SECTION 6
RAIL

The railroad system is a vital economic and transportation resource for the Region. The following section reviews the rail system and the impact that rail freight has on the Region. Traditionally, the railroad system in the Rockford Metropolitan Planning Area (MPA) has been a private sector enterprise with little involvement from the public sector.

However, recent developments may cause this to change. A rail consolidation study was recently completed. This study reviewed rail infrastructure investment that would improve rail operations and open up underused trackage for public purpose or private investment. The public purposes include developing a commuter railroad or converting rail right-of-way (ROW) to bike pedestrian shared-use paths. Opening up land in the urban core for redevelopment would encourage private investment. These investments would work strongly in favor of the overall objectives of this Long Range Transportation Plan.

6.1 Rail Systems

Four rail freight lines currently serve the Rockford MPA (see **Map 6-1**); the Canadian National Railroad (CN); Union Pacific Railroad (UP); Iowa, Chicago and Eastern Railroad (IC&E) and Illinois Railnet (IR). The companies they serve in the Rockford MPA are listed in **Table 6-1**.

The CN is a national (Class I) railroad that operates an east-west line through Rockford that is known as the Freeport Subdivision. The CN line normally has two freight trains in each direction every 24-hours. In addition, seasonally operated trains haul grain.

The UP is a national (Class I) railroad that operates a branch line called the Belvidere Subdivision that extends 63 miles from West Chicago, Illinois and ends in Rockford. The primary customer served by UP is the DaimlerChrysler automobile assembly plant located in Belvidere. The UP is expected to see the freight traffic increase from two to four daily trains when the DaimlerChrysler plant increases production to three shift operations in early 2006. Local freight service is provided to Rockford tri-weekly to serve a few customers and to interchange with the IR and the IC&E lines.

The IC&E is a regional (Class II) railroad that is owned by Cedar American Rail Holdings and operates branch line from Janesville, Wisconsin through Rockford to Davis Junction, Illinois where it connects with an east-west IC&E through line. The IC&E has track rights on the IR from Rockford to Davis Junction. The IC&E serves more than 20 industries in the Rockford MPA.

The IR is a local (Class III) railroad that is owned by North American Railnet, Inc. IR operates a 23.5-mile short-line between Rockford and the Burlington Northern Santa Fe main line at Flag Center, Illinois. Rail traffic on this line is primarily scrap steel.

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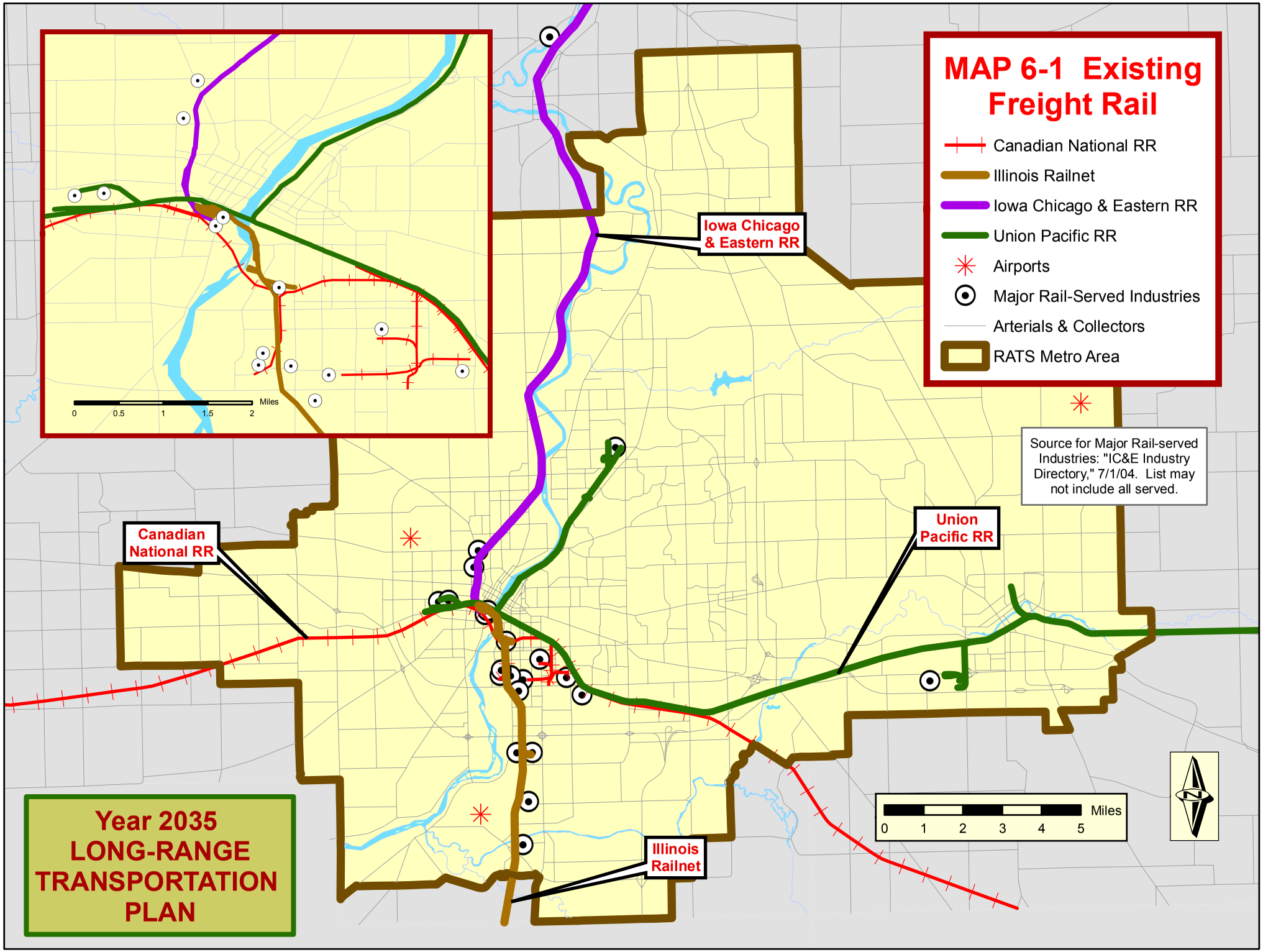
MAP 6-1 Existing Freight Rail
Canadian National RR
Illinois Railnet
Iowa Chicago & Eastern RR
Union Pacific RR
Airports
Major Rail-Served Industries
Arterials & Collectors
RATS Metro Area
Source for Major Rail-served Industries: "IC&E Industry Directory," 7/1/04. List may not include all served.
Iowa Chicago & Eastern RR
Canadian National RR
Union Pacific RR
Illinois Railnet
Miles
0 1 2 3 4 5
Miles
0 0.5 1 1.5 2
Year 2035 LONG-RANGE TRANSPORTATION PLAN

Table 6-1
Rockford Metropolitan Planning Area Businesses Served by Railroads

Company	Rail Commodity	Railroad
Aetna Plywood, Inc. – 1931 11th Street, Rockford, IL 61104	Lumber	CN
Air Liquide America -	Argon Gas	IC&E
Arntzen Corp. – 1025 School Street, Rockford, IL 61101	Steel Plate	IC&E
BEHR Joseph & Sons, Inc. – 1100 School Street, Rockford, IL 61101	Scrap Metal	IR
Celite Corp. – 615 South Main Street, Rockford, IL 61101	Diatomite Earth	IC&E
Central Commodities – Belvidere, IL	unknown	UP
Crumb Colton Block Co. – 208 Peoples Avenue, Rockford, IL 61104	Brick	IC&E
DaimlerChrysler – 3000 West Chrysler Drive, Belvidere, IL 61008	Cars	UP
Gunite Corp. – 302 Peoples Avenue, Rockford, IL 61104	Scrap Metal	IC&E
Intermodal Service, Inc. – 1382 Ipsen Road, Belvidere, IL 61008	unknown	UP
J.L. Clark – 2323 6th Street, Rockford, IL 61125	Metal Fabricator	CN
J. Rubin & Co. – 305 Peoples Avenue, Rockford, IL 61101	Metal Fabricator	IR
Kent Feeds – 1612 South Bend Road, Rockford, IL 61109	Soybeans and sunflowers	IR
Kitzman's Lumber – 1319 Kilburn Avenue, Rockford, IL 61101	Lumber	IC&E
Liebovich Brothers, Inc. – 2116 Preston Street, Rockford, IL 61102	Metal Fabricator	UP
MGF Ind. – 840 Airport Drive, Rockford, IL 61109	Steel Wire	IC&E
Murphy Kulloens Warehouses, Inc. – 500 South Independence Avenue, Rockford, IL 61102	Warehousing	UP
Owens Corning – 1426 North Main Street, Rockford, IL 61109	Insulation	CN
Pactiv Corp. – 801 5th Avenue, Rockford, IL 61104	unknown	UP
Parkside Warehouse, Inc. – 5940 Falcon Road, Rockford, IL 61109	Warehousing	IC&E
R & D Thiel – 2340 Newburg, Belvidere, IL 61008	unknown	UP
Reed City Power Line Supply – 615 South Main Street, Rockford, IL 61101	Utility Poles	IC&E
Ring Can Corp. – 4689 Assembly Drive, Rockford, IL 61109	Plastics	IR
Rockford Products Corp. – 707 Harrison Avenue, Rockford, IL 61104	Bolts, Nuts, Screws	IR
Rockford Transload – 615 South Main Street, Rockford, IL 61101	Transload	IC&E
Stock Lumber Co. – 1616 Windsor Road, Loves Park, IL 61111	Lumber	UP
Unimin Corp. – 2786 Newburg, Belvidere, IL 61008	unknown	UP
Welch Brothers – 1000 Townhall Road, Belvidere, IL 61008	unknown	UP
Weyerhaeuser Co. – 2100 23rd Avenue, Rockford, IL 61104	Corrugated Boxes	CN

6.2 Rail Freight Volumes

Both the UP rail line and, to a lesser extent, the IC&E rail line will experience increased freight traffic over the short-term future. The former is due to the increased production at the DaimlerChrysler plant, described in the previous section, and the considerable existing employment located along the railroad ROW. The latter is due to both existing employment and the considerable buildings and land along the ROW being marketed for development (see **Maps 2-8a**, **2-8b** and **9-7**).

Over the longer forecast period, however, it is far more likely that major freight shipments to and from the Rockford MPA would be shipped by truck; or shipments to Rockford MPA would be shipped by rail to an intermodal facility such as the Global III of Rochelle and then transshipped by truck to points within the Rockford MPA.

Rail freight transport except for that destined to intermodal facilities has been fairly stable or declining for many years. Truck transport has increased. According to data released in January 2005 by the U.S. Department of Transportation, Bureau of Transportation Statistics, trucks carried the most freight, by weight and value. Rail was the second-most used mode, by weight, carrying

1.9 billion tons of freight for a 16% share, but only a 4% share by value.

Between 1993-2002, the total tonnage of freight transported in America grew 20% to almost 12 billion tons; the value of this freight grew 44% to $8.4 trillion. The total freight originating in Illinois was 718,351,000 tons, or 6% of the nation's in weight and 5.3%, in value. Of the Illinois total, approximately 12.3% was rail freight.

In Northern Illinois, total freight was 398,993,000 tons, or 3.3% of the nation's total. Of this, 34,343,000 tons, or 8.6%, was rail freight. Consequently, compared with national and statewide rates of 16.1% and 12.3%, respectively, Northern Illinois generates a much smaller percentage, 8.6%, of freight by rail. This lower usage is quite logical. The disadvantage of rail is illustrated by the distance and travel times as shown in **Table 6-2**. Any freight destined east of Chicago by rail is at a significant time disadvantage (see **Section 7.3**, *Truck Freight*)

Table 6-2
Distance and Travel Times from Rockford Area

City	Highway Miles	Highway Kilometers	Days by Rail	Days by Truck
Atlanta	761	1,218	5	2
Chicago	90	141	1	1
Cleveland	422	675	4	1
Dallas	830	1,328	3	3
Denver	909	1,454	4	3
Detroit	373	597	4	1
Kansas City	412	659	2	1
Los Angeles	1,967	3,147	6	4
Milwaukee	90	141	1	1
Minneapolis	353	565	3	1
New Orleans	999	1,598	5	3
New York	889	1,422	5	3
St. Louis	297	479	2	1
Seattle	1,926	3,082	6	3

6.3 Rail Consolidation Study

In September 2003, Rockford completed a study, the Rockford Railroad Consolidation Study to review the potential to consolidate rail facilities. The objective of the Study was to eliminate abandoned or underused trackage and encourage redevelopment opportunities. The benefit to the railroads would be improved operations and reduced capital and operating costs and income generated by land development. The public benefit would be potential land development opportunities, conversion of abandoned rail rights-of-way to bike/pedestrian paths, and reduced roadway congestion through elimination of at-grade railroad crossings.

The Study reviewed the potential of reducing the number of Rock River railroad bridge crossings, consolidating switching yards in the Rockford downtown, and consolidating the parallel CN and UP rail lines on the east side of Rockford. Either the CN or UP Rock River bridge would remain. The railroad companies would have to obtain track rights from the company that owned the remaining railroad facilities. Each alternative was examined to include operating features, infrastructure elements, land use opportunities and roadway improvements. The capital cost would be $3.0 million

for the CN alternative and $2.0 million for the UP alternative. Railroad operating costs would be reduced by $20-40,000 annually with either alternative. Public financing needed to support the rail consolidation has not been identified.

The CN alternative was preferred, primarily because it would accommodate the proposed commuter rail service, as discussed in more detail in **Section 8**, *Transit*. While the CN alternative is lower expensive, the overall cost of the commuter rail effort is lower using the CN consolidation alternative. This is primarily because the UP rail and signalization requires more improvements if that line is to be used for commuter rail. The UP alternative would still meet Rockford's objectives for rail consolidation if the commuter rail project did not proceed.

Questions do remain about the rail consolidation; foremost of which is the status of the commuter rail service. And, even if the commuter rail service does not move forward, the rail consolidation appears to have some valuable benefits to the community. Issues that need to be reviewed more carefully include the economic benefit to the community from the rail consolidation, needed railroad company concurrence and agreements, financing of the rail consolidation, a better measure of the traffic improvements gained, and the benefits of converting the rails to bike/pedestrian trails.

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SECTION 7

ROADWAY

SECTION 7
ROADWAY

Roadways are the primary means of travel within the Rockford Metropolitan Planning Area (MPA). This section will review the existing roadway system, forecast future truck freight, and describe the future roadway improvements.

7.1 Roadway Functional Classification

For planning purposes, roadways are classified according to function. The classification system used in this plan is a simplified version of the systems used by the Illinois Department of Transportation (IDOT) and the Federal Highway Administration (FHWA):

- Interstate – This is the highest classification in the system. These roadways are designed for high-speed and/or high-volume traffic. They are controlled access (I-90, I-39 and US-20 Bypass) and are part of the National Highway System.
- Principal Arterial – Limited access highways (parts of Mulford Road and East State Street), to semi-limited access roadways that carry high volumes of traffic (Alpine Road and North Second Street). They are typically used for long trips within the Region (intra-regional) and are part of statewide or nationwide networks. The intersections are always signalized or grade-separated.
- Minor Arterial – These roadways also provide for high-speed and/or high-volume traffic, but are typically under local jurisdiction (Perryville, Forest Hills, Spring Creek and Rockton Roads). Minor arterials often form boundaries between recognized "neighborhoods" and collect traffic from collector streets. Also, arterials are usually given movement preference over lower-level streets (crossing traffic will yield or stop, or is grade-separated).
- Collectors – These roadways are designed for lower-speed and traffic volume than arterials. They collect the traffic from the neighborhoods and direct it to the nearest arterials (or disperse the traffic from the arterials into the neighborhoods). They are often less continuous than arterials and a complete trip through the Region on a single collector is not usually possible. Many collectors are less than two miles in length, but some are longer (Bell School Road). Access to collectors is not as strictly controlled as with arterials (i.e., driveway cuts can be allowed from every property) but often access is directed to the local streets.
- Local Streets – These include all the roadways not covered in one of the classes above. They allow direct access to homes and businesses, and through-traffic is generally discouraged from using these streets, although such traffic does use them when arterials and collectors become congested or blocked. To minimize construction and maintenance costs, local streets are designed with less concern for connectivity from street to street, narrower geometrics, and other lesser standards. The lesser standards could be reduced further except for the requirements of emergency vehicles. Traffic control devices (stop signs) are sometimes used to discourage through traffic, but this is not advisable as a rule.

Map 7-1 shows the currently existing system of principal arterial, minor arterial and collector roadways in the MPA. In the Winnebago County portion, past Rockford Area Transportation Study (RATS) planning processes established the network. The roadways fit into the classification system as described above. The system has a high degree of connectivity, especially at the arterial levels.

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MAP 7-1 Existing (2005) Functionally Classified System of Roadways

Functional Classes

- Interstate / Freeway
- Principal Arterial
- Minor Arterial
- Collector Rd
- Intg
- RATS METRO AREA
- RATS / SLATS Model

Neighborhood streets & other local roadways, public or private, are not shown. Interchanges shown to depict general type & location (classification varys by link served & design).

Rockford enlargement

Miles: 0, 0.5, 1, 1.5, 2

Downtown Rockford

Miles: 0, 0.25, 0.5, 0.75, 1

Belvidere

Miles: 0, 0.5, 1

Year 2035 LONG-RANGE TRANSPORTATION PLAN

Miles: 0, 1, 2, 3, 4, 5

Some collector roadways are incomplete and discontinuous, especially where parcels of land remain undeveloped. The Boone County Highway Engineer and the Belvidere/Boone Planning Department developed the roadway classification in the Boone County portion of the map.

7.2 Roadway Standards

7.2.1 Spacing

This Plan follows traditional system design standards for arterial roadway (principal or minor) spacing. Consequently, they are usually spaced at roughly one-mile intervals. Arterials are usually located on the section lines (Public Land Survey System).

Collector roadways are also spaced at one-mile intervals, i.e., roughly ½ mile from and equidistant between each arterial. Physical features, property lines, cultural features and developer demands sometimes make it necessary to deviate from this rule. In some instances, additional collectors are designated and required. This can occur where arterials have been spaced more than a mile apart, where a single continuous collector is not possible, where traffic generation is expected to be heavy or where the nearby arterials have strict access limitations.

Local streets are spaced to provide access to all existing lots, or lots which may be potentially created through the subdivision process. In some areas that were developed many years ago, collector streets were not defined or were poorly defined or spaced. In these areas, streets that were originally designed as local streets are often functioning as collectors. Where such streets have good connectivity with the overall system, these streets are designated as collectors in the Plan. When making improvements to these streets in the future, they will be designed to accommodate the heavier traffic to the extent possible while, minimizing adverse impacts to adjacent properties.

7.2.2 Responsibilities

The construction of arterial roadways is generally the responsibility of government. Typically, the full cost of both right-of-way (ROW) acquisition and construction of arterials is borne by the local, state or federal governments. However, in some instances, the private developers are asked to bear a share of these costs. This is appropriate where the development is a high traffic generator and/or where the development will benefit greatly from some enhancement of the arterial facility. Costs for extra ROW, extra turn or deceleration lanes, special signalization and frontage or local roads are examples of costs that developers might be asked to bear in conjunction with arterial improvements.

