developed using a Travel Demand Model (TDM) based on 2035 projected population and employment growth. Roadway projects identified in the *LRTP 2035* and

No-Build (2035)

No-Build (2035) traffic volumes represent a county-wide condition through year 2035 that includes all future planned and programmed infrastructure improvements except the East Side Highway.

are planned or programmed for construction by IDOT, Bloomington, Normal, or McLean County by 2035, based on the 2008-2012 Transportation Improvement Plan, were added to the existing roadway system in the model in order to develop a future conditions scenario. An ESH is not included as either a planned or programmed project in the 2035 No-Build Alternative because this alternative establishes a baseline for comparison. There are also

no planned or programmed improvements to the I-55 interchange in Towanda and the I-74 interchange in Downs. A graphical depiction of the future (2035 No-Build) AADT can be seen in

Figure 1.1-11.



Figure 1.1-11: Year 2035 No-Build Daily Volumes

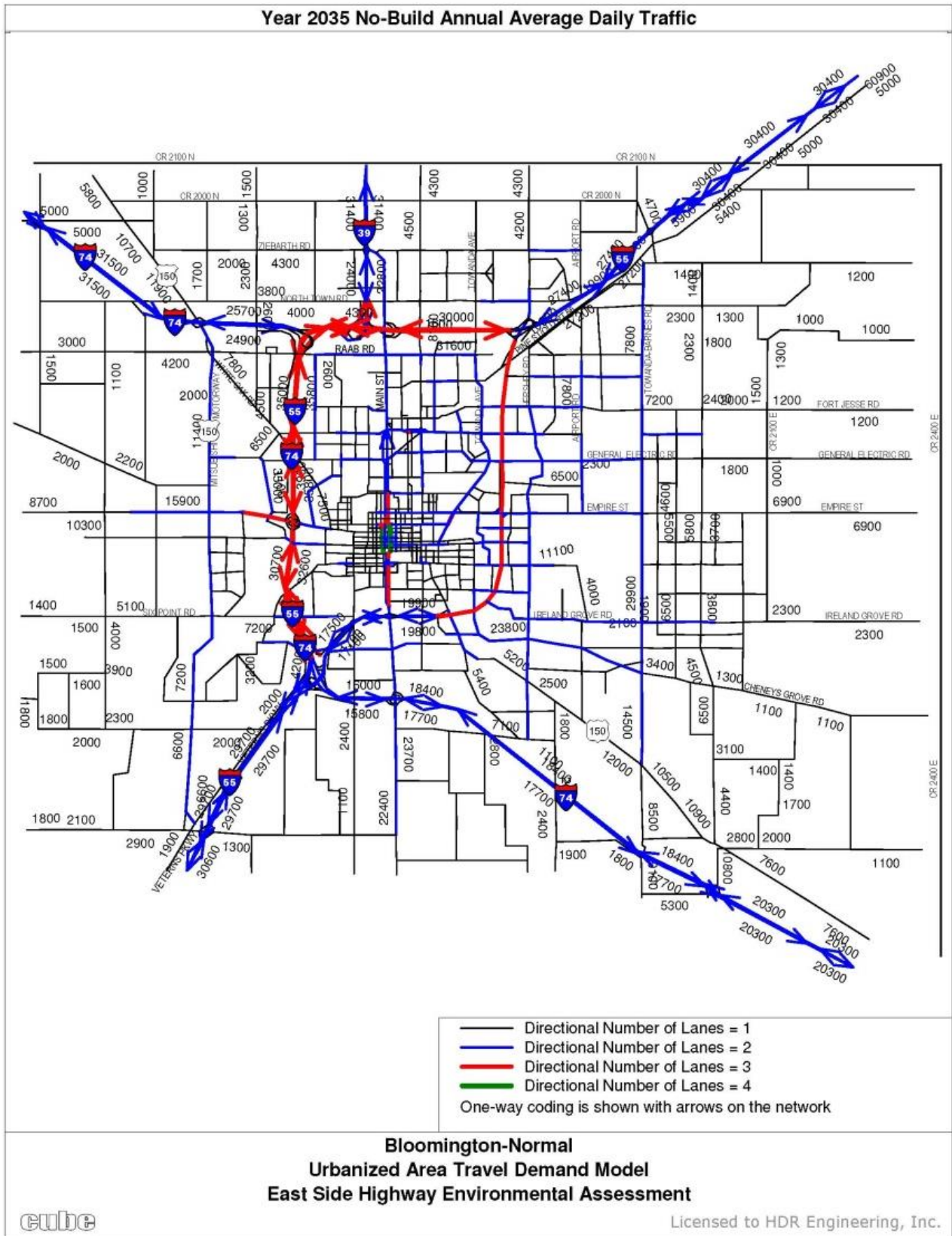


Table 1.1-1 compares existing and projected traffic volumes in the study area.