The ROW and costs of collector roadways are generally borne by private sector developers, although, sometimes local government will participate. Examples include unusually expensive bridge structures or connections to the collector arterial system not necessary to the development but beneficial to the overall transportation system.

7.2.3 Right-of-Way and Construction Standards

ROW and construction standards for the various road types are based on local subdivision regulations and applicable state and federal standards. In most cases, local and collector streets are

built on 60-70 feet of ROW with 25-35 feet of pavement. Arterial roadways are considerably wider, depending upon expected traffic volumes and speeds, the degree of access limitations and other factors. Construction standards also vary depending on expected traffic weights and volumes, topographic, soil and drainage conditions, and differing governmental requirements.

RATS promotes the identification and preservation of ROW as needed for roadway projects. The determination of future ROW needs and the preservation or advanced acquisition of ROW has been an ongoing activity for many years. State and county governments are most active in this role and this is common practice for arterial roadways. ROW for collector roadways is acquired through the land subdivision/development process.

7.2.4 System Connectivity

This plan stresses the connectivity of arterial and collector roadways both within the Region itself and the connectivity of these roadways to state and national systems. Early in the development history of roadway systems in the Rockford area, many major roadways were developed with offset intersections or on grid systems that are canted with respect to the Public Land Survey System grid. This plan continues to propose numerous improvements designed to eliminate intersection offsets, especially on the arterial system, and projects that minimize the confusion and traffic flow interruptions caused by the canted grids. This plan also continues to propose collector layouts with as much roadway continuity and connectivity as possible. This plan stresses the elimination of collector offsets, for the sake of reducing intersection congestion, safety and traffic flow problems.

RATS also promotes street name connectivity. Multiple names on continuous streets is a problem related to road connectivity within the Rockford area. One of the most glaring examples is the Fairview Avenue collector. Although continuous over three miles, this street has five names: Chelsea Avenue at the north end, Fairview Boulevard north of State Street, Fairview Avenue south of State Street, Peter Avenue south of Seventh Avenue and 31st Street south of Charles Street. Throughout the Rockford area, there are dozens of multiple-named streets.

7.2.5 Life-Cycle Costs

Life cycle costing is the process of identifying and quantifying all costs associated with a structure over its useful life. An examination of life-cycle costs can have two benefits. First, when evaluating proposed new structures, it provides a more complete estimate of the total costs and allows more valid comparisons of alternatives. A project which is inexpensive to build but is expensive to maintain or has a short life span may be less cost-effective than a project that is more expensive to build but less expensive to maintain or has a longer life span. Second, life cycle costing can be a useful aid for forecasting and programming future funding needs for the maintenance of existing structures. Either way, funding resources can be better conserved.

7.2.6 Truck Routes

Throughout the Rockford MPA, a subsystem of roadways has been designated for truck routes. The purpose of this system has been to limit truck traffic to those roadways that are geometrically designed and properly constructed to accommodate large heavy vehicles hauling freight (see **Map**

7-2). In addition, the noise and vibration created by such vehicles is undesirable in residential areas.

7.3 Truck Freight

The prospects for accelerated truck freight growth in the Rockford MPA are extremely high. This estimate is based on the following four factors:

- The growth of air cargo at Northwest Chicagoland International Airport at Rockford (RFD).
- The growth of intermodal rail/truck facilities at Rochelle (Global III) and the nearby Center Point intermodal development.
- The marketing of industrial parcels along I-39.
- The industrial development along I-90 extending outward from Belvidere to Rockford and focused on the DaimlerChrysler expansion.

7.3.1 Freight Carrying Characteristics

According to a recent report[1], trucks carry 74.3% the value of freight shipped in the U.S. and 62.2% of the weight. Furthermore, the total freight tonnage increased by 20% between 1993-2002, to almost 12 billion tons. In Northern Illinois, the ratio is similar (73.3%) for the value, but considerably higher (78.3%) for the weight, a total of 312,279,000 tons.

The FHWA Office of Freight Management and Operations has estimated that trucks will carry 80% of the freight tonnage within the next decade. It also is very likely that the freight tonnage growth over the next decade in the Rockford MPA will exceed the 20% national growth of the past decade. It also is highly likely that I-39 and I-90 will be the major transport corridors for this traffic.

7.3.2 Air Cargo Transport Forecast

Air Cargo transported at RFD is expected to more than double between 2004-2012; it will more than triple by 2015; and increase more than 12 times 2035. The vast majority of this cargo – 378,000 tons in 2012; 484,000 tons in 2015; and 2.1 million tons in 2035 will travel to and from the airport by truck. Using 2-14 tons per truck capacity, trailer truck volumes are shown in **Table 7-1**.

Table 7-1
Northwest Chicagoland International Airport at Rockford Annual Cargo Generated Truck Traffic

Year	Cargo Tons	Trucks
2012	378,000	27,000 – 31,500
2015	484,000	34,570 – 40,333
2020	675,000	48,215 – 56,250
2025	1,060,000	75,715 – 88,333
2030	1,575,000	112,500 – 131,250
2035	2,100,000	150,000 – 175,000

[1]Commodity Flow Survey: Origin 2002, United States Department of Transportation Statistics, January 2005.

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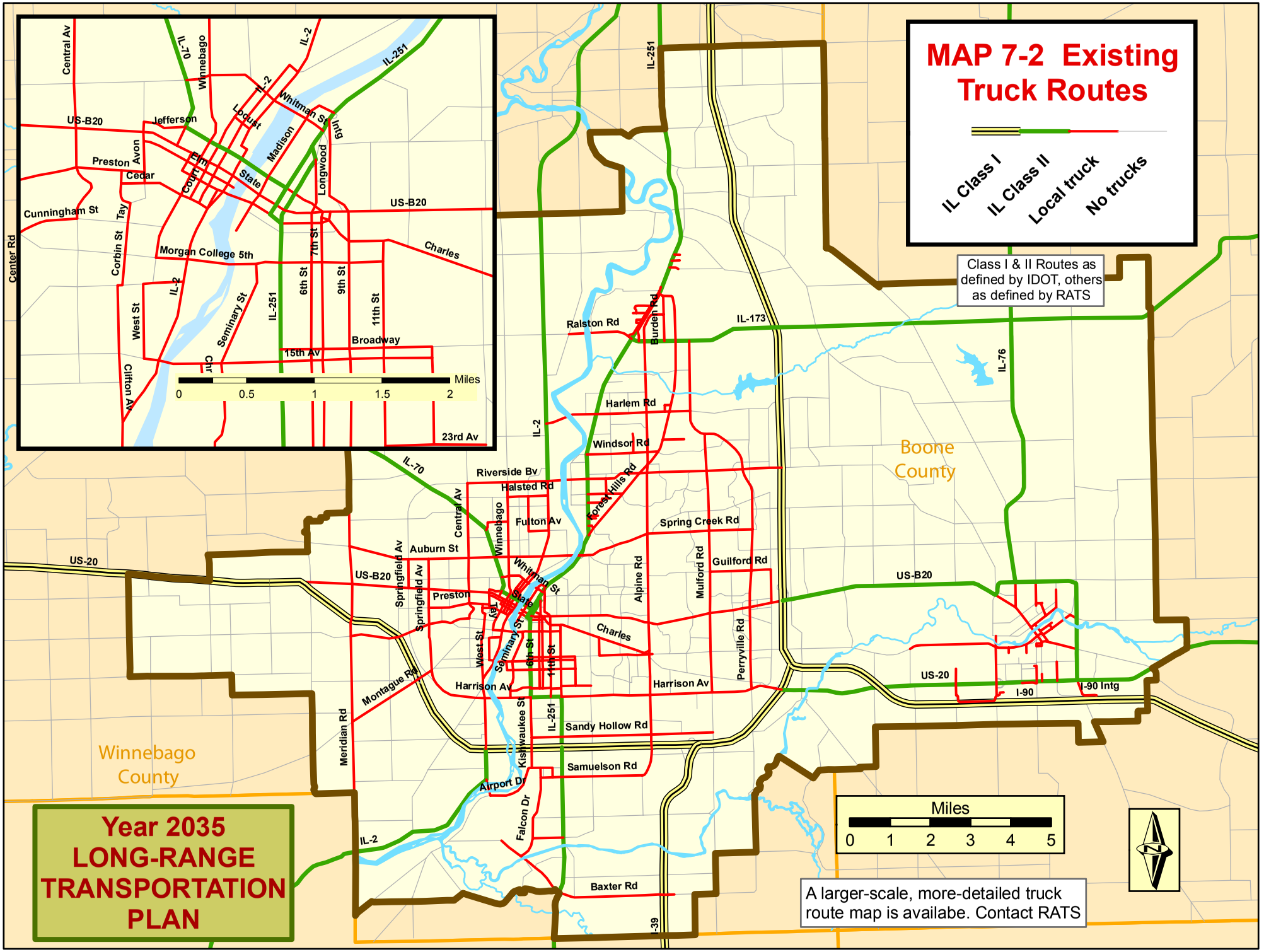
MAP 7-2 Existing Truck Routes
IL Class I
IL Class II
Local truck
No trucks
Class I & II Routes as defined by IDOT, others as defined by RATS
Year 2035 LONG-RANGE TRANSPORTATION PLAN
A larger-scale, more-detailed truck route map is availabe. Contact RATS
Boone County
Winnebago County
Miles
0 1 2 3 4 5
Miles
0 0.5 1 1.5 2
US-20
US-B20
IL-2
IL-70
IL-251
IL-173
IL-76
I-90
I-90 Intg
I-39
Central Av
Winnebago
Jefferson
Locust
Whitman St
Intg
Madison
Longwood
Preston
Avon
Cedar
Elm
Court
State
Cunningham St
Tay
Corbin St
Center Rd
Morgan College 5th
7th St
6th St
9th St
11th St
Charles
West St
Seminary St
Broadway
15th Av
Clifton Av
23rd Av
Ralston Rd
Burden Rd
Harlem Rd
Windsor Rd
Riverside Bv
Halsted Rd
Fulton Av
Forest Hills Rd
Spring Creek Rd
Auburn St
Springfield Av
Preston
Alpine Rd
Mulford Rd
Guilford Rd
Perryville Rd
Harrison Av
Montague Rd
Meridian Rd
Kishwaukee St
Sandy Hollow Rd
Samuelson Rd
Airport Dr
Falcon Dr
Baxter Rd

7.3.3 Intermodal Freight Forecast

The development of the Global III facility in Rochelle is expected to have a similar movement capacity. Based on prototype developments of 175,000 lift capacity (i.e. the number of containers or trailers that can be transferred annually between trains and trucks) estimated for a 500-acre intermodal facility operating in Atlanta[2], the much-larger (1,200 acres) facility at Rochelle should be able to grow to 2.2 times the Atlanta size by 2035 (see **Table 7-2**).

Table 7-2
Rochelle Global III Lift Capacity – Truck Movements

Year	Lift Capacity/Truck	Destined to Rockford Corridors
2010	175,000	8,750
2020	260,000	19,500
2035	385,000	38,500

Unlike the traffic/truck movements generated at RFD, very little of the traffic generated at Rochelle will be destined for Rockford. As developments along I-90, I-39 and in Belvidere mature, perhaps 10% of the traffic will be along these highways by 2035.

7.3.4 Proposed Truck Survey

RATS is scheduled to undertake a truck survey shortly. Among the existing sources available to assist in the design and augmentation of this survey is an external travel survey conducted by the Chicago Area Transportation Study in 1997[3]. In that study, one of the points of entry for a truck origin/destination survey was a point in Boone County on the Northwest Tollway.

7.4 Proposed Roadway Improvements

This section discusses the proposed roadway system improvements over the 30-year time frame of this Long-Range Transportation Plan (LRTP) (see **Map 7-3**). It is difficult to determine the exact year when these improvements will be made because such programming is dependant upon the pace and direction of community growth and the availability of funding. The need for these improvements will be comprehensively tested with the traffic simulation model. The proposed roadway improvements are considered viable financially with respect to the projections of future revenue of this plan (see **Section 3**, *Public Funding*).

In mature urban areas such as the Rockford MPA, the bulk of the system of highways and bridges has existed for many years. As such, most transportation improvements and project funding are aimed at maintaining the existing transportation network. Nevertheless, to keep pace with growth, development and increases in travel, a significant amount of funding must also be directed at: (a) adding new links or segments, (b) widening or expanding some of the existing links, (c) constructing major intersection improvements or adding new interchanges, and (d) other measures which add traffic capacity to the existing system.

[2] *Rail Intermodalism and New Rail Industrial Location Dynamics*, Just-in-Time Real Estate, Urban Land Institute, 2004.
[3] *1997-1998 External Travel Survey*, Chicago Area Transportation Study.

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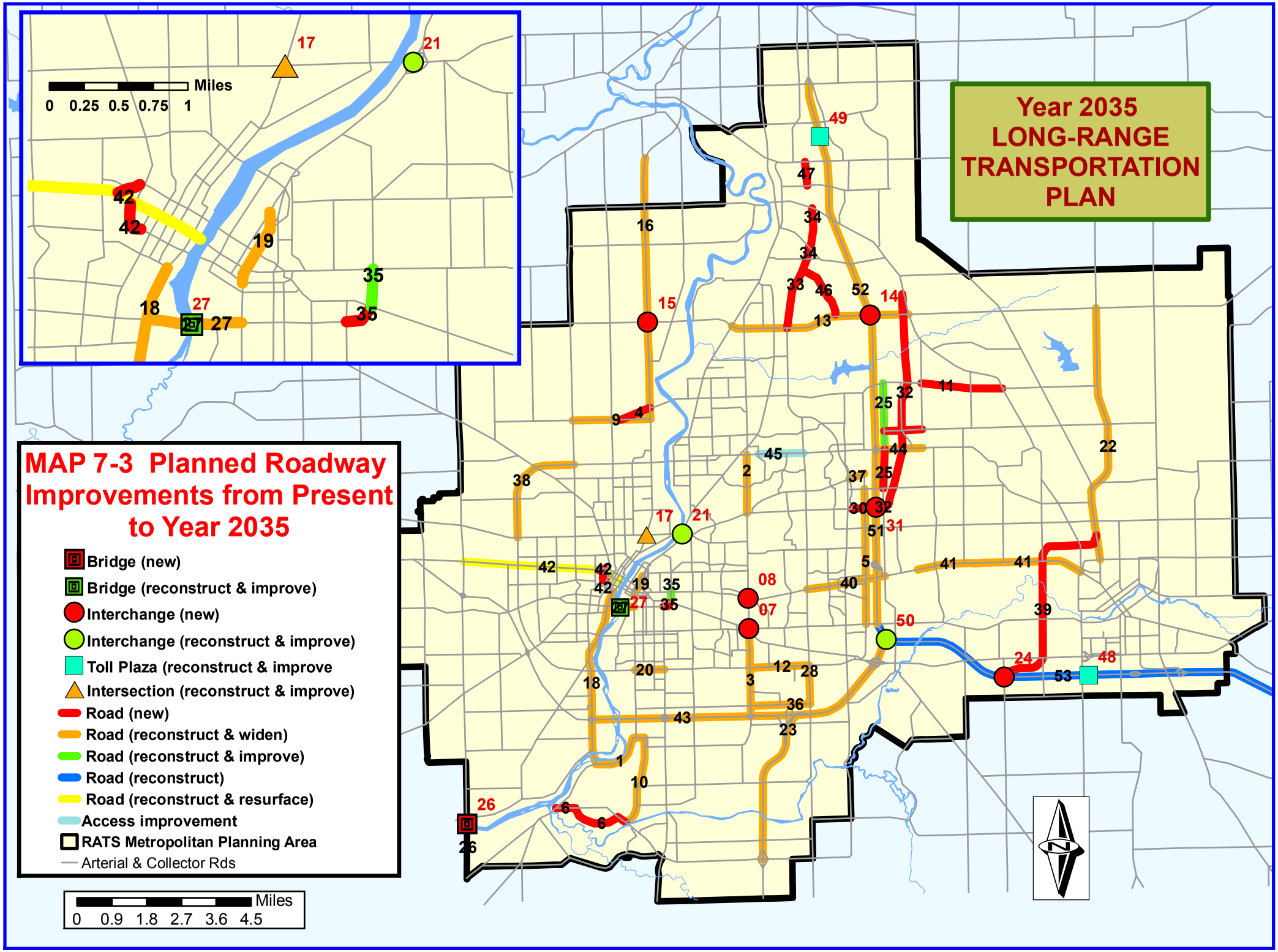
Year 2035
LONG-RANGE
TRANSPORTATION
PLAN
MAP 7-3 Planned Roadway Improvements from Present to Year 2035
Bridge (new)
Bridge (reconstruct & improve)
Interchange (new)
Interchange (reconstruct & improve)
Toll Plaza (reconstruct & improve
Intersection (reconstruct & improve)
Road (new)
Road (reconstruct & widen)
Road (reconstruct & improve)
Road (reconstruct)
Road (reconstruct & resurface)
Access improvement
RATS Metropolitan Planning Area
Arterial & Collector Rds
Miles
0 0.9 1.8 2.7 3.6 4.5
Miles
0 0.25 0.5 0.75 1
N

Most of the proposed improvements have been carried over from past RATS efforts. The selection is based on:

- Past and current professional judgment of the planners, engineers and transportation consultants who have conducted numerous technical studies over several decades.
- Past and currently adopted transportation plans that have repeatedly been subjected to review and comment by the general public, public officials, and professional transportation planners.
- The recent judgment of the RATS Technical and Policy Committee, the RATS Planning staff, the planning and engineering staff of the many communities in the Rockford MPA and the input from the general public received during the transportation planning process.

To a great extent, the need for these projects has been verified with the RATS computerized traffic simulation model. Moreover, additional testing of these proposed improvements will be conducted as the projects proceed into the preliminary engineering stage, are selected for inclusion into the annual lead agency's Capital Improvement Program, and included in the annual RATS Transportation Improvement Program (TIP).

7.5 Project Categorizing and Cost Estimating

For cost-estimating purposes, the proposed roadway improvements were divided into categories as described below. Unit costs were developed for the various categories based on past similar projects and the professional judgment of the construction cost estimators and engineers in the Rockford Public Works Department. All project costs are provided in Year 2005 dollars.

- Capacity Expansion Projects – Capacity expansion projects are broadly defined in this LRTP to include any project that significantly increases the vehicular traffic carrying capacity of the system. These are projects that deserve special mention because they are more than maintenance, simple reconstruction, and/or minor geometric improvement projects (see **Table 7-3**). While some of these projects add lanes miles and may tend to increase the use of single occupancy vehicles, they are nonetheless, essential to the continued development of a sound and efficient transportation system for the Rockford MPA. The projects that will add new lanes are considered the only viable alternative to increases in traffic likely to occur in the next 30 years. These projects will be subject to additional scrutiny as they approach pre-engineering stages. Several of the projects are necessary simply to provide an adequate basic road network in areas that are transitioning from agricultural to urban. Others are major intersection improvements that will improve connections and/or reduce major traffic conflict points in the existing system.
- New Interchanges – Six new interchanges are planned in the Rockford MPA in the next 30 years. These interchanges will significantly add to the capacity of the system. Three of these interchanges will improve access to the Interstate highway system at key locations in the MPA. The three other interchanges will have significant congestion mitigation and safety enhancement effects without adding significant lane miles.
    - I-90 and Perry Creek Road – This project will accommodate future growth in this area (Project 31 on **Table 7-3**).
    - I-90 and Irene Road – The need for another interchange to access I-90 in the vicinity of Belvidere and the Chrysler Plant has been contemplated for many years. This seems the most plausible location at this time (Project 24 on **Table 7-3**).