Table 1.1-1: Existing and Future Traffic Volumes

		Existing Traffic Volumes (2009)	Projected Future Traffic Volumes (2035 No-Build)	2009 to 2035 % Increase in Max Volume
Roadway	Max Volume Location	Max Volume (VPD)	Max Volume (VPD)	
Towanda Barnes Road	South of Empire Street (IL 9)	13,500	41,200	205%
Fort Jesse Road	West of Towanda Barnes Road	4,900	11,200	129%
General Electric Road	West of Towanda Barnes Road	9,900	16,400	66%
Empire Street (IL 9)	West of Towanda Barnes Road	13,700	36,800	169%
Ireland Grove Road	West of Towanda Barnes Road	9,200	18,700	103%
U.S. 150	East of 2000 East Road	7,900	15,200	92%
Interchange at Towanda	I-55	4,500	14,800	229%
Interchange at Downs	I-74	4,000	7,900	98%

Note: (1) VPD refers to vehicles per day.

Many roadways in the study area are planned or programmed for improvement by 2035, which will add capacity to the system. The v/c ratio analysis for the 2035 No-Build scenario was performed and compared with the 2009 v/c ratios (see **Table 1.1-2**). The results indicate an increase from the existing conditions, as most of the roads in the study area would be operating over capacity by 2035 even with implementation of the planned and programmed transportation improvements (see **Figure 1.1-12**). This will result in congestion and reduce mobility within the study area.



Figure 1.1-12: Year 2035 No-Build Daily Volume to Capacity Ratios

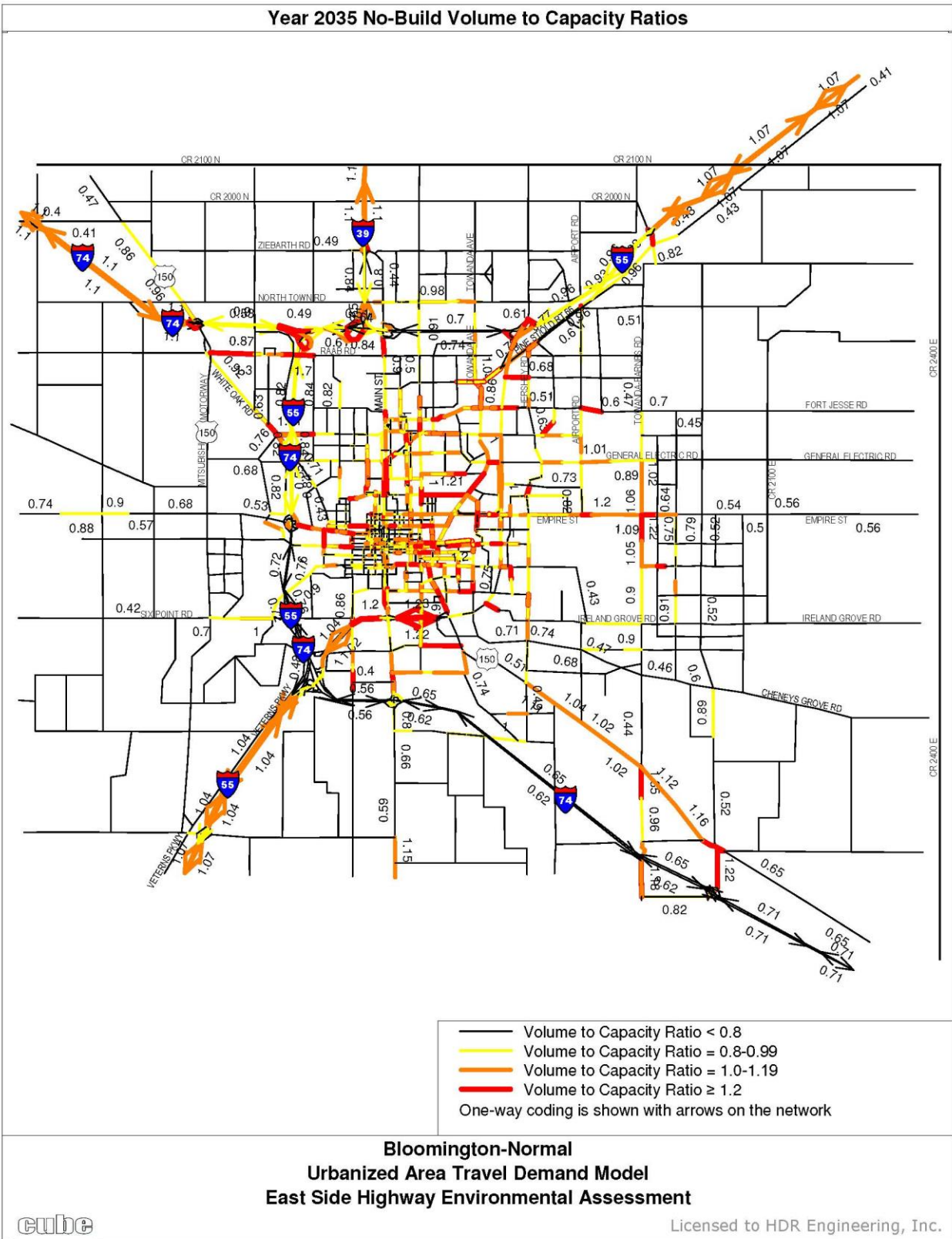


Table 1.1-2: Existing and Proposed v/c Ratios

		Existing Traffic Volume to Capacity Ratios (v/c) (2009)	Projected No-Build Traffic Volume to Capacity Ratios (v/c) (2035)	Projected No-Build Length of Roadways with Volume to Capacity Ratios (v/c) > 1.0 (2035)
Roadway	Max v/c Location	Max v/c	Max v/c	Length (miles)
Towanda Barnes Road	I-74 to Jefferson Street (11.25 miles)	0.3	1.4	3.5
Fort Jesse Road	Airport Road to Towanda Barnes Road (1.2 miles)	0.2	1.3	0.3
General Electric Road	Airport Road to Towanda Barnes Road (1.2 miles)	0.1	1.0	0.6
Empire Street (IL 9)	Airport Road to Towanda Barnes Road (1.1 miles)	0.7	1.3	1.1
Ireland Grove Road	Streid Drive to Towanda Barnes Road (1.0 miles)	0.2	0.9	0.0
U.S. 150	Hershey Road to Seminary Street (4.7 miles)	1.0	1.6	4.7
I-55 Interchange at N 1900 East Road (Towanda)	Historic U.S. 66 to CR 2000 N (0.7 miles)	0.4	1.7	0.5
I-74 Interchange at Seminary Street (Downs)	N 2000 East Road to Shaffer Driver (0.8 miles)	0.7	1.2	0.5

How will local and regional interstate access be affected by future growth?

Interstate access for the east urbanized area is primarily provided via the Towanda interchange at the north (for I-55) and the Downs interchange at the south (for I-74). Currently, access to the Interstate System is routed through the center of these small communities. As the east side urban growth areas develop, future traffic volumes are forecasted to more than triple at the existing I-55 Towanda interchange, and more than double at the I-74 Downs interchange. Traffic volumes on the roads that feed these interchanges, namely Towanda Barnes Road and U.S. 150, are also expected to increase (see **Figure 1.1-9** and **Figure 1.1-11**) and will be substantially over capacity (see **Table 1.1-2**). The future volumes will not only cause the operation of these interchanges to deteriorate, but could cause congestion on the local roadways in these small, rural communities. While it is desirable for the communities of Towanda and Downs to maintain access to the Interstate System, the resultant congestion could negatively impact local and regional access for the residents of these communities.



How will local and regional access to Central Illinois Regional Airport be affected by future growth?