  - I-90 and IL-173 – This project will accommodate future growth in this area (Project 14 on **Table 7-3**).
  - IL-2 and Latham Road – As part of the complete reconstruction and expansion of IL-2 between Rockford and Roscoe, IDOT has determined that a grade separation is needed at this intersection (Project 15 on **Table 7-3**).
  - Alpine Road and Broadway/Newburg/Charles – Rockford believes grade separation must be part of the solution to this complicated and heavily traveled intersection (Project 7 on **Table 7-3**).
  - East State Street (US-20) and Alpine Road – One of the heaviest traveled intersections in Rockford. Rockford and IDOT concur that the best way to handle future traffic congestion and safety problems at this intersection will involve some form of grade separation. The close proximity of businesses and a cemetery will make this an expensive and complicated project to design and build (Project 8 on **Table 7-3**).
- New Signalization Projects – With the projected changes in land use and the increase in vehicle trips, existing and/or new intersections will warrant traffic signals. Recent history indicates the MPA area is averaging more than one new traffic signal a year.
- Right-of-Way Projects – Projects involving the purchase or reservation of land for future expansion projects.
- Signal Modernizations – The nature and, again, the expense of these improvements warrant a separate category. Existing traffic signals and/or timers will need to be upgraded to reflect the new technology and changes occurring in traffic signals. New timers and signals can improve traffic movement and safety. Over the 30-year planning period, all of the existing traffic signals will be replaced once.
- Existing Road Projects – Maintenance and improvements to roads or links that are being are being upgraded to handle somewhat more traffic or improve the roadways ability to accommodate the existing traffic. Examples include roadways where existing lanes are being widened and roadways that are being raised in hierarchy from local to collector or collector to arterial and such. This category is further subdivided into Principal Arterial, Minor Arterial and Collector Road projects.
- River/Creek Crossing Projects – New and major reconstruction bridge projects. These are divided between Boone and Winnebago Counties.
- Railroad Crossings Projects – Mostly reconstructions, divided into Boone and Winnebago Counties.
- Enhancement Projects – Projects funded with their own special category of Surface Transportation Program funds and used for non-traditional transportation projects (bike and pedestrian facilities) or projects that enhance the aesthetics of a transportation facility or reduce the adverse impacts of such facilities.

Table 7-3
Major Capacity Expansion Projects

#	Name	Project Limits	Type	$ Millions	Source	Justification
1	Airport Dr	Kishwaukee St to Beltline Rd	Reconstruct & widen to 4 lanes	4.4	F / S / L	Current two-lane rural roadway inadequate for truck and vehicular traffic of airport and surrounding growing industrial complex

Table 7-3 – continued						
#	**Name**	**Project Limits**	**Type**	**$ Millions**	**Source**	**Justification**
2	Alpine Rd - N. section	Riverside Blvd to Spring Creek Rd	Reconstruct & widen to 6 lanes	6.7	F / S	Signal timing and other Congestion Management System (CMS) approaches are inadequate to handle forecasted traffic in this critical section of the National Highway System (NHS).
3	Alpine Rd - S. section	Newburg Rd to US-20 (Bypass)	Reconstruct & widen to 6 lanes	6.7	F / S	Signal timing and other CMS approaches inadequate to handle forecasted traffic in this critical section of the NHS
4	Bauer Pky - Elmwood Crossover	IL-2 to Elmwood Rd	New construction	1.3	L	Corrects a short offset of an existing and future arterial, necessary for system continuity/connectivity and to accommodate urbanization in the area
5	Bell School Rd	Newburg Rd to Spring Creek Rd	Reconstruct & widen to 4 lanes	11.5	F / S	Basic rural to urban conversion necessary to accommodate land use changes from agricultural to urban
6	Beltline Rd	Kishwaukee Rd to Falcon Rd	New construction	2.2	F / S / L	This road will have to be rebuilt in conjunction with the new Runway 7R/25L at RFD
7	Broadway & Alpine & Charles	Interchange	New construction	13.3	F / S	Interchange is only alternative to accommodate congested conditions at intersection of three major arterials; signal timing and less extensive geometric improvement inadequate.
8	US Bus 20 & Alpine Rd	Interchange	New construction	20.0	F / S / L	Interchange only alternative to accommodate traffic at congested/hazardous intersection; signal timing and less extensive geometric improvement inadequate.
9	Elmwood Rd	Il-2 to Owen Central Rd	Reconstruct & widen to 4 lanes	5.7	F / S	Basic rural to urban conversion necessary to accommodate land use changes from agricultural to urban
10	Falcon Rd	Kishwaukee St to Beltline Rd	Reconstruct & widen to 4 lanes	4.4	F / S / L	Current two-lane rural roadway inadequate for truck and vehicular traffic of airport and surrounding industrial complex
11	Harlem Rd / Dawson Lake Rd Connection	Argyle Rd to Beloit Rd	New construction	2.9	L	Necessary for system continuity and to accommodate suburban development in an area that used to be predominantly rural and agricultural
12	Harrison Av	Alpine Rd to Mulford Rd	Reconstruct	1.7	F / L	Only alternative to accommodate traffic on this heavily traveled arterial
13	IL-173	IL-251 to Beloit Rd	Reconstruct & widen to 6 lanes	41.0	F / S	Necessary to accommodate thru and local traffic on this NHS-link in this developed/developing segment; center turn lane to be added for access and safety
14	IL-173 / I-90	Interchange	New construction	19.0	F / S	Accommodate future traffic demands. The project is already listed in the RATS TIP and is listed here for information.

Table 7-3 – continued

#	Name	Project Limits	Type	$ Millions	Source	Justification
15	IL-2 & Latham Rd	Interchange	New construction	17.0	F / S	Project is needed to correct hazardous situation where other less intensive attempts have been inadequate
16	IL-2 / N. Main St	Elmwood Rd to Rockton Bypass	Reconstruct & widen to 4 lanes	28.0	F / S	No alternative is adequate to handle local and thru traffic increases in the corridor
17	IL-2 & Auburn St	Intersection	Reconstruct & improve	4.00	F / S / L	Grossly substandard intersection is a major bottleneck to both arterials; no other alternative
18	IL-2 / S. Main St	Beltline Rd to Cedar St	Reconstruct & widen to 5 lanes	11.0	F / S	Center turn lane to be added for access and safety; other alternative inadequate
19	IL-251 / 2nd St - 3rd St	Whitman St Intg to Walnut Av	Reconstruct w/ crossover	8.0	F / S / L	Necessary for system connectivity and to deter heavy traffic from residential/historic area
20	IL-251 / Harrison Av	Kishwaukee St to 11th St	Reconstruct & widen to 5 lanes	8.0	F / S	Center turn lane needed to safely accommodate multiple access points
21	IL-251 & Spring Creek Rd	Interchange	Reconstruct and improve	15.0	F / S	Basically a reconstruction project, included because some widening may be needed. Ramp metering will be considered as an alternative when project is designed
22	IL-76	U.S. Bus 20 to IL-173	Reconstruct and widen to 4 lanes	12.0	F / S	New interchange at I-90/I-173 may change future demands on this roadway
23	I-39	I-90 to Baxter Rd	Reconstruct & widen to 6 lanes	90.0	F / S	Critical area south of the junction of three interstates, no other alternative feasible
24	I-90 & Irene Rd	New interchange	New construction	11.1	F / S / L	New access to interstate needed to accommodate growth and development and expand usefulness of the existing system
25	Lyford Rd	Spring Creek Rd to Harlem Rd	New construction	2.9	L	Basic rural to urban conversion necessary to accommodate land use changes from agricultural to urban
26	Meridian Rd Bridge	IL-2 to Kishwaukee Rd	New construction	5.6	F / L	Project will greatly improve system continuity by connecting long segments of Meridian Rd north and south of Rock River to the benefit or the airport/industrial complex and regional travel. It will be funded from County Toll Revenue Fund, which is not included in the revenue sources.
27	Morgan St / College Av Bridge	IL-2 to IL-251	Reconstruct & widen to 4 lanes	20.0	F / L	Three-lane bridge must be reconstructed and widened to accommodate increase in traffic and enhance safety.
28	Mulford Rd	Harrison Av to Sandy Hollow Rd	Reconstruct & widen to 4 lanes	3.3	F / L	Missing link in truck route system, necessary for system continuity and efficient urban freight movement
29	Orth Rd	Interstate Blvd to County Line	New construction & reconstruction	1.4	L	Basic rural to urban conversion necessary to accommodate land use changes

Table 7-3 – continued						
#	**Name**	**Project Limits**	**Type**	**$ Millions**	**Source**	**Justification**
30	Perry Creek Rd	McFarland Rd to Spring Creek Rd. east of I-90	New construction	0.3	L	Complete short missing arterial link in intensely developing commercial area, necessary for system continuity
31	Perry Creek Rd/I-90	New interchange	New construction	20.0	F / S	Accommodate future growth
32	Eastside Arterial	Extension of Spring Creek Road east of I-90 to IL-173	New construction	23.0	F / L	Accommodate growth, encourage economic development and access to I-90/I-39
33	Perryville Rd	1,500 feet north of IL-173 to Swanson Rd	New construction	5.6	L	Extension/completion of long-planned arterial in RATS/State Line Area Transportation Study system; needed to accommodate urbanization and enhance system continuity
34	Perryville Road	Swanson Rd to Belvidere Rd	New construction	2.8	L	This Plan also recognizes and reaffirms the Corridor Access Plan developed for the stretch of Perryville Road between Riverside Boulevard and Newburg Road.
35	Prospect Av - 5th Av Crossover	E. State St to 11th St	Reconstruct & widen	2.8	L	Project corrects an offset intersection problem and will relieve congestion on a major arterial without adding lane miles to the arterial.
36	Sandy Hollow Rd	Alpine Rd to Mulford Rd	Reconstruct & widen to 4 lanes	5.6	F / L	Missing link in truck route system, necessary for system continuity and to accommodate freight movement
37	Spring Brook Rd	McFarland Rd to Bell School Rd	Reconstruct & widen to 3 lanes	0.8	L	Basic rural to urban conversion necessary to accommodate land use changes from agricultural to urban
38	Springfield Av – Riverside Blvd	Auburn St to Central Av	Reconstruct & widen to 4 lanes	7.0	F / S	Long-planned project to accommodate growth and enhance ring road, ROW was acquired long ago in anticipation of future development and traffic increases
39	Town Hall & Irene Roads	IL-76 to I-90	New construction	12.0	F / S / L	Basic rural to urban conversion necessary to accommodate land use changes from agricultural to urban
40	US Bus 20/E. State St	Mulford Rd to Lyford Rd	Reconstruct & widen to 6 lanes	9.0	F / S	Widen short narrow link in this highly developed corridor where most of roadway is already 6-lanes; project will also improve safety and access to I-90
41	US Bus 20/E. State St	Olsen Rd to City of Belvidere	Reconstruct & widen to 4 lanes	14.0	F / S	Need to accommodate increases in intercity travel and changes from agricultural to urban in this corridor between Rockford and Belvidere
42	US Bus 20/W. State St	Meridian Rd to Rock River	Reconstruct & Resurface	40.0	F / S	Increase capacity by removing parking, eliminating some intersections, adding turn lanes and other CMS strategies.

Table 7-3 – continued						
#	**Name**	**Project Limits**	**Type**	**$ Millions**	**Source**	**Justification**
43	US-20 (Bypass)	IL-2 to I-39	Reconstruct & widen to 6 lanes	42.0	F / S	Only alternative on this link in the interstate/NHS; necessary to accommodate regional thru traffic and local traffic
44	Riverside Blvd	E of I-90 to Argyle Rd	Reconstruct & widen to 4 lanes	1.6	L	Basic rural to urban conversion necessary to accommodate land use changes from agricultural to urban
45	Riverside Blvd Corridor	Between Sage Drive and Mulford Rd.	Widen to 6 lanes	4.0	F / L	Access improvement Plan
46	Rock Cut Connection	From Perryville Road to IL-173	New undivided 4 lanes	4.2	L	Provides a direct connection to IL-173/I-90
47	Elevator Road in Roscoe	Collector connection Elevator to Burr Oak	New Roadway	1.7	L	Improves connectivity
48	Northwest Tollway	Belvidere Toll Plaza	Reconstruct	42.7	IT	Consolidate the Belvidere and Marengo Plaza to a single barrier-free express plaza
49	Northwest Tollway	Beloit Plaza	Reconstruct the Beloit Plaza to a barrier-free express plaza.	24.8	IT	Reconstruct to a barrier-free express plaza.
50	Northwest Tollway	IL 39 interchange	New construction and reconstruction	35.0	IT	Reconfigure and reconstruct including a new flyover ramp.
51	Northwest Tollway	Newburg Road to East Riverside Boulevard	Reconstruct and widen	80.0	IT	Rubblization and overlay of exiting pavement and expansion from 4 to 6 lanes
52	Northwest Tollway	East Riverside Boulevard to Rockton Road	Reconstruct and widen	158.9	IT	Expansion project
53	Northwest Tollway	Boone County line to Newburg Rd	Reconstruct	120.6	IT	Rubbilization
Total				**1,011.9**		
F= Federal, S=State, L=Local, IT = Illinois Tollway						

Table 7-4 summarizes 30-year cost summary for all roadway improvements. These cost estimates demonstrate that the proposed highway improvements in the Rockford MPA during the 30-year plan are financially feasible. Revenues are forecasted for the same period at $2.2 billion (see **Section 3**). Finally, all proposed projects would be thoroughly evaluated and prioritized when they are included in the annual RATS TIP. All TIP are to be consistent with all LTRPs.

Table 7-4
30-Year Project Cost Summary

Description	Type	Units	Costs in Millions		
			Unit Cost	Subtotal	Total
Capacity Expansion Projects (see Table 7-3)				1,011.9	
New Signalization Projects (1 new signal/year)	Each	30.0	0.1	3.0	
Right-of-Way Acquisition	Sum	1.0	10.0	10.0	
Capacity Expansion					**$1,025**
Maintaining Existing Facilities					
Signal Modernizations – existing signals to be upgraded once	Each	400	0.1	36.0	
Existing Road Projects (reconstructed or resurfaced)					
Principal Arterials	Mile	171.1	2.5	427.8	
Minor Arterials	Mile	280.8	1.5	421.2	
Collectors	Mile	361.4	0.5	162.6	
River/Creek Crossing Projects					
Winnebago County – Major Bridge*	Each	19.0	2.9	55.1	
Other	Each	91.0	0.2	18.2	
Boone County – Major Bridge*	Each	6.0	2.9	17.4	
Other	Each	21.0	0.2	4.2	
Railroad Crossing Projects					
Winnebago County	Each	64.0	0.07	4.5	
Boone County	Each	16.0	0.07	1.1	
Maintaining Existing Facilities					**$1,148**
Enhancement Projects					
Kent Creek Path continuations	Mile	4.3	0.74	3.2	
Perryville Path continuations (funded – not constructed)**	Mile	3.0	0.73		
RCSP connection to Long Prairie Path	Mile	2.8	0.75	2.1	
Perryville Path continuation north	Mile	3.3	0.73	2.4	
Kishwaukee and Rock River Paths to/from/in downtown	Mile	8.0	2.25	18.0	
Davis – Pec Path (funded – not constructed)**	Mile	1.2	1.33		
Pecatonica Prairie Path (funded – not constructed)**	Mile	9.5	0.55		
Machesney Path – Willow Creek connection	Mile	1.5	1.47	2.2	
Connection to NE Park and RCSP	Mile	3.0	2.7	8.1	
Enhancement Projects					**$36**
Total Estimated 30-Year Project Costs					**$2,209**

* Major bridges are over the Rock or Kishwaukee Rivers
** Projects are already listed in the RATS Transportation Improvement Plan and listed here for information only.

7.6 Roadway Projects Beyond Year 2035

The following project is beyond the Year 2035 LRTP. That is, the project is being considered in the planning process, but cannot be implemented under the levels of funding projected in the Year 2035 LRTP. The project has a low priority and given the financial constraints of the LRTP, this project is proposed for beyond the Year 2035. However, future events can cause the priorities to change as a result of development pressures, traffic increases, traffic congestion or other factors.

The Northwest Bypass – Under the direction of the RATS Policy Committee, RATS is considering the need and feasibility of a new limited access roadway on the periphery of the northwest quadrant of the Rockford MPA. Preliminary indications are that such a facility will be needed in the future, but the exact timing of the need and the best alignment for the facility has not yet been determined.

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SECTION 8

TRANSIT

SECTION 8
TRANSIT

8.1 Rockford Mass Transit District

The Rockford Mass Transit District (RMTD) provides weekday, Saturday and Sunday fixed route public bus service and demand response service to Rockford, Loves Park and Machesney Park. Weekday and Saturday buses operate along 17 fixed routes at 30-60 minute intervals, between the hours of 5:15 AM-5:45 PM. Weekday routes are illustrated on **Map 8-1**. Weekday evening service is provided within Rockford along six fixed routes operating at 60 minute intervals between the hours of 5:45 PM-10:45 PM. Sunday service is provided in Rockford along five fixed routes operating on 60-minute intervals between the hours of 9:15 AM and 4:15 PM. The Sunday service began in September 2002 through funding provide by the Federal Transit Authority (FTA) Access to Jobs Program. RMTD also operates a trolley bus on a seasonal basis in downtown Rockford.

A three-person board appointed by Rockford oversees RMTD. The board is empowered through a charter under the laws of the State of Illinois. RMTD is funded through a combination of federal, State and local subsidies or contractual payments as explained in **Section 3**, *Public Funding*.

RMTD maintains a fleet of 39 full-sized buses and 26 demand response vehicles. The combined peak vehicle requirement to operate the system under current schedules is 40 vehicles (27 full-sized buses and 13 demand response). The RMTD annual ridership for the past ten years is shown in **Table 8-1**. Some decline in ridership was witnessed in 2003. In that year, RMTD implemented a route and schedule analysis that resulted in a significant restructuring of its fixed route service. It is fairly common for bus ridership to decline after a route restructuring occurs, but should return to the previous numbers as people get used to the new routes.

Table 8-1
Rockford Mass Transit District Ridership

Fiscal Year[1]	Bus	Demand Response
1995	1,541,119	76,418
1996	1,668,301	42,339
1997	1,531870	43,943
1998	1,444,265	45,392
1999	1,496,579	41,297
2000	1,486,587	39,938
2001	1,533,123	50,051
2002	1,521,455	71,023
2003	1,390,429	100,921
2004	1,296,876	100,331

Demand response service is growing rapidly. Reportedly, some of the non-profit service providers have been providing less service and encouraging people to use the RMTD demand response service. The numbers in **Table 8-1** do not include the demand response service operated by the Boone County Council on Aging (BCCA). RMTD will address this increase with newer and larger demand response vehicles.

[1]Fiscal Year is from July to June.