CIRA forecasts that enplanements will continue to increase, based, in part, on the Bloomington-Normal area's past and predicted population and employment growth. The forecasted increase in enplanements will generate additional traffic needing to access the airport via the local road system and the I-55 and I-74 interchanges. As stated previously, 2035 traffic operations at the two interchanges will deteriorate due to high traffic volumes. In addition, current traffic volumes within the study area on Towanda Barnes Road and Empire Street are highest near the intersection of these two routes. Volumes on both routes are projected to increase by 2035, and since this intersection is adjacent to CIRA, access to CIRA will be hindered without additional roadway improvements.

On Towanda Barnes Road at Empire Street (IL 9) near the entrance to CIRA, the volume on the north leg is expected to increase from a v/c ratio of 0.2 (under capacity) in 2009 to 1.1 (slightly over capacity) in 2035. Similarly, the south leg of the intersection is expected to increase from a v/c ratio of 0.3 in 2009 to a v/c ratio of 1.22 (substantially over capacity) in 2035. In 2009, the section of Empire Street (IL 9) that served CIRA has a v/c ratio of 0.4 and by 2035 the v/c ratio for the same segment will be 1.1.

Congestion on the access routes to CIRA will limit the ability of people to take advantage of CIRA and the amenities it has to offer (i.e., conference center, business center and free parking). Access to this important destination is necessary from both a local and a regional perspective, as more than half of CIRA's frequent flyer membership program is registered outside of Bloomington-Normal.

How will safety be affected by future growth?

Although there is not a current need to address safety concerns in the study area, projected growth and congestion indicate the potential for safety issues in the future. Many roadways in the study area are currently operating at or under capacity, as indicated by v/c ratios in **Table 1.1-2**, but are projected to be over capacity in 2035. While it is not possible to predict all future safety issues that may occur with increased growth and congestion, research shows that there is a relationship between v/c ratio and crash rates. In an effort to predict how crash rates will be affected by future growth, intersections along