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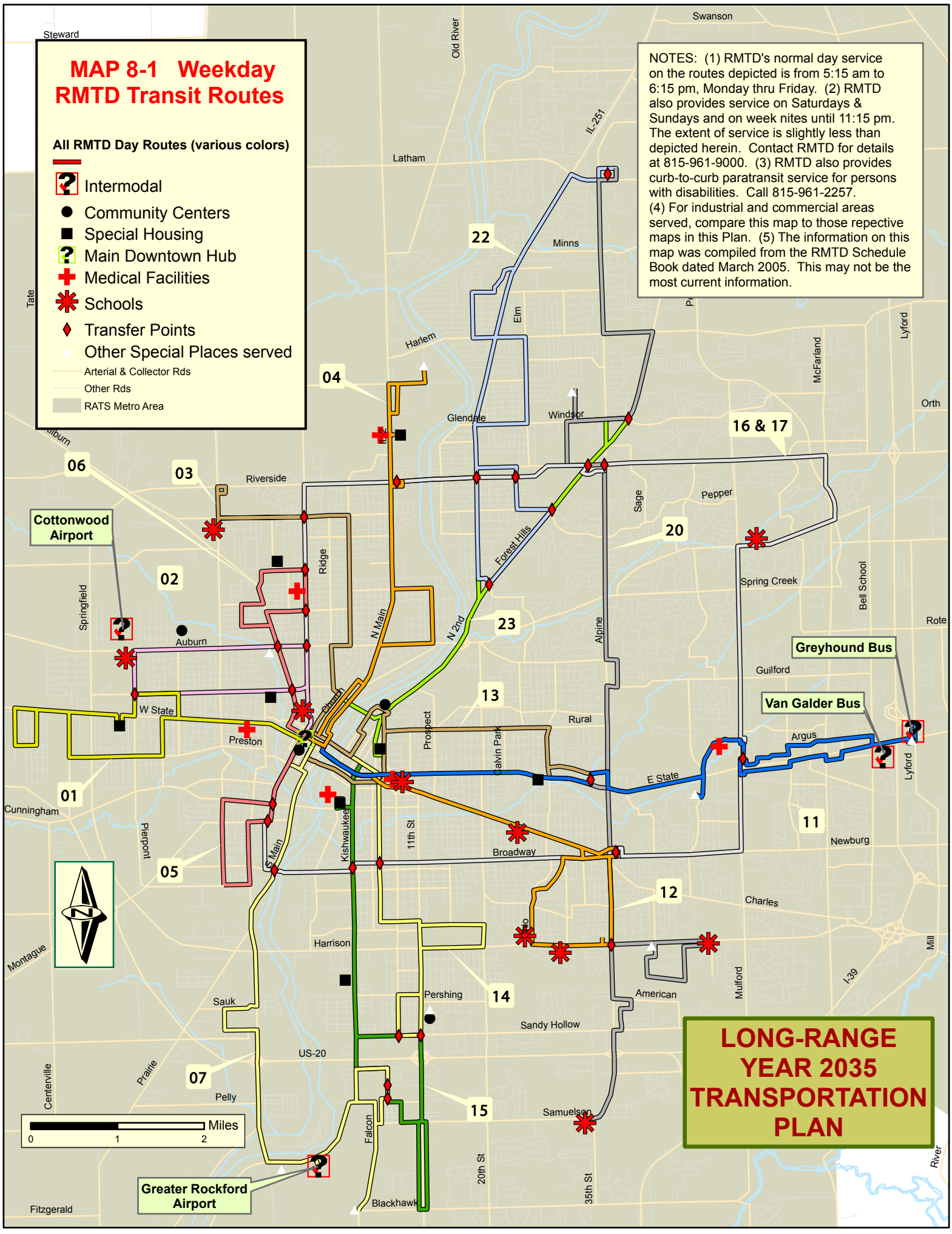
MAP 8-1 Weekday
RMTD Transit Routes
All RMTD Day Routes (various colors)
Intermodal
Community Centers
Special Housing
Main Downtown Hub
Medical Facilities
Schools
Transfer Points
Other Special Places served
Arterial & Collector Rds
Other Rds
RATS Metro Area
NOTES: (1) RMTD's normal day service on the routes depicted is from 5:15 am to 6:15 pm, Monday thru Friday. (2) RMTD also provides service on Saturdays & Sundays and on week nites until 11:15 pm. The extent of service is slightly less than depicted herein. Contact RMTD for details at 815-961-9000. (3) RMTD also provides curb-to-curb paratransit service for persons with disabilities. Call 815-961-2257.
(4) For industrial and commercial areas served, compare this map to those repective maps in this Plan. (5) The information on this map was compiled from the RMTD Schedule Book dated March 2005. This may not be the most current information.
Steward
Swanson
Old River
IL-251
Latham
Minns
Harlem
Glendale
Windsor
Riverside
Cottonwood Airport
Springfield
Auburn
Ridge
N Main
N 2nd
Forest Hills
Sage
Pepper
Spring Creek
Bell School
Alpine
Rote
Guilford
Greyhound Bus
Van Galder Bus
Argus
Lyford
McFarland
Orth
Rural
Prospect
Calvin Park
Church
W State
Preston
E State
Broadway
Kishwaukee
S Main
11th St
Pierpont
Cunningham
Montague
Harrison
Pershing
Sauk
US-20
Prairie
Centerville
Pelly
Sandy Hollow
American
Mulford
I-39
Mill
Charles
Newburg
Samuelson
Falcon
20th St
35th St
Blackhawk
Greater Rockford Airport
Fitzgerald
River
Miles
0
1
2
22
04
16 & 17
06
03
20
02
23
13
01
11
05
12
14
07
15
LONG-RANGE
YEAR 2035
TRANSPORTATION
PLAN

As discussed in other parts of this Long Range Transportation Plan (LRTP), the Region has been growing at annual rate of 1.1% since 1990. The population growth does not seem to have an affect on RMTD bus ridership. Intuitively, this makes sense since most of the new growth has occurred on the urban edge outside of the service routes of the RMTD. It is expected that the RMTD ridership levels will maintain the present levels with minor fluctuations in the near term future.

Elsewhere in this LRTP there is discussion about encouraging more growth in the urban core. Additional residential development in the urban core could cause RMTD ridership to increase. These urban redevelopment practices could take years to materialize and implement before enough growth would occur to have a significant impact on RMTD ridership. In five years, the LRTP will be prepared again. At that time, the LRTP update can be used to determine if the urban redevelopment practices are beginning to take hold and if they could have an affect on the area.

Map 8-2 illustrates where most of the RMTD ridership originates. The map also shows that there are public transportation users in north Boone County. Most likely these residents are using the Metra Union Pacific Northwest line Station in Harvard, Illinois.

The bus service provided by the RMTD is an important means of transportation for minorities and low-income people. **Maps 2-3** through **2-5** illustrate the location of the RMTD routes in relation to minority population. These maps show that the minority population is well served by the RMTD bus routes. The maps illustrate that there is a minority population near Belvidere that does not seem to be served by fixed-route bus routes. However, the residents of Belvidere have demand response service available to them as discussed below. Also, as explained below, there is ongoing discussion about how the RMTD should best serve that area.

All fixed-route buses are wheel chair accessible as required by the Americans with Disabilities Act (ADA). Efforts to aid persons with disabilities (and the general public) in how to read transit schedules and use the transit system are conducted on a regular basis. Demand response service is provided in accordance with ADA guidelines in the RMTD service area.

RMTD also provides fully accessible demand response service within a ¾-mile corridor of the fixed route system for pre-certified persons with disabilities that limit their ability to use the fixed route service and who meet criteria established by the U.S. Department of Transportation under the ADA. Service is provided daily in Rockford and six days a week in Loves Park and Machesney Park.

RMTD has been designated the coordinated service provider for the MPA by the Illinois Department of Transportation (IDOT). This requires that the RMTD monitor the demand response needs and services provided in the metropolitan area, both public and private. RMTD has the responsibility of improving coordination among demand response service providers, identifying unmet needs and maintaining and improving demand response service in the MPA. Private agency providers of demand response service that have also been recipients of federal subsidies include Lifescape Community Services, Barbara Olsen Center of Hope and Booker Washington Community Center. RMTD is also the Regional Maintenance Center for publicly funded demand response vehicles operating throughout the North Central Illinois Area.

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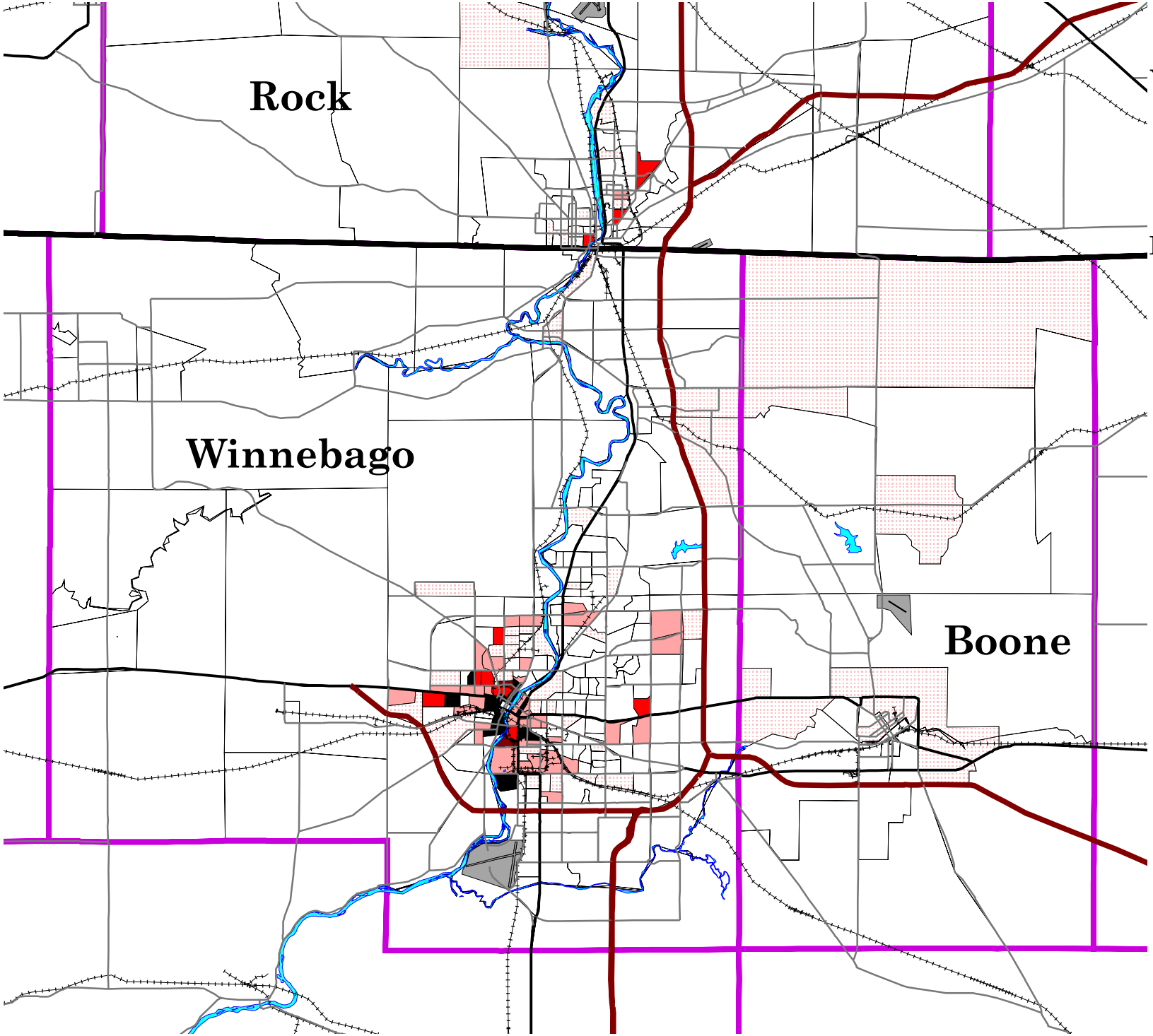

Year 2035 Long Range Transportation Plan

Map 8-2
Percent Using Public Transportation

- Limited Access Road
- Primary Road
- Secondary Road
- Railroad
- Major Water
- State Boundary
- County Boundary

2000 Census Blockgroup

- Less than 1%
- 1.0% - 2.5%
- 2.5% - 5.0%
- 5.0% - 7.5%
- 7.5% - 10%
- More than 10%
- Airport

6 0 6 12 18 24 30 Miles

June 2005

Prepared by ACG:
The al Chalabi Group, Ltd.

8.2 Belvidere/Boone Demand Response Service

The BCCA offers public transportation service, equipped with wheel-chair lifts, to all residents of Boone County, regardless of age. Priority is given to the medical and nutritional needs of older persons and persons with disabilities. Door-to-door services are provided on a demand-response basis. The service is provided Monday through Friday between 7:00 AM-6:00 PM. Reservations are required at least one day in advance. BCCA operates a fleet of five minibuses and offers fully accessible demand response service as part of their demand response service.

A large part of Boone County, including Belvidere, was classified as "urbanized" as a result of the 2000 Census. This had an impact on federal and state funding sources for demand response service and how the funds are disbursed. The RMTD now receives FTA funding for the urbanized part of Boone County. It was decided that for the short term Boone County would best be served by the existing BCCA demand response service. A Memorandum of Understanding between the two organizations allows BCCA to continue to provide the demand response service under contract to RMTD. This agreement was initially executed in 2004, and has been extended through 2009. RMTD will continue to work with BCCA on providing better transit service in the future.

Finally, BCCA still receives federal and state funding to provide demand response service to the non-urbanizes parts of Boone County. BCCA will continue to provide these services.

8.3 Rockford Mass Transit District Capital Improvement Plans

RMTD is in the process of constructing a new facility to house their demand response fleet and related equipment. This building in downtown Rockford will provide storage and maintenance facilities for the demand response fleet, and enhance the RMTD role in regional maintenance.

RMTD has been investigating the feasibility of a bus transfer center on the east side of Rockford. The purpose of this facility would be to increase operating flexibility to the employment and commerce centers along the East State Street commerce corridor, position the RMTD to provide fixed route transit to Belvidere, and accommodate transfer connections with BCCA flexible services and intercity through routes.

RMTD will need to make some improvements to the existing bus transfer facility in downtown Rockford during the life of this LRTP. The improvements will include a redesign of the facility so buses do not have to back out of stalls. Also, as part of this effort, the RMTD will investigate making accommodation for bikes on buses to improve intermodal connectivity.

The life of the RMTD buses is approximately 12 years. It is expected that the buses will have to be replaced twice during the course of this 30-year LRTP. The demand response vehicles will be replaced with vehicles that have a life expectancy of approximately eight years. Some of the demand response fleet would be replaced with super duty vehicles that have a life expectancy of 10 years. For planning purposes, it is expected that the demand response vehicles will have to be replaced three times during the course of the LRTP. **Table 8-2** illustrates the capital needs of the RMTD over the life of the LRTP.

Table 8-2 Forecast of Rockford Mass Transit District Plans Capital Needs			
Description	**Units**	**Unit Cost**	**Subtotal**
East Side Transfer Facility	1	2,100,000	2,100,000
Downtown Transfer Facility	1	1,100,000	1,100,000
Buses	78	330,000	25,740,000
Demand response	60	65,000	3,900,000
Demand response Super Duty	18	98,000	1,730,000
Miscellaneous/Contingency	10%		3,457,000
Total			**38,027,000**

8.4 Other Transit Plans

In December 2003, a transit feasibility study was completed for Roscoe and Rockton. This study concluded that these communities could best be served by developing a combination of local demand response service that would link with a limited bus stop service connecting Beloit to Rockford. It was also recommended that Roscoe and Rockton join with South Beloit to create a Mass Transit District. The combined communities could pool resources that would encourage economies in providing transit service.

RMTD and the Beloit Transit System are currently involved in discussions with Roscoe, Rockton and South Beloit to explore the potential for intercity bus transit express service along the IL-251 corridor. This service would link the metropolitan areas and provide expanded mobility options to the residents, as well as transfer connections between the existing systems. This plan is still is the feasibility stage and funding to implement the plan has not been identified.

8.5 Intercity Private Bus Service

Greyhound Bus Lines and the Van Galder Bus Company provide fixed-route intercity bus service to the Rockford Metropolitan Planning Area (MPA). Greyhound provides weekday and Saturday service from the Greyhound Terminal at 542 North Lyford Road. Two or three buses travel daily to and from Chicago and Madison, Wisconsin. A Greyhound affiliated carrier provides service to Dubuque, Iowa.

The Van Galder Bus Company, which is owned by Coach USA, provides regularly scheduled daily service to the MPA and Chicago O'Hare International Airport (ORD), Midway International Airport (MDW) and the Amtrak/Metra Union Station in downtown Chicago. The Van Galder Bus Terminal is at 7559 Walton Street on the east side of Rockford near East State Street and I-90. Stops are also made at the nearby Holiday Inn and Best Western Clock Tower Inn, both on East State Street. The Van Galder Terminal is accessible via the RMTD bus system.

17 buses travel between Rockford and ORD. The bus service is available leaving Rockford between 3:30 AM-7:00 PM and leaving ORD between 6:00 AM-10:30 PM.

Seven buses a day travel between Rockford and MDW service. These buses also connect to Janesville, Wisconsin. Service is available leaving Rockford between 4:10 AM-6:20 PM, and leaving MDW between 6:30 AM-10:00 PM.

Four buses a day travel between Rockford and Chicago Union Station at Jackson and Canal. These buses also connect to the University of Wisconsin Memorial Union in Madison. Service is available leaving Rockford between 6:50 AM-3:45 PM, and leaving Chicago between 10:30 AM-8:30 PM.

8.6 Proposed Commuter Rail

The Northern Illinois Commuter Rail Initiative (NICRI) was formed several years ago to explore the feasibility of extending commuter rail service from Chicago. Commuter rail is a type of rail passenger service used for urban public transit that operates over existing railroad tracks on the same rights-of-way used by freight trains and long distance passenger trains. NICRI is a non-profit organization made up of various government and private sector representatives from throughout the MPA. A study completed in October 2004 investigated the feasibility of extending Metra commuter rail service to the MPA. RATS secured the FTA funding to undertake the feasibility study.

Metra operates commuter passenger trains throughout the Chicago MPA as an operating subsidiary of the Regional Transportation Authority (RTA). The NICRI study recommended that the best way to provide commuter rail was to extend the Metra Milwaukee West line from Big Timber Road (west of Elgin) to the MPA. The Milwaukee West line goes from Big Timber to Union Station in downtown Chicago. The proposed extension would follow the existing Union Pacific track along I-90 through Belvidere to Rockford. The Union Pacific (UP) connection to the Milwaukee line is just west of Big Timber.

Five potential commuter stations were proposed in the Rockford MPA. They would be located at the Northwest Chicagoland International Airport at Rockford (RFD), downtown Rockford, the eastside of Rockford (at Alpine, Mulford or Perryville Roads), west of Belvidere near Irene Road, and in downtown Belvidere. In Rockford, the line would switch over to the Canadian National Railroad (CN) tracks and then to the Illinois Railnet (IR) tracks to get to RFD. The Rockford downtown station would use the old Illinois Central/Amtrak Station adjacent to South Main Street south of downtown along the CN.