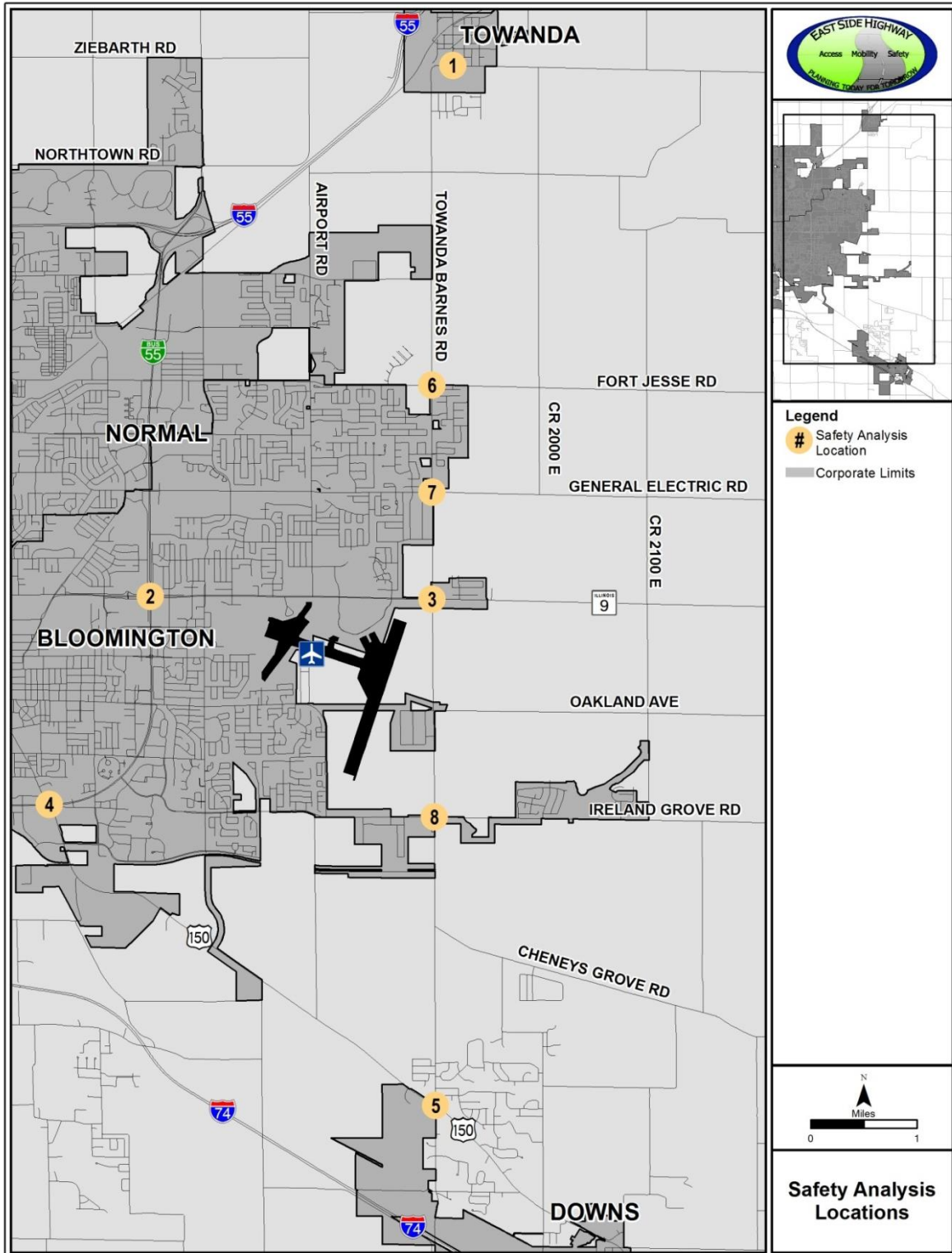
Safety Analysis Locations

1. Jefferson Street and Hely Street
2. Veterans Parkway and Empire Street (IL 9)
3. Empire Street (IL 9) and Towanda Barnes Road (CH 29)
4. Veterans Parkway and Morrissey Drive (U.S. 150)
5. Morrissey Drive (U.S. 150) and Towanda Barnes Road (CH 29)
6. Towanda Barnes Road (CH 9) at Fort Jessie Road
7. Towanda Barnes Road (CH 9) at General Electric Road
8. Towanda Barnes Road (CH 9) at Ireland Grove Road



roadways with high v/c ratios listed in **Table 1.1-2** (and shown in **Figure 1.1-13**) were analyzed to show the relationship of expected crash rates with increased traffic volumes.

Figure 1.1-13: Safety Analysis Locations



The number of crashes per year (expected crash frequency) was estimated for 2009 and 2035 using AASHTO’s Highway Safety Manual. The model approximates the number of crashes per year using AADT for a given roadway segment or intersection along with other factors that describe the roadway geometry. Although many of the highest predicted v/c ratios occurred at roadway segments in the study area, intersections were chosen for crash analysis because an estimated 1/3 of all crashes nationwide occur at intersections. **Table 1.1-3** summarizes the volume to capacity ratio, expected number of crashes calculated using the HSM for 2009 and 2035 as well as observed crashes for 2009 for select intersections. As traffic increases at the selected intersections over time and volume passes capacity (v/c > 1), the number of predicted crashes increases as well.

Table 1.1-3: Average Crash Frequency Summary

		Volume to Capacity			Crash Frequency			
Roadway	Analysis Location	v/c (2009)	v/c (2035)	% Change (2009-2035)	Reported Crashes (2009)	HSM Expected Crashes (2009)	HSM Expected Crashes (2035)	HSM Expected Crashes % Change (2009-2035)
Jefferson Street	Hely Street	0.14	0.60	319%	0	0	1	250%
Veterans Parkway	Empire Street (IL 9)	0.87	0.95	10%	17	22	31	44%
Empire Street (IL 9)	Towanda Barnes Road	0.27	1.20	340%	7	7	36	430%
Veterans Parkway	Morrissey Drive	0.49	0.68	40%	11	22	23	5%
Morrissey Drive	Towanda Barnes Road	0.67	1.00	49%	2	4	9	126%
Towanda Barnes Road	Ft. Jesse Road	0.19	0.68	265%	3	2	7	255%
Towanda Barnes Road	General Electric Road	0.10	0.93	849%	3	2	6	228%
Towanda Barnes Road	Ireland Grove Road	0.25	0.70	183%	3	5	12	157%

Based upon the year 2035 traffic projections, future v/c ratios will increase due to the growth on the east side of Bloomington-Normal and will result in not only increased congestion and diminished mobility, but will result in the increased likelihood of crashes within the study area.