The Irene Road Station would be part of a proposed development that is presently known as Tollway Station Point. It has been suggested that the development could be transit oriented around the proposed commuter station. The transit-oriented development would encourage residential densities that would support the commuter line. In addition, the Tollway Station Point development would have access to the Northwest Tollway through a proposed interchange at Irene Road. This location could also be attractive to people traveling south and east to Chicago on I-90, who would have the ability to quickly get off the highway and connect to commuter rail.

Two methods were used to estimate the potential ridership on the line. The first was to calculate per capita ridership using characteristics similar to the Rockford-Chicago market. The Kenosha, Wisconsin to Chicago market with a ridership between 6.0-7.0 boardings per 1,000 residents was used. The per capita method resulted in an estimated ridership of 1,160-1,353. The second method was to determine ridership by estimating the size of individual travel markets. The travel market method resulted in a total average daily ridership of 801.

The capital cost of the starting the proposed service would be $90 million. Capital funding for the

project would come from the FTA New Starts program and state and local sources. New Starts funding is very competitive. There are numerous proposed projects in the Chicago MPA that are in various stages of study. Each of these projects competes against each other as well as projects throughout the nation. There is an extensive set of criteria that goes into evaluation of a New Start project. The greater the financial commitment from local government, the better the chance that the federal government will fund a project. Generally, most New Start projects receive a fifty percent commitment from the federal government. Thus, a very strong financial commitment from the Region would be needed in order to obtain federal funding. It should also be kept in mind the forecasted capital costs are preliminary and based on certain assumptions. More work needs to be done before these cost estimates can be relied upon.

The annual operating cost of the service was estimated at $3.3 million with an annual revenue base of $1.6 million. This means that 50% of the operation would be paid through fare collection and the other 50% of the cost of the operation would be subsidized through a combination of federal, state and local funding. Again, the operating cost estimates are preliminary and much more work will need to be done to finalize the estimates.

The NICRI study concluded that the project compared favorably with other federal New Start initiatives that are being considered by the FTA, but in order to it move forward it would need a funding plan with a strong local commitment and a favorable response from Metra and the UP. Metra is presently undertaking its own feasibility study to extend service along the UP line from Big Timber to Marengo, Illinois. This feasibility study has been completed and is currently in review by Metra. It was not possible to obtain an advance copy of the feasibility study. It is unknown if Metra would extend commuter service to Marengo. In addition, Winnebago and Boone Counties are not part of the RTA. The Region would have to join the RTA or make some type of contractual arrangements with Metra to allow the commuter rail service connection. Another option would be to have the Rockford Mass Transit District or similar type of entity operate the service from the MPA to Elgin or Chicago. Service agreements would be needed with the railroads and Metra.

The next stage in the commuter line project would be to perform an Alternatives Analysis that would be used to define the project purpose and need and review various alternatives to meet the project objectives. Alternatives that should be investigated include commuter bus, Bus Rapid Transit (BRT) and Transportation Systems Management (TSM). Commuter bus is a type of bus service used for urban public transit, which operates over existing streets, highways and freeways with limited stops and provides a comfortable convenient and high-speed ride. BRT combines the quality of rail transit and the flexibility of buses. BRT uses exclusive lanes, separate right-of-way or free flowing highway high occupancy vehicle. TSM is defined as the best that can be done for mobility without constructing a new transit guideway. An acceptable TSM alternative would emphasize transportation system upgrades such as intersection and signal improvements, minor road widening, traffic engineering action, bus route restructuring, shortened bus headways, reserved bus lanes, special bus ramps on freeways, expanded park/ride facilities, express and limited-stop service.

The NICRI feasibility study did not involve extensive modeling to determine the potential ridership. The ridership projections are essential to determine the cost effectiveness of the proposed commuter line. For example, utilizing the Kenosha Station for comparison may not be valid. Metra provides nine inbound (towards Chicago) and eight outbound trains to Kenosha. It is highly unlikely that this

amount of service would be provided to the Rockford area. In addition, Kenosha is 66 miles from downtown Chicago as opposed to Rockford, which is 90 miles.

The NICRI service is not expected to generate a lot of work related trips to downtown Chicago. Only 2,990 of the residents in Winnebago and Boone County work in Cook County. It is not know how many of these work in downtown Chicago, but most likely the number is small (see **Section 9.3**, *Commuting Patterns*). There are two other major employment centers in the Chicago MPA that could be connected to the proposed commuter service and provide a valuable transit service connection. These employment centers are the Woodfield commercial/office area in Schaumburg and O'Hare International Airport. Potential connections to these major employment centers are under study by various transportation agencies in the Chicago MPA. It is unknown at this point if these connections will be implemented.

The potential to extend commuter rail service to the Rockford MPA provides a major opportunity for improving intermodal transportation between these two urban areas. The commuter bus, BRT and TSM alternatives should be investigated. These alternatives provide a potential to reduce the overall project costs. If the capital costs could be reduced below $25 million, it would fall into an "exempt" project category. Small projects are exempt from the FTA New Starts rating process, thus making them easier to obtain federal approval. The bus and TSM alternatives could be implemented much quicker than the commuter rail extension. Commuter rail extension could still be pursued as a long-term option. In addition, public private partnerships could be considered with the bus alternatives. The Van Galder bus service has an extensive commuter bus system in place that provides bus service to the Chicago area. Cooperation with Van Galder or a similar service could reduce overall project costs.

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SECTION 9

REGIONAL ECONOMIC DEVELOPMENT

SECTION 9
REGIONAL ECONOMIC DEVELOPMENT

Transportation investment represents a significant catalyst for economic development. Transportation plans identify the facilities and investments needed to promote viable local and regional economies. The transportation planning process starts with a 20-30 year forecasts of socio-economic variables. The forecasts are based on trends in other metropolitan areas and which are well suited to the Rockford Metropolitan Planning Area (MPA). The recommended socio-economic forecasts will be used to evaluate alternative transportation facilities through the application of the transportation planning modeling program. These forecasts will subsequently be used in developing a Year 2035 Transportation System. The recommended System may cause shifts in the distribution of socio-economic forecasts, necessitating the generation of a final set of forecasts.

9.1 Population and Household Trends and Forecasts

For the purpose of this Section, the socio-economic data will refer to the Rockford Metropolitan Statistical Area (MSA), which is comprised of Boone and Winnebago Counties.[1] Recall that the Rockford MPA is smaller than the two counties (see **Map 2-1**). During the 1990's and subsequent to the 2000 Census, the population of the Rockford MSA had been growing at an average annual rate exceeding 1.1%. This is a significant increase from the annual growth of 0.29% experienced in the 1970's and 0.17% in the 1980's. The reasons for the acceleration in population growth are two fold: the strength of the local economy and the current phase of the U.S. demographic cycle.

Among the 102 Illinois counties, Winnebago and Boone ranked 7th and 9th, respectively, in terms of total population growth during the period 2000-2004. For the last year of this period, Winnebago maintained its 7th rank and Boone's rank improved to 8th. Preceding the rank of these two counties, in terms of numeric population growth, were: Will, Kane, Lake, McHenry, DuPage and Kendall Counties. It should be further noted that, for the Rockford MSA, the post-2000 growth has been balanced, with almost half due to natural increase and the balance due to net in-migration. For DuPage County, all the growth has been due to natural increase; post-2000, the County has experienced net out-migration, as it approached full development. Most of the growth in Will, Kane, McHenry and Kendall Counties has been due to in-migration, created by the outflow from the fully developed Cook and DuPage Counties. **Table 9-1** shows the component of population change for Illinois counties for the period 2000-2004. The counties are ranked by numeric population change.

Table 9-1
Component of Population Change for Counties of Illinois from 2000-2004

Population Change Rank	Net Migration Rank	Geographic Area (county)	Total Population Change	Natural Increase			Net Migration		
				Total	Births	Deaths	Total	International	Internal
Illinois			293,987	321,232	774,574	453,342	27,885	276,890	-304,775
1	1	Will	111,583	23,504	37,060	13,556	91,123	5,353	85,770
2	2	Kane	68,363	23,431	34,344	10,913	44,305	13,681	30,624
3	4	Lake	48,296	8,016	44,258	16,242	19,466	17,524	1,942
4	3	McHenry	36,314	10,783	17,388	6,605	23,918	3,554	20,364

[1]The Metropolitan Statistical Area is designated by the United States Bureau of the Census

Table 9-1 – continued

Population Change Rank	Net Migration Rank	Geographic Area (county)	Total Population Change	Natural Increase			Net Migration		
				Total	Births	Deaths	Total	International	Internal
5	101	DuPage	24,557	30,411	54,695	24,284	-5,381	24,977	-30,358
6	5	Kendall	18,004	2,888	4,223	1,335	14,762	322	14,440
7	11	Winnebago	8,370	6,050	16,842	10,792	2,399	3,784	-1,385
8	8	McLean	7,573	4,456	8,675	4,219	3,164	1,427	1,737
9	6	Boone	6,704	1,326	2,609	1,283	5,408	625	4,783
10	7	DeKalb	6,534	2,279	4,837	2,558	4,289	1,457	2,832
11	13	Madison	5,398	2,541	14,185	11,644	2,016	447	1,569
12	26	Champaign	4,700	4,550	9,552	5,002	224	4,858	-4,634
13	9	Grundy	3,534	700	2,030	1,330	2,858	158	2,700
14	17	Kankakee	3,355	2,038	6,701	4,663	900	663	237
15	86	Sangamon	3,088	2,974	10,726	7,752	-913	480	-1,393
16	95	St. Clair	3,065	4,686	15,891	11,205	-1,905	658	-2,563
17	10	Monroe	2,872	405	1,452	1,047	2,485	27	2,458
18	12	Ogle	2,654	472	2,515	2,043	2,204	502	1,702
19	14	Williamson	1,798	33	3,090	3,057	1,791	67	1,724
20	15	Woodford	1,498	309	1,789	1,480	1,199	37	1,162
21	33	LaSalle	802	705	5,951	5,246	146	433	-287
22	19	Jersey	652	29	987	958	636	46	590
23	82	Tazewell	647	1,201	6,725	5,524	-510	213	-723
24	18	Lawrence	542	-243	698	941	790	12	778
25	22	Clinton	534	296	1,600	1,304	251	114	137
26	16	Franklin	435	-485	2,003	2,488	936	18	918
27	21	Bond	349	-16	754	770	376	25	351
28	34	Jefferson	344	266	2,081	1,815	97	60	37
29	51	Effingham	311	409	1,856	1,447	-82	53	-135
30	23	Jo Daviess	305	71	1,004	933	243	110	133
31	28	Menard	217	30	566	536	195	19	176
32	24	Massac	122	-111	835	946	242	-	242
33	45	Cass	121	155	807	652	-28	529	-557
34	36	Johnson	119	37	529	492	88	29	59
35	31	Moultrie	116	-24	780	804	152	12	140
36	37	Piatt	114	56	704	648	67	18	49
37	30	Calhoun	106	-44	209	253	153	-4	157
38	20	Macoupin	48	-323	2,300	2,623	391	17	374
39	29	Marshall	42	-130	593	723	181	8	173
40	25	Ford	29	-194	691	885	230	24	206
41	44	Putnam	25	56	276	220	-27	8	-35
42	77	Douglas	20	413	1,262	849	-381	132	-513
43	46	Mercer	16	55	803	748	-32	13	-45
44	40	Washington	-24	-12	701	713	-1	8	-9
45	35	Christian	-50	-124	1,671	1,795	91	81	10
46	41	Hardin	-75	-72	176	248	-1	39	-40
47	42	Mason	-96	-82	764	846	-7	1	-8
48	48	Jasper	-99	-24	466	490	-69	-4	-65
51	27	Union	-102	-291	869	1,160	197	80	117
49	38	Clark	-102	-118	764	882	25	4	21
50	43	Pope	-102	-77	127	204	-21	-	-21
52	53	Scott	-107	-13	256	269	-90	-4	-86
53	32	White	-132	-269	699	968	147	4	143
54	57	Brown	-145	7	246	239	-151	27	-178

Table 9-1 – continued

Population Change Rank	Net Migration Rank	Geographic Area (county)	Total Population Change	Natural Increase			Net Migration		
				Total	Births	Deaths	Total	International	Internal
55	54	Fayette	-153	-32	1,030	1,062	-112	4	-116
56	50	Henderson	-167	-85	283	368	-78	-4	-74
58	47	Schuyler	-187	-121	292	413	-62	7	-69
59	49	Stark	-187	-113	277	390	-69	-	-69
57	55	Cumberland	-187	-61	520	581	-122	8	-130
60	62	De Witt	-201	-9	882	891	-186	29	-215
61	61	Edwards	-213	-25	315	340	-184	-4	-180
62	56	Hamilton	-221	-73	375	448	-141	-4	-137
63	58	Greene	-229	-69	674	743	-154	1	-155
64	70	Wayne	-248	67	928	861	-304	4	-308
65	59	Montgomery	-260	-158	1,440	1,598	-171	9	-180
66	60	Gallatin	-267	-93	274	367	-174	8	-182
67	68	Richland	-290	-15	812	827	-268	2	-270
68	52	Pike	-293	-205	789	994	-84	30	-114
69	69	Lee	-320	-9	1,560	1,569	-295	88	-383
70	71	Wabash	-331	-13	590	603	-308	4	-312
71	66	Carroll	-335	-69	735	804	-259	37	-296
72	74	Bureau	-348	41	1,838	1,797	-372	84	-456
73	64	Perry	-361	-135	1,075	1,210	-219	24	-243
74	75	Pulaski	-361	21	427	406	-376	-	-376
75	72	Clay	-374	-61	775	836	-310	20	-330
76	65	Crawford	-393	-140	839	979	-246	42	-288
77	79	Alexander	-399	27	587	560	-419	-4	-415
78	67	Edgar	-428	-154	883	1,037	-266	-	-266
79	76	Logan	-446	-56	1,408	1,464	-379	79	-458
80	73	Shelby	-456	-93	966	1,059	-347	4	-351
81	78	Henry	-468	-57	2,336	2,393	-391	95	-486
82	39	Saline	-488	-489	1,340	1,829	13	39	-26
83	80	McDonough	-520	-33	1,211	1,244	-464	354	-818
84	81	Randolph	-533	-17	1,660	1,677	-501	20	-521
85	84	Morgan	-563	34	1,799	1,765	-585	86	-671
86	63	Fulton	-617	-395	1,700	2,095	-211	22	-233
87	92	Whiteside	-620	536	3,195	2,659	-1,128	199	-1,327
88	89	Livingston	-637	396	2,173	1,777	-1,012	103	-1,115
89	83	Iroquois	-668	-114	1,495	1,609	-541	152	-693
90	85	Hancock	-720	-43	925	968	-662	11	-673
91	88	Stephenson	-832	146	2,480	2,334	-965	277	-1,242
92	87	Warren	-939	8	851	843	-934	38	-972
93	99	Peoria	-1,015	3,519	11,173	7,654	-4,452	1,213	-5,665
94	91	Marion	-1,124	-62	2,211	2,273	-1,047	17	-1,064
95	94	Vermilion	-1,138	598	4,779	4,181	-1,703	233	-1,936
96	97	Jackson	-1,356	772	2,784	2,012	-2,117	1,411	-3,528
97	90	Adams	-1,361	-291	3,362	3,653	-1,031	96	-1,127
98	98	Rock Island	-1,617	1,870	8,346	6,476	-3,419	1,268	-4,687
99	96	Coles	-1,668	301	2,461	2,160	-1,956	170	-2,126
100	93	Knox	-1,952	-315	2,697	3,012	-1,613	141	-1,754
101	100	Macon	-3,726	1,236	6,249	5,013	-4,908	237	-5,145
102	102	Cook	-49,038	162,279	355,158	192,879	210,899	187,514	-398,413

*Total population change includes residual - see "State and County Terms & Definitions"
Note: The April 1, 2000 Population Estimates base reflects changes to the CensUS-2000 population from the

Table 9-1 – continued
Count Question Resolution program and geographic program revisions. Dash (-) represents zero or rounds to zero. (X) Not applicable Suggested Citation: Table 4: Cumulative Estimates of the Components of Population Change for Counties of Illinois; April 1, 2000 to July 1, 2004 (CO-EST2004-04-17) Source: Population Division, United States Census Bureau; Release Date: April 14, 2005

The economy of the Rockford MSA is benefiting from the congestion capacity constraints experienced in the inner core of the Chicago Metropolitan Area, i.e. DuPage and Cook Counties. As noted in **Section 4**, *Airports* the emergence of Northwest Chicagoland International Airport at Rockford (RFD) as an important freight hub is due to capacity constraints at Chicago O'Hare International Airport. **Section 6**, *Rail* and **Section 7**, *Roadway*, discuss the development of Global III as an intermodal (rail/highway) facility due to congestion in the Chicago Region. However, in spite of these transportation relationships, the Rockford MSA remains employment self-contained and self-sufficient. There are limited commutes to work between the Rockford MSA and the six Northeastern Illinois counties (see **Section 9.3**, *Commuting Patterns*).

Map 9-1 shows the urbanization patterns in Northern Illinois, Southeast Wisconsin and Northwest Indiana. It is evident from this map, that urbanization is contiguous across the area from Lake (Illinois)/Kenosha Counties to Cook/Lake (Indiana) Counties. In addition, urbanization is extending from Kane and Will Counties into Kendall and Grundy Counties. Currently, there is no evidence of urbanization encroaching into Boone County from McHenry and Kane Counties (see **Map 9-2**).

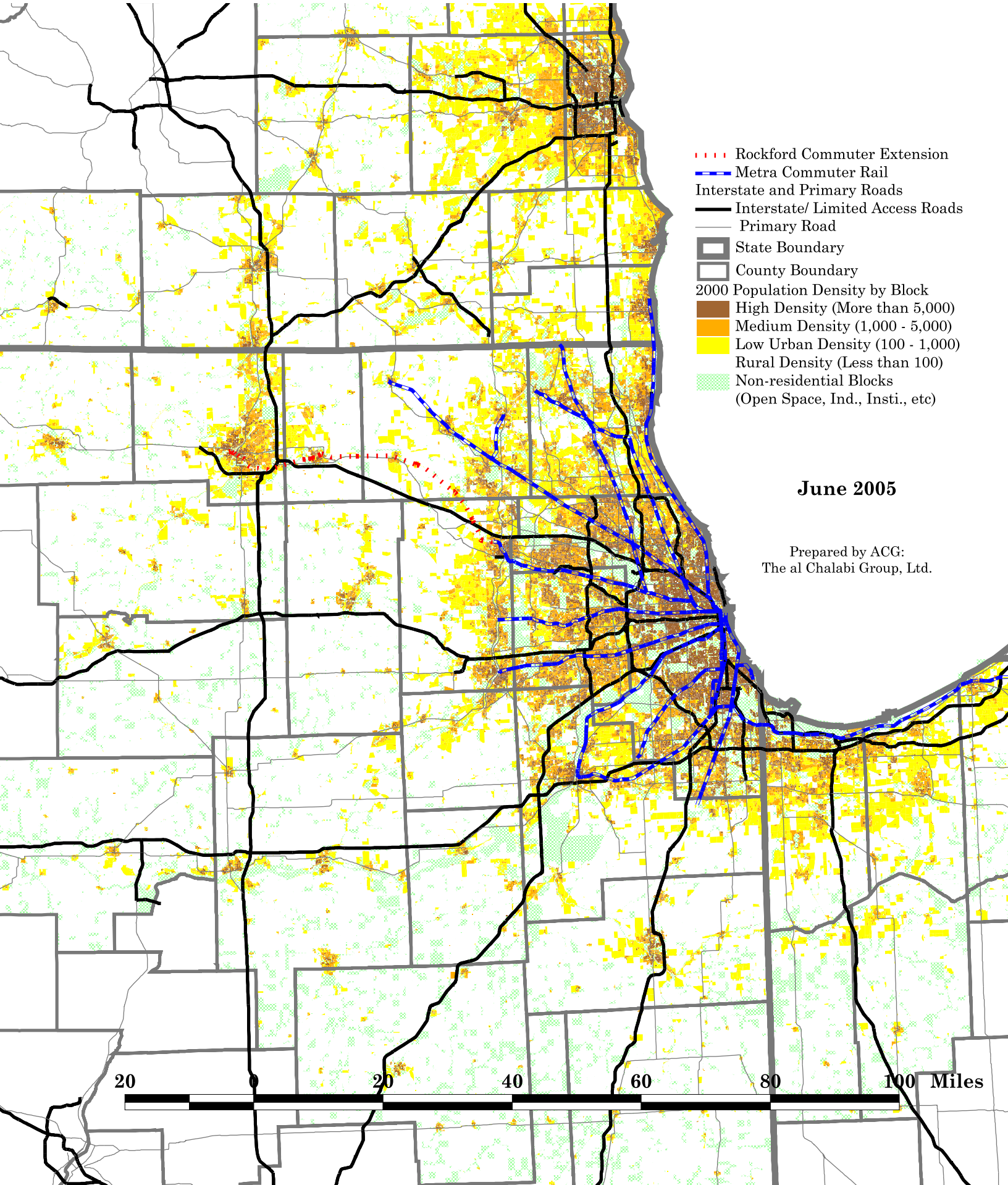
This observation is presented in this section as it impacts the forecasts for population and household distribution within Boone County. It should be noted, that Kane County has adopted a comprehensive plan and policies to prevent development in the western third of the county. Success in implementing these policies would encourage development to hopscotch to DeKalb, McHenry and, possibly, Boone County. DeKalb has taken steps to discourage developments at its eastern boundary; DeKalb is encouraging development to expand eastward from its existing communities. Boone County also is seeking similar policies and such policies are used as the basis for their forecast distribution.

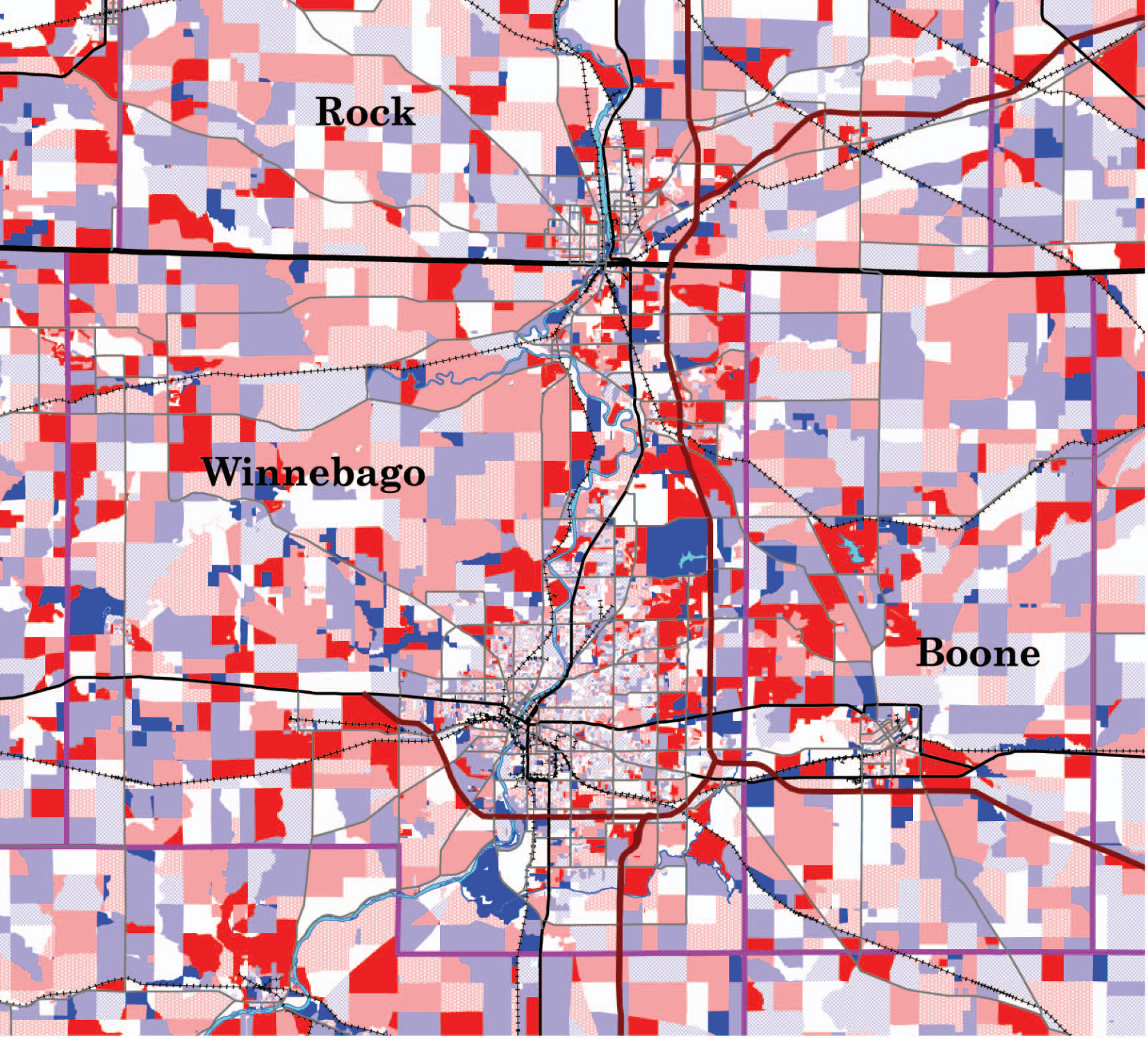
9.1.1 County Population in Household Forecasts

Population households and employment forecasts are important factors influencing the transportation plan. The population forecast is the most common indicator of an area's growth potential. The population forecasts of the 2025 "Boone County and Winnebago County Transportation Planning Study", were analyzed along with forecasts by two national econometric firms, Woods & Poole Economics, Inc. and NPA Data Services, Inc. (NPA). Both of these econometric forecasts are by county and cover the period through 2030.

These forecasts have national, as well as multi-state economic region control totals. The 2025 Transportation Planning Study (TPS) forecasts are based on counties and allocated to smaller Transportation Analysis Zones (TAZ). The TPS forecasts are for dwelling units only.

Year 2035 Long Range Transportatation Plan
Map 9-1
Northern Illinois - Northwestern Indiana - Southeastern Wisconsin Region





Year 2035 Long Range Transportation Plan

Map 9-2: 1990 - 2000 % Population Change by Census Block

- Limited Access Road
- Primary Road
- Secondary Road
- Railroad
- Major Water
- State Boundary
- County Boundary

Change by Census Block

- Decrease 80%+
- Decrease 80% - 20%
- Decrease 20% - 5%
- No Change +/- 5%
- Increase 5% - 20%
- Increase 20% - 80%
- Increase 80%+

6 0 6 12 18 24 30 Miles

June 2005

Prepared by ACG:
The al Chalabi Group, Ltd.

The WPE forecasts were selected to provide the employment control totals by county, minor adjustments were made to reflect preferences. The reasons for selecting the WPE forecasts are:

- Since the mid-1980's, the WPE forecasts have proved to be reasonably accurate for the Midwestern states.
- The WPE employment forecasts are used by the Illinois Department of Community and Economic Opportunity as the basis for generating the migration component of its demographic forecasts.
- The Illinois Department of Transportation has authorized the use of WPE forecast as the basis for the environmental assessment studies for major transportation projects in Northern Illinois.

Table 9-2 presents the population and household forecasts for Winnebago County by WPE, NPA and TPS. The TPS forecasts are inferred from its dwelling unit forecast, using the 2000 vacancy rates and WPE household size. **Table 9-3** presents the same forecast for Boone County.

Table 9-2
Winnebago County Population and Household Forecasts

Year	Woods & Poole**		NPA***		TPS	
	Population	Households	Population	Households	Population	Households
1970	246,370	77,200	NA	NA	NA	NA
1980	251,180	89,580	NA	NA	NA	NA
1990	253,720	97,070	NA	NA	NA	NA
2000	279,010	108,320	278,850	108,300	278,418	107,966
2004 (Estimate)*	286,690	112,690	282,310	110,800	289,320	113,430
2010	299,050	119,150	285,820	113,800	306,480	122,160
2025	334,360	132,760	304,770	128,300	358,420	142,030
2030	347,970	136,390	313,970	134,700	NA	NA
2035 (Extrapolation)	362,130	142,010	323,450	138,900	396,080	157,040

*Census population estimate, released after Woods & Poole Economics, Inc. and NPA Data Services, Inc. publication.
***The Complete Economic and Demographic Data Source*, 2004, Woods & Poole Economics, Inc., Washington, D.C.
***Economic/Household Databases (2002), NPA Data Services, Inc., Arlington, VA

Table 9-3
Boone County Population and Household Forecasts

Year	Woods & Poole**		NPA***		TPS	
	Population	Households	Population	Households	Population	Households
1970	25,480	7,850	NA	NA	NA	NA
1980	28,770	9,730	NA	NA	NA	NA
1990	30,980	10,990	NA	NA	NA	NA
2000	42,080	14,710	42,100	14,730	41,786	14,631
2004 (Interpolation)*	45,840	16,210	45,310	16,020	48,560	-
2010	49,520	17,760	48,240	17,300	60,830	21,960
2025	59,390	21,270	55,040	20,880	91,600	32,950
2030	63,080	22,332	57,420	22,190	NA	NA
2035 (Extrapolation)	67,000	23,820	59,900	23,090	120,900	43,180

*Census population estimate, released after Woods & Poole Economics, Inc. and NPA Data Services, Inc. publication.
***The Complete Economic and Demographic Data Source*, 2004, Woods & Poole Economics, Inc., Washington, D.C.
***Economic/Household Databases (2002), NPA Data Services, Inc., Arlington, VA

9.1.2 Distribution of County-wide Population Forecasts

RATS staff, will work with the various local planning agencies, to distribute the county-wide forecasts of TAZ. The purpose of this section is to provide guiding observations and recommendations linking this task to economic development. The spatial units used for this task are those of the 2000 Census geography, i.e. census blocks, block groups, census tracts and places. **Maps 9-2** shows the 1990-2000 percent change in population by census block.

A significant portion of the growth in the Rockford MSA in the 1990's occurred in the area between the cities of Rockford and Belvidere. Other growth areas were south of US-20 and north of Rockford up to the Wisconsin boundary. In addition, there were pockets of growth within Rockford. Although the dominant Northeastern Illinois growth pattern is one moving outward in all directions, the growth of the Rockford MSA does not appear, as yet, to be moving eastward to meet it.
In generating its population distribution for 2025, the RATS staff, working with local agencies, continued the 1990-2000 trends, which were:

- Not assigning any growth within the core of Rockford.
- Increasing the growth to the west and northwest of Rockford to take advantage of the recently completed western circumferential highway.
- Scattering development to a large area north of Belvidere and surrounding the Village of Capron. The apparent rationale for this growth is to provide easy access to Harvard and its rail connection to Chicago.

The Year 2025 growth trends are illustrated on **Maps 2-7a** through **2-10b** RATS has begun to examine the following growth trends:

- Encourage redevelopment in the core of Rockford, especially along the Rock River, to take advantage of abandoned or underutilized industrial and commercial land. Many Midwestern cities are taking advantage of adaptive re-use of old buildings and redevelopment of under-utilized land to attract people back to cities. The Rock River is an excellent catalyst for such development.
- Assign additional development to areas in close proximity to RFD, but outside its high noise contours. Market forces are going to create pressures for such development as the airport continues to grow. Assignment of this additional development would ensure that the proposed transportation improvement would assist rather than hinder development.
- Reduce the scattering of development north and northeast of Belvidere. If the intent of these developments is to provide residential opportunities to commuters to Northeastern Illinois, a strategy to provide more-concentrated development, clustered around (Illinois State Tollway Authority (Tollway) interchanges or stations along the proposed rail service, is more appropriate.

The RATS staff will consider the above trends in preparing the Year 2035 forecast of new dwelling units and employment. Maps that illustrate Year 2035 growth will be prepared and amended into the Long-Range Transportation Plan (LRTP) at a later date.

9.2 Employment Trends and Forecasts

9.2.1 Sources of Employment Data

Population and household data have universally accepted definitions. Employment data have varying definitions dependent on the source of data. Furthermore, the more-reliable employment data sources do not go below the county level. Accordingly, employment estimates for small geographies, e.g. census block groups, TAZ, townships, municipalities, require factoring and/or adjustment to ensure conformance to county totals, as published by federal and/or state agencies. The most common sources of employment statistics are:

- Bureau of Economic Analysis: The Bureau of Economic Analysis (BEA), U.S. Department of Commerce publishes the most comprehensive source of employment data by place of work. The BEA data include full- and part-time wage and salary workers, the self-employed, private household employees, and miscellaneous workers. The self-employed, who also hold a second salaried job, as well as workers holding two jobs, are counted as two jobs. Miscellaneous employment includes judges and all elected officials, persons working only on commission, such as real estate agents, and students holding part-time jobs at the colleges or universities in which they are enrolled. Due to its comprehensiveness, the source presents the highest number of jobs of any source. For transportation planning, this is the best-suited source. A person holding two jobs, the self-employed, and household workers all require work trips to each of their jobs. Transportation studies that rely on less-comprehensive sources of data tend to underestimate the demand for travel. WPE and NPA use this source as the basis for historic analysis.
- National Income and Product Accounts (NIPA): The national product is commonly referred to as the gross domestic product (GDP). National Income and GDP data, at the county and regional levels, provide the base for the input-output analysis. The NIPA is a more inclusive tool for describing economic development and impact analysis and is presented later in this section. NIPA data has an employment component that with few exceptions is close to the WPE and NPA data. The exceptions are part-time self-employment and certain miscellaneous employees. Accordingly, this source is slightly lower than the WPE and NPA employment data.
- The Bureau of Labor Statistics (BLS) Establishment Data: The BLS Establishment Data are collected from the employers and are published by MSA. However, they are much lower than the BEA data as they exclude agricultural, military, self-employed, household and miscellaneous workers. The exclusion of the self-employed (proprietors) is most significant as a major portion of this employment is in retail and services. BLS employment is usually used as control totals by transportation planning agencies that use State Employment Security (SES) data.
- Illinois Department of Employment Security (IDES): This source can provide employment data by work place address. However, this source includes only employment covered by the SES programs. The self-employed, household workers, and those paid in cash are not included. Furthermore, the address-specific data are confidential; they are released only to public agencies which aggregate the data to larger geographies, thus protecting the confidentiality of the data for any one single establishment. RATS and the Northeastern Illinois Planning Commission (NIPC) use this source as the basis for employment estimates

by TAZ. However, as the sum of employment estimates derived from this source do not add to the BLS metropolitan level data (even though the BLS and IDES have similar definitions), NIPC uses the BLS data as control totals for factoring-upward the IDES data. RATS, for its 2025 planning cycle, did not undertake such factoring.

- Census Transportation Planning Packages (CTPP): In June 2004, the U.S. Bureau of the Census released the third and final component of its Transportation Planning Package (CTPP3). CTPP3 links place of residence with place of work and provides selected Census data for the linked work trips. The sources for this data are the responses to the Census Questionnaire, more specifically, to Question 22, which reads, as follows:

  "At what location did this person work LAST WEEK? If this person worked at more than one location, print where he or she worked most last week."

  Accordingly, persons who were on vacation, sick, or temporarily unemployed, did not respond to this question. Persons who normally work within the Rockford MPA, but who were working on assignment outside their offices (e.g. traveling) were recorded as working elsewhere. Persons who held two or more jobs, and required daily trips to each of those jobs, were reported as working in only one place. Accordingly, this source of employment data, by place of work, was significantly (27.7% for Boone and 21.7% for Winnebago) lower than the BEA data.
- Private Sources: In addition to the above, there are private sources that provide employment, either by address or by Census geography. None of these data sources are as accurate as the public sources as they depend primarily on volunteered data by the employers. Two specific sources are considered reasonable and have been used for this study:
  - Manufacturing News, Incorporated publishes the Illinois Manufacturers Directory and Illinois Services Directory. This source is adequate for locating major employers, but not for generating total employment. Major employers, defined by the consulting team as employing 50+ workers, were address matched and their longitude and latitude identified.
  - Claritas Inc. generates employment by category by Census block groups and larger Census geography. The employment data are retrieved from published directories, statistical relationships, and aerial photographs. The preliminary results are adjusted to the BEA county control totals and packaged into a Geographic Information System (GIS) compatible format by TETRAD Computer Applications, Inc.

9.2.2 County Employment Forecasts

Table 9-4 presents the total employment trends and forecasts for Boone and Winnebago Counties, as developed by WPE, NPA, and TPS. After reviewing these county forecasts, the RATS staff recommended the use of the WPE forecast for the 2035 LRTP.

Tables 9-5 and **9-6** show the employment trends and forecasts for industrial manufacturing and retail, respectively. It should be noted that the definitions for these two categories differed slightly between BEA (source for WPE and NPA) and the 2025 TPS. The definitions, as implied by the TPS, were adopted and the WPE and NPA forecasts were adjusted. Tables for the other employment categories were prepared and submitted to RATS for final adjustments.

Table 9-4
Total Employment Forecasts

Year	Woods & Poole**		NPA***		TPS	
	Winnebago	Boone	Winnebago	Boone	Winnebago	Boone
1970	113,190	14,430	NA	NA	NA	NA
1980	130,740	14,450	NA	NA	NA	NA
1990	151,620	16,860	NA	NA	NA	NA
2000*	176,840	18,930	177,570	18,900	135,423	13,417
2005 (Estimate)	179,220	19,330	184,640	19,250	NA	NA
2010	187,061	20,440	194,210	20,240	154,823	22,076
2025	219,840	25,230	207,050	21,520	180,657	39,031
2030	235,040	27,310	211,600	21,980	NA	NA
2035 (Extrapolation)	251,290	29,560	216,250	22,450	NA	NA

*Census population estimate, released after Woods & Poole Economics, Inc. and NPA Data Services, Inc. publication.
***The Complete Economic and Demographic Data Source*, 2004, Woods & Poole Economics, Inc., Washington, D.C.
***Economic/Household Databases (2002), NPA Data Services, Inc., Arlington, VA

Table 9-5
Industrial/Manufacturing (Including Transportation, Communications, Utilities, Wholesale) Employment

Year	Woods & Poole*		NPA**		TPS	
	Winnebago	Boone	Winnebago	Boone	Winnebago	Boone
1970	55,230	8,440	55,230	8,440	NA	NA
1980	57,610	7,990	57,610	7,990	NA	NA
1990	62,320	9,660	55,560	8,950	NA	NA
2000	61,370	8,500	54,960	6,430	53,749	7,442
2005 (Estimate)	57,980	8,400	54,530	6,000	NA	NA
2010	58,840	9,790	54,470	5,880	64,002	11,741
2025	62,710	11,190	49,410	5,160	78,620	17,164
2030	64,620	11,800	47,840	4,960	NA	NA
2035 (Extrapolation)	66,540	12,410	46,320	4,770	NA	NA

**The Complete Economic and Demographic Data Source*, 2004, Woods & Poole Economics, Inc., Washington, D.C.
**Economic/Household Databases (2002), NPA Data Services, Inc., Arlington, VA

Table 9-6
Retail Employment

Year	Woods & Poole*		NPA**		TPS	
	Winnebago	Boone	Winnebago	Boone	Winnebago	Boone
1970	NA	NA	NA	NA	NA	NA
1980	NA	NA	NA	NA	NA	NA
1990	39,190	2,650	NA	NA	NA	NA
2000	51,050	4,280	NA	NA	41,335	2,740
2005 (Estimate)	51,690	4,310	NA	NA	NA	NA
2010	54,160	4,690	NA	NA	45,637	4,442
2025	66,190	6,270	NA	NA	50,939	7,890
2030	71,620	6,940	NA	NA	NA	NA
2035 (Extrapolation)	77,040	7,620	NA	NA	NA	NA

**The Complete Economic and Demographic Data Source*, 2004, Woods & Poole Economics, Inc., Washington, D.C.
**Economic/Household Databases (2002), NPA Data Services, Inc., Arlington, VA

9.2.3 Employment Distribution within Winnebago and Boone Counties – Trends and Forecasts

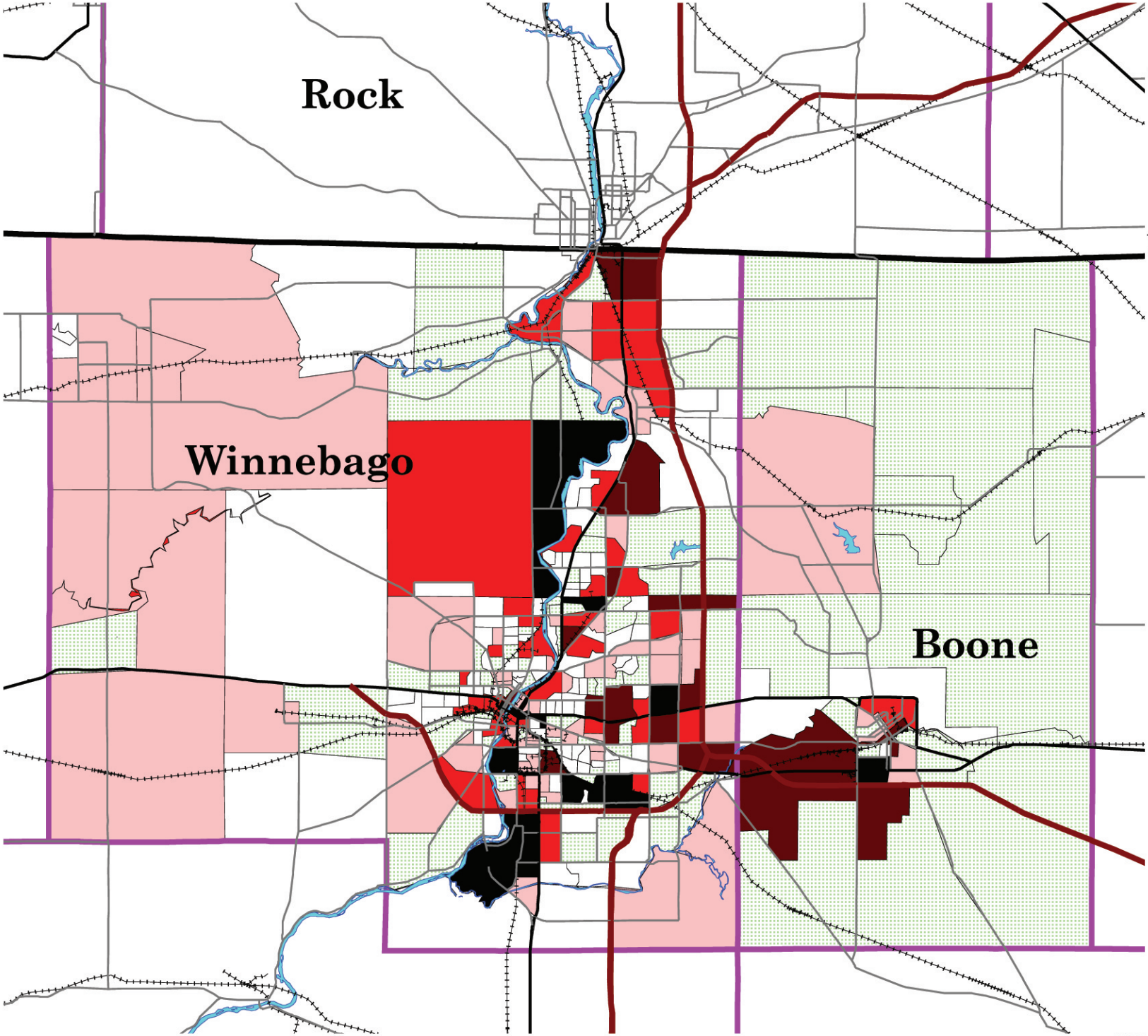
Maps that illustrate employment relationships are provided in **Map 9-3** through **9-5**. The highest concentrations of employment are along I-90/US-20 (both business and by-pass) and the Rock River. Due to variations in block group size, some of the very large ones appear to have large concentrations of jobs and many small block groups appear to be sparsely populated with jobs. The density map adjusts for these discrepancies. The density map shows that the highest concentrations of jobs occur along IL-20 and IL-251. At the intersection of these two routes is downtown Rockford. The importance of the DaimlerChrysler plant, in Belvidere, is apparent on all three maps.

In the Year 2025 TPS, most of the growth is shown to be along the north-south leg of I-90 in Winnebago County (mid-way between the downtowns of Rockford and Belvidere), west of Belvidere along I-90 (in close proximity to the expanding DaimlerChrysler plant), south of I-90 across the entire width of Boone County, southwest of Rockford along US-20, and in the area bounded by IL-251, IL-173, I-90, and Swanson Road. Scattered employment growth also is shown in close proximity to the RFD and north of Belvidere; the latter is to partially serve the RATS forecasted population change discussed earlier. The following observations will be used in showing the location of Year 2035 employment changes:

- Due to anticipated structured changes in the economy of the Rockford MSA, there will be areas, which will experience declines in employment. Some of these areas are recommended for renewal and revitalization to residential areas, particularly those along the Rock River (see **Section 9.1**).
- RFD is destined to be a major catalyst for employment growth. Areas that will become especially attractive for growth in the vicinity of the airport are those along US-20, and IL-251 to the north, east and south of the airport.
- Within Boone County, the employment forecasts do not appear to reflect the proposed population forecasts discussed in **Section 9.1**. The population forecasts show the predominant growth to the north of Belvidere and around Capron, in attempts to access the Metra Commuter Rail Station at Harvard. The employment growth in Boone County is concentrated south of Belvidere and I-90. It is most likely that employment and population growth in Boone County will occur in closer proximity to each other than implied in the 2025 forecasts.

9.3 Commuting Patterns

The data for commuting patterns are derived from the census data, more specifically, from CTPP3. **Table 9-7** shows the work destinations, by county, of the residents of Winnebago County. **Table 9-8** shows the same distributions for the residents of Boone County. Winnebago and Boone Counties function as an independent metropolitan area as illustrated in the two tables. That is, the Rockford MPA is not dependent on the Chicago MPA for jobs. As large as the employment pool is in Northeast Illinois, only a small percentage of residents work in Northeast Illinois. Only, 2,990, or less than two percent, of the residents of the two counties work in Cook County; another 880 worked in DuPage County.

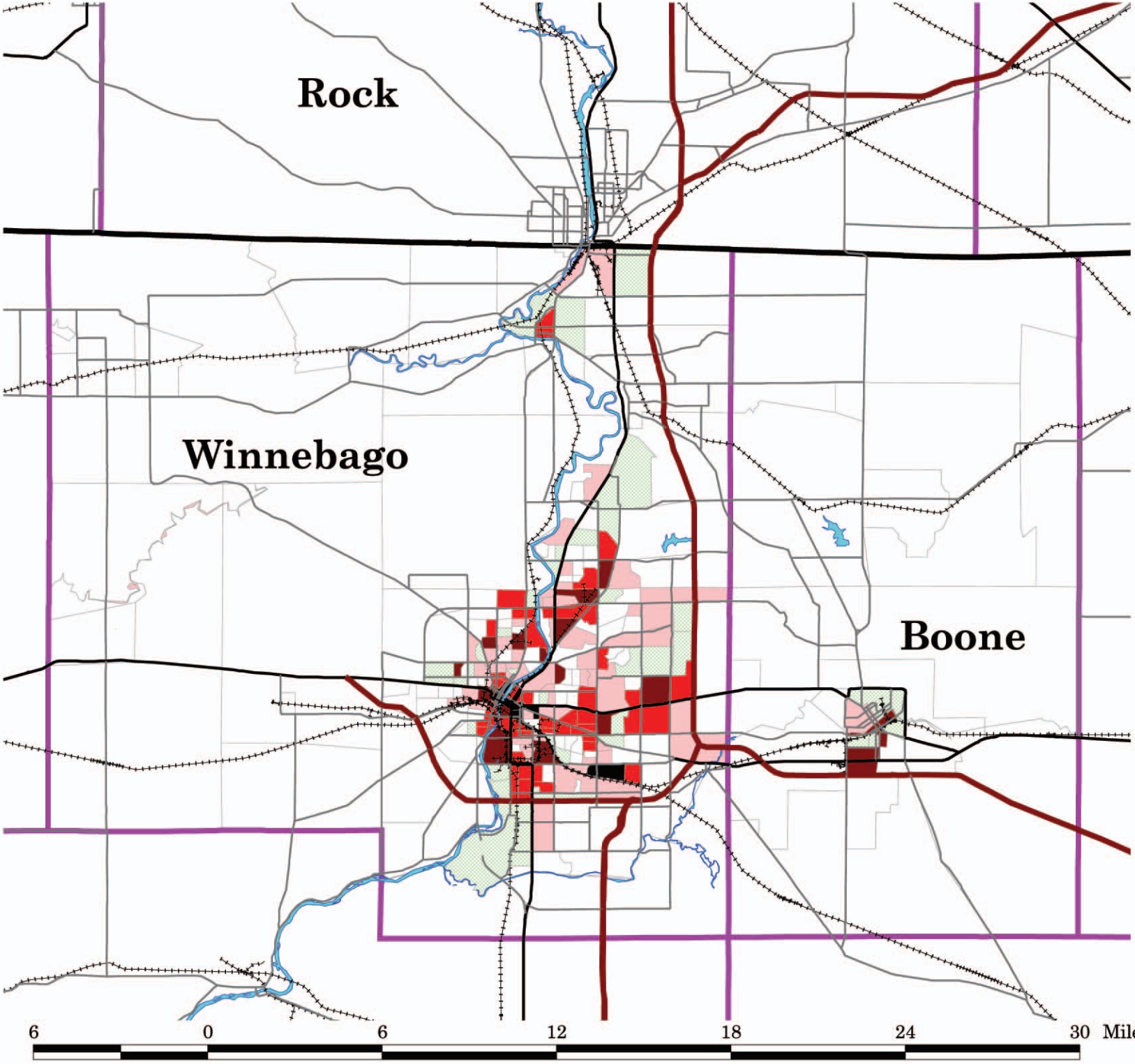


Year 2035 Long Range Transportation Plan

Map 9-3: Existing Total Employment by Census Block Group

June 2005

Prepared by ACG:
The al Chalabi Group, Ltd.



Year 2035 Long Range Transportation Plan

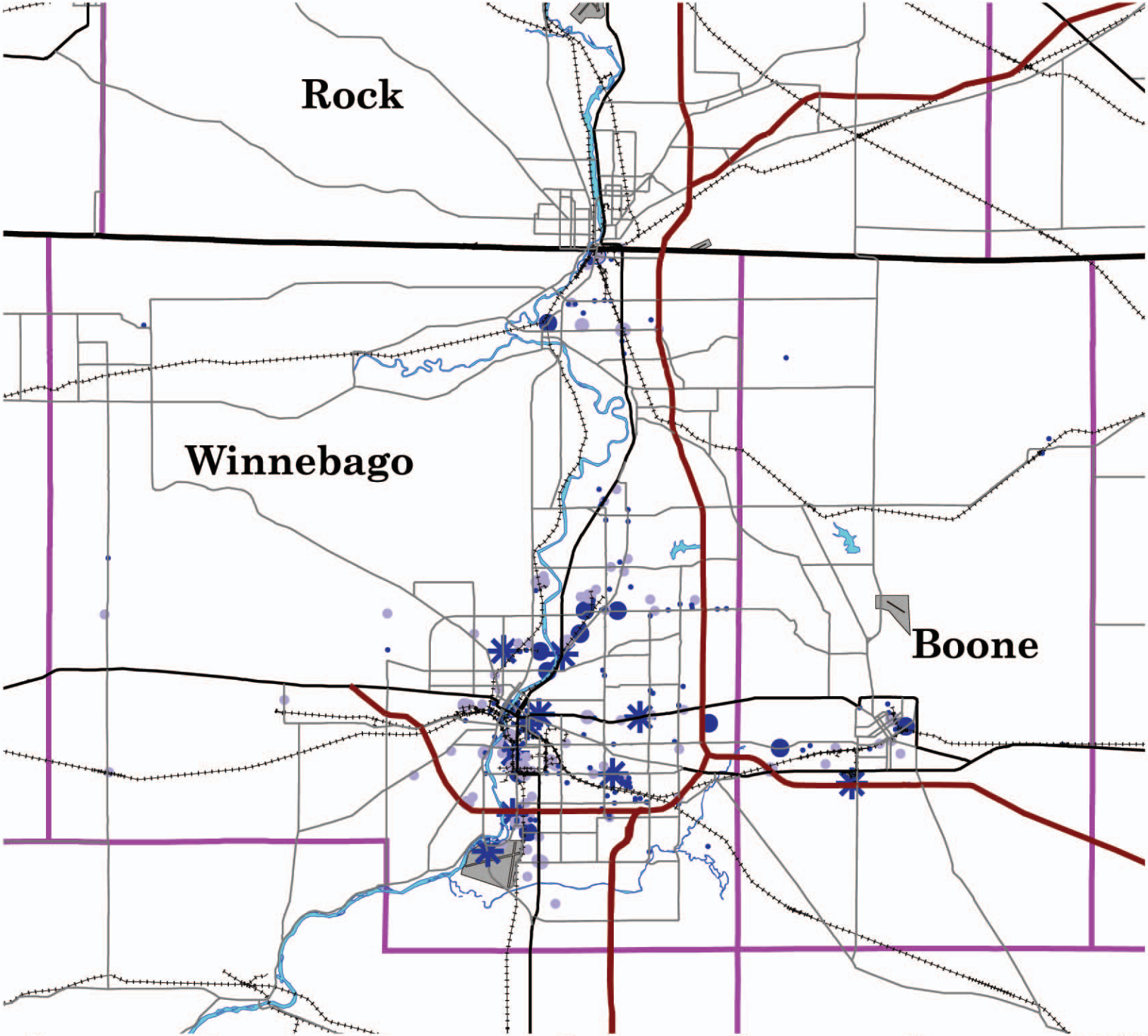
Map 9-4: Existing Total Employment Per Square Mile

Limited Access Road
Primary Road
Secondary Road
Railroad
Major Water
State Boundary
County Boundary

2000 Census Blockgroup
Less than 500
500 - 1,000
1,000 - 2,000
2,000 - 4,000
4,000 - 8,000
More than 8,000

June 2005

Prepared by ACG:
The al Chalabi Group, Ltd.



Year 2035 Long Range Transportation Plan

Map 9-5
Major Employers
(50+ Employees)

Limited Access Road
Primary Road
Secondary Road
Railroad
Major Water
State Boundary
County Boundary

Major Employers
- 50 - 100
- 100 - 200
- 200 - 400
- 400 - 800
- More than 800

Airport

June 2005

Prepared by ACG:
The al Chalabi Group, Ltd.

Table 9-7
Work Destination Counties for Winnebago County Residents

Destination County	Number of Workers	Percent of Total	Cumulative Percent
Winnebago, IL	115,210	86.89%	86.89%
Boone, IL	4,395	3.31%	90.20%
Rock, WI	3,160	2.38%	92.59%
McHenry, IL*	1,815	1.37%	93.96%
Cook, IL*	1,785	1.35%	95.30%
Ogle, IL	1,460	1.10%	96.40%
Stephenson, IL	840	0.63%	97.04%
Kane, IL*	650	0.49%	97.53%
DeKalb, IL	635	0.48%	98.01%
DuPage, IL*	490	0.37%	98.38%
Dane, WI	200	0.15%	98.53%
Walworth, WI	185	0.14%	98.67%
Lake, IL*	170	0.13%	98.79%
Milwaukee, WI	150	0.11%	98.91%
Lee, IL	85	0.06%	98.97%
Will, IL*	60	0.05%	99.02%
Green, WI	60	0.05%	99.06%
Wayne, MI	55	0.04%	99.10%
LaSalle, IL	50	0.04%	99.14%
Whiteside, IL	50	0.04%	99.18%
Jo Daviess, IL	45	0.03%	99.21%
McLean, IL	45	0.03%	99.25%
Jefferson, WI	40	0.03%	99.28%
Scott, IA	35	0.03%	99.30%
Rock Island, IL	30	0.02%	99.33%
Waukesha, WI	30	0.02%	99.35%
Livingston, IL	25	0.02%	99.37%
Grant, WI	25	0.02%	99.39%
Crawford, AR	20	0.02%	99.40%
Coles, IL	20	0.02%	99.42%
Peoria, IL	20	0.02%	99.43%
Tazewell, IL	20	0.02%	99.45%
Hennepin, MN	20	0.02%	99.46%
St. Louis, MO	20	0.02%	99.48%
Davidson, TN	20	0.02%	99.49%
Kenosha, WI	20	0.02%	99.51%
Winnebago, WI	20	0.02%	99.52%
Elsewhere	634	0.48%	100.00%
Workers Residing in Winnebago County	**132,594**	**100.00%**	
Working in Boone and Winnebago	**119,605**	**90.20%**	
Working in Northeastern Illinois*	**4,970**	**3.75%**	

Table 9-8
Work Destination Counties for Boone County Residents

Destination County	Number of Workers	Percent of Total	Cumulative Percent
Boone, IL	7,475	37.87%	37.87%
Winnebago, IL	5,875	29.76%	67.63%
McHenry, IL*	2,625	13.30%	80.92%
Cook, IL*	1,205	6.10%	87.03%
Kane, IL*	955	4.84%	91.86%
DeKalb, IL	435	2.20%	94.07%

Table 9-8 – continued			
Destination County	**Number of Workers**	**Percent of Total**	**Cumulative Percent**
DuPage, IL*	390	1.98%	96.04%
Lake, IL*	155	0.79%	96.83%
Ogle, IL	95	0.48%	97.31%
Walworth, WI	95	0.48%	97.79%
Rock, WI	85	0.43%	98.22%
Lee, IL	35	0.18%	98.40%
McLean, IL	35	0.18%	98.58%
Will, IL*	35	0.18%	98.75%
Stephenson, IL	25	0.13%	98.88%
Milwaukee, WI	25	0.13%	99.01%
Dane, WI	20	0.10%	99.11%
Elsewhere	176	0.89%	100.00%
Workers Residing in Boone County	**19,741**	**100.00%**	
Working in Boone and Winnebago	**13,350**	**67.63%**	
Working in Northeastern Illinois*	**5,365**	**27.18%**	
Workers Residing in Boone and Winnebago	**152,335**		
Working in Boone and Winnebago	**132,955**	**87.3%**	
Working in Northeastern Illinois	**10,335**	**6.8%**	

Tables 9-9 and **9-10** present the county residences of those working in Winnebago and Boone Counties. The data in these two tables, when compared with the prior two tables, strengthen the finding summarized above. The Rockford MPA is balanced Region with the number of workers residing there equaling the number of its work destinations – 152,335 residents vs. 152,222 work destinations. More than 87% of the work trips ending in Winnebago and Boone Counties originate in these two counties. The balance comes from throughout the U.S. The number of workers residing in Cook County working in Winnebago and Boone are 630 or approximately 20% of the commute going in the opposite direction.

Table 9-9 County Residency of Workers Working in Winnebago County			
Originating County	**Number of Workers**	**Percent of Total**	**Cumulative Percent**
Winnebago, IL	115,210	83.17%	83.17%
Boone, IL	5,875	4.24%	87.41%
Ogle, IL	4,985	3.60%	91.01%
Rock, WI	4,870	3.52%	94.53%
Stephenson, IL	2,415	1.74%	96.27%
DeKalb, IL	780	0.56%	96.83%
McHenry, IL*	615	0.44%	97.27%
Cook, IL*	595	0.43%	97.70%
Lee, IL	405	0.29%	97.99%
Kane, IL*	250	0.18%	98.18%
Green, WI	215	0.16%	98.33%
Lake, IL*	180	0.13%	98.46%
Carrol, IL	170	0.12%	98.58%
Dane, WI	160	0.12%	98.70%
Walworth, WI	155	0.11%	98.81%
Jo Daviess, IL	120	0.09%	98.90%
Whiteside, IL	120	0.09%	98.98%
Waukesha, WI	65	0.05%	99.20%

Table 9-9 – continued			
Originating County	**Number of Workers**	**Percent of Total**	**Cumulative Percent**
Kendall, IL	60	0.04%	99.24%
Racine, WI	50	0.04%	99.28%
McLean, IL	45	0.03%	99.31%
Will, IL*	35	0.03%	99.33%
Polk, FL	25	0.02%	99.35%
Dubuque, IA	25	0.02%	99.37%
Jefferson, WI	25	0.02%	99.39%
Brevard, FL	20	0.01%	99.40%
Scott, IA	20	0.01%	99.42%
Johnson, KS	20	0.01%	99.43%
Meade, KY	20	0.01%	99.45%
Wayne, MI	20	0.01%	99.46%
LaFayette, WI	20	0.01%	99.47%
Milwaukee, WI	20	0.01%	99.49%
Elsewhere	708	0.51%	100.00%
Total Workers in Winnebago	**138,528**		
Residing in Winnebago and Boone	**121,085**	**87.41%**	
Residing in Northeast Illinois*	**1,765**	**1.3%**	

Table 9-10
County Residency of Workers Working in Boone County

Originating County	**Number of Workers**	**Percent of Total**	**Cumulative Percent**
Boone, IL	7,475	54.59%	54.59%
Winnebago, IL	4,395	32.09%	86.68%
Rock, WI	415	3.03%	89.71%
McHenry, IL*	265	1.94%	91.65%
Ogle, IL	245	1.79%	93.44%
DeKalb, IL	180	1.31%	94.75%
Stephenson, IL	155	1.13%	95.88%
Kenosha, WI	100	0.73%	96.61%
Racine, WI	55	0.40%	97.01%
Walworth, WI	55	0.40%	97.41%
Cook, IL*	35	0.26%	97.67%
Kane, IL*	35	0.26%	97.93%
Lake, IL*	35	0.26%	98.18%
Whiteside, IL	35	0.26%	98.44%
Lee, IL	30	0.22%	98.66%
McLean, IL	30	0.22%	98.88%
Green, WI	25	0.18%	99.06%
DuPage, IL*	20	0.15%	99.20%
Elsewhere	109	0.80%	100.00%
Total Workers in Boone	**13,694**	**100.00%**	
Residing in Winnebago and Boone	**11,870**	**86.68%**	
Residing in Northeast Illinois*	**390**	**2.8%**	

9.4 Input-Output Model of the Rockford Economy

Input-output models describe the inter-industry relationships within an economy, as well as the relationships between these industries and final consumers. Input-output models are used to

determine the economic base of the regional economy and to calculate the overall individual "multipliers", or sets of multipliers, for various industries. Sets of multipliers describe the change in output for each industry created by one dollar in additional demand or a one-employee change for any given industry. Input-output models also are used to identify industries that would be good candidates to target for expansion or/and attraction.

In today's climate of constrained financial resources for transportation investment, the input-output model can be used to prioritize transportation investment needed for specific industries. Examples of such investments are investment for expanding freight or passenger facilities at RFD or the construction of highway facilities to accommodate an auto plant expansion. The input-output model also can be used to estimate the impact on the local economy of the construction-related expenditure of transportation projects. It should be noted, however, that the impacts of the last example (construction) are temporary and cannot be justified unless the projects they reflect have more-permanent impacts, e.g. causing an industrial expansion, relieving congestion, or improving the quality of life.

The input-output model used for this project is the Impact Analysis for Planning originally developed at the University of Minnesota and was selected for three important reasons:

- It initially was developed to evaluate public investment policies.
- Input-output models require tremendous amount of data that are expensive to collect and this particular model has detailed coverage of the entire U.S., by county, that can be purchased as needed and combined into the required study region.
- It provides a high degree of flexibility, not only in terms of geographic coverage, but also in terms of isolating and adjusting relationships among specific industries in order to reflect future conditions.

9.4.1 Use of Forecast Models and Impact Analysis for Planning to Examine Impacts of Expanding Air Freight at the Northwest Chicagoland International Airport at Rockford

Data on cargo tonnage and operations is inconsistent and sporadic. Data provided by individual airports or by organizations that maintain statistics on air cargo are often at odds with records and statistics provided by the Federal Aviation Administration (FAA) for its major airports. The lack of consistent standards makes it very difficult to make comparisons of trends over long periods and among airports. Furthermore, until recently (1997), the FAA did not publish a national air cargo forecast. In spite of this lack of consistent data, many economic forecasters and transportation specialists have recognized the importance of air cargo to job generation.

The importance of airports as economic engines has been demonstrated over the past several decades through economic impact studies prepared by or for airports, and by studies conducted for the FAA. Reasonable models to estimate and forecast total direct employment that are the result of enplanements and commercial operations have been developed and are accepted as standards for the industry. However, only a small number of comprehensive reports and scattered impact data exist to describe the relationship between air cargo and the direct jobs generated by it. Much of the data is anecdotal. Furthermore, relationships are described in many ways: in revenues produced or value of freight transported; in jobs per freight facilities or firms attracted to the airport; in jobs per freight

operation; or in jobs per metric ton serviced. While the data is difficult to standardize, several trends are fairly evident:

- Where cargo is merely loaded, unloaded, stored or disbursed, the jobs generated are in the range of 7-10 per 1,000 tons.
- Where air cargo is the means for generating airport industries – such as just-in-time repairs or just-in-time product deliveries, the jobs generated are nearly double the above, at 16/1,000 tons.

The first trend set of airports is the general prototype, be they large, medium or small hub. The second trend set is the industrial cargo airport, based on the Louisville, Alliance (Ft. Worth), Mather (Sacramento), and Rickenbacker (Ohio) model, as well as the major express package hubs, such as Memphis and Cincinnati. Alliance and Rickenbacker are industrial airports, attracting aviation-related firms to the airport. The express package carriers at Louisville, Memphis and Cincinnati, on the other hand, also are major industries, carrying out sorting and distribution activities at their hubs. In addition, they attract just-in-time products and service providers to the airport at which they hub.

This analysis uses the conservative (low) estimate of jobs generated. However, it is possible that, with its substantial land availability and already maturing express package and air cargo experience, the Rockford Airport could become a significant industrial airport. Following are the direct job forecasts generated by Cargo Operations for the forecast periods 2010, 2015, and 2035. They are further broken down into seven major categories; these categories have been selected to fit within the existing categories of input-output of the Impact Analysis for Planning model. **Table 9-11** shows the job forecasts and distribution to these categories.

Table 9-11
Employment Due to Air Cargo Direct Job Forecasts

Category	2010	2015	2035
Air Transportation	710	1,245	5,418
Rail Transportation	120	205	903
Truck Transportation	470	825	3,612
Sorting, Warehousing & Storage	710	1,235	5,418
Telecommunications	120	205	903
Management	120	205	903
Business Support	120	205	903
Total	**2,370**	**4,125**	**18,060**
Cargo Tons	**279,000**	**484,000**	**2,100,000**

Visitor expenditures normally are the basis for indirect impacts. However, because the cargo segment of the RFD (or that of any commercial airport) is not expected to generate visitor expenditures of any consequence, the Impact Analysis for Planning model was set to produce both indirect and induced impacts from the direct jobs forecast; this is the normal forecast mode for the model. Furthermore, because a large portion of the air transportation component (international air carriers) is not likely to be based at the RFD study region, and because the study area is relatively small (two counties), portions of the indirect and induced impacts calculated were adjusted (reduced). The following table, **Table 9-12**, shows the direct jobs and the adjusted indirect and induced jobs that the air cargo traffic produces at RFD.

Table 9-12 Forecast of Direct, Indirect and Induced Jobs of Air Cargo Operations			
Category	**2010**	**2015**	**2035**
Direct	2,370	4,125	18,060
Indirect	340	605	2,665
Induced	2,330	4,070	17,850
Total	**5,040**	**8,880**	**38,575**

9.4.2 Economic Base for the Rockford Economy

The economic base of the Rockford MPA is manufacturing. **Table 9-13** shows the input-output model industrial grouping with employment of 50 or more ranked in order of its employment multiplier. The employment multiplier estimates the total number of jobs added to Winnebago and Boone Counties for each additional job added to that industry. The industry with the highest multiplier, 9.6, is "automobile and truck manufacturing." Accordingly, for each job added to this industry, another 8.6 jobs are added in other industries, for a total of 9.6 jobs.

Table 9-13
2001 Output, Value Added and Employment – Rockford Metropolitan Statistical Area (Winnebago and Boone Counties)

Multiplier Rank	Industry	Total Employment	Industry Output*	Employee Compensation*	Proprietor Income*	Indirect Income*	Business Tax*	Value Added*	Employer Multiplier**
1	Automobile and light truck manufacturing	2,521	2,176.410	179.985	0.229	123.511	9.826	313.552	9.60562
2	Other basic organic chemical manufacturing	173	200.884	9.188	0.222	9.431	2.537	21.378	8.93100
3	Frozen food manufacturing	142	88.793	24.259	1.123	29.299	1.182	55.864	7.02409
4	Waste management and remediation services	282	75.840	17.074	12.951	12.357	3.884	46.266	4.38807
5	Steel wire drawing	86	38.445	2.589	0.232	4.485	0.273	7.579	4.31444
6	Fluid milk manufacturing	492	219.629	29.480	1.189	6.096	2.137	38.903	4.24502
7	Non-chocolate confectionery manufacturing	846	281.422	58.105	2.547	87.357	2.298	150.306	4.15312
8	Dog and cat food manufacturing	226	105.845	12.010	0.610	8.667	0.704	21.991	4.08302
9	Aircraft engine and parts manufacturing	391	121.336	28.739	2.080	24.181	0.738	55.737	4.07772
10	Abrasive product manufacturing	160	48.339	10.715	0.350	13.789	0.653	25.506	3.82832
11	Petroleum lubricating oil and grease manufacturing	76	30.981	1.945	0.886	-0.300	0.115	2.646	3.57266
12	Power generation and supply	1,418	345.861	75.650	6.185	102.435	39.110	223.380	3.48456
13	Other aircraft parts and equipment	240	62.506	14.490	3.194	5.213	0.406	23.303	3.48251
14	Paint and coating manufacturing	349	119.758	13.341	0.418	12.818	1.559	28.136	3.40460
15	Other snack food manufacturing	221	59.662	6.829	0.320	13.283	0.381	20.812	3.35147
16	Packaging machinery manufacturing	101	22.593	7.239	0.053	3.282	0.224	10.797	3.34508
17	Soft drink and ice manufacturing equipment	150	45.799	7.261	-0.219	4.999	0.341	12.383	3.31698
18	Rolling mill and metalworking machinery	225	52.304	11.395	0.068	5.316	0.409	17.188	3.30299

Table 9-13 – continued

Multiplier Rank	Industry	Total Employment	Industry Output*	Employee Compensation*	Proprietor Income*	Indirect Income*	Business Tax*	Value Added*	Employer Multiplier**
19	Concrete block and brick manufacturing	77	17.544	5.127	0.170	2.865	0.295	8.458	3.27203
20	Air transportation	93	16.176	4.579	0.070	0.188	0.758	5.596	3.25879
21	Miscellaneous electrical equipment manufacturg	73	21.094	4.323	0.278	0.235	0.177	5.013	3.23904
22	Hardware manufacturing	750	184.092	35.006	0.395	35.954	1.303	72.658	3.21218
23	Insurance carriers	2,343	348.712	74.277	3.820	4.379	13.216	95.691	3.15383
24	Power-driven hand tool manufacturing	68	14.554	3.130	0.031	3.288	0.125	6.574	3.14900
25	Ready-mix concrete manufacturing	61	14.021	4.408	0.145	2.199	0.198	6.949	3.10168
26	Pump equipment manufacturing	191	43.735	10.149	0.078	5.025	0.366	15.618	3.08981
27	Religious groups	323	47.296	33.420	0.000	0.000	0.000	33.420	3.06275
28	Monetary authorities and depository credit	2,290	382.949	78.176	2.051	174.901	5.958	261.086	3.02152
29	Motor vehicle parts manufacturing	3,699	873.203	178.566	0.297	36.017	4.678	219.558	2.99740
30	Radio and television broadcasting	239	34.289	8.466	1.612	-0.460	0.179	9.796	2.99529
31	Telecommunications	445	80.099	19.327	3.578	17.651	8.321	48.877	2.95704
32	Truck transportation	1,495	234.457	77.085	4.152	45.385	2.600	129.222	2.93101
33	Fluid power cylinder and actuator manufacturing	329	63.141	16.025	0.134	8.586	0.536	25.281	2.91936
34	Relay and industrial control manufacturing	203	40.520	10.646	0.708	0.932	0.331	12.618	2.82297
35	Industrial pattern manufacturing	63	9.302	6.037	0.040	0.995	0.078	7.150	2.79250
36	Turned product and screw, nut and bolt manufacturing	3,826	631.118	188.215	1.756	103.259	4.362	297.592	2.77813
37	Natural gas distribution	137	72.961	4.846	0.265	2.210	3.133	10.454	2.77250
38	Other ambulatory health care services	1,209	154.074	27.354	4.205	6.994	0.758	39.311	2.75271
39	Other State and local government enterprises	519	77.639	25.729	0.000	16.589	0.163	42.481	2.74649
40	Metal heat treating	241	43.199	9.739	0.080	7.846	0.360	18.025	2.74591
41	Metal can, box, and other container manufacturing	432	104.518	20.001	0.329	6.159	0.667	27.156	2.71259
42	Other concrete product manufacturing	147	24.963	9.175	0.307	4.049	0.361	13.892	2.70626
43	New residential 1-unit structures, non-farming	1,958	253.345	71.176	15.512	5.627	2.147	94.463	2.69129
44	Sheet metal work manufacturing	67	13.054	3.741	0.055	2.351	0.099	6.246	2.67556
45	Greenhouse and nursery production	69	11.380	2.958	1.040	3.635	0.111	7.744	2.66909
46	Heating equipment, except furnaces	211	35.606	8.179	0.071	8.780	0.233	17.263	2.65354
47	Iron and steel forging	142	24.238	7.533	0.071	3.729	0.160	11.492	2.62612
48	Switchgear and switchboard apparatus manufacturing	126	22.430	4.849	0.339	3.959	0.157	9.304	2.62303
49	Wholesale trade	6,623	761.335	275.923	14.000	71.580	145.920	507.423	2.62185
50	Metal valve manufacturing	243	41.830	10.684	0.128	9.754	0.271	20.838	2.61537
51	Automotive repair	4,003	532.741	87.432	21.465	118.490	21.794	249.181	2.60407
52	Paper industry machinery	55	8.597	2.606	0.018	0.217	0.067	2.908	2.60260

Table 9-13 – continued

Multiplier Rank	Industry	Total Employment	Industry Output*	Employee Compensation*	Proprietor Income*	Indirect Income*	Business Tax*	Value Added*	Employer Multiplier**
53	Fluid power pump and motor manufacturing	3,235	445.328	248.572	2.308	51.924	4.135	306.939	2.59171
54	Forging and stamping	189	32.908	8.018	0.099	3.661	0.215	11.993	2.58727
55	Plastic plumbing fixtures	514	94.799	19.621	0.567	12.107	0.586	32.882	2.58433
56	Household goods maintenance	171	25.042	3.979	1.020	7.622	0.483	13.104	2.55799
57	Cookie and cracker manufacturing	255	48.484	5.449	0.256	8.913	0.289	14.906	2.55552
58	New farm housing units, additions and alterations	53	6.864	1.929	0.419	-0.010	0.061	2.399	2.55489
59	Other commercial and service industry machine	1,092	201.920	66.389	0.389	1.022	1.154	68.954	2.54334
60	Plastics and rubber industry machinery	50	7.815	2.170	0.012	1.471	0.061	3.713	2.54015
61	Printing machinery and equipment manufacturing	140	22.019	7.461	0.071	0.765	0.084	8.380	2.53837
62	Fabricated structural metal manufacturing	209	39.236	9.843	0.152	7.163	0.283	17.441	2.53354
63	Hospitals	6,611	729.048	294.554	0.532	2.062	2.592	299.739	2.52057
64	Speed changers and mechanical power transmissions	641	97.588	28.185	0.206	13.448	0.565	42.403	2.51541
65	New residential additions and alterations, no	1,211	145.212	42.963	9.326	-2.422	1.290	51.158	2.46283
66	Fabricated pipe and pipe fitting manufacturing	58	9.069	2.922	0.027	1.727	0.064	4.740	2.46157
67	Scales, balances, and miscellaneous general measuring equipment	152	24.342	6.098	0.040	2.618	0.189	8.945	2.45936
68	Other computer related services	87	10.023	5.103	1.389	2.079	0.098	8.669	2.45435
69	Motor and generator manufacturing	421	65.088	19.706	1.457	7.121	0.530	28.815	2.43596
70	Industrial process furnace and oven manufacturing	240	35.567	13.187	0.074	5.903	0.310	19.474	2.43431
71	Books printing	105	16.537	4.832	0.111	1.767	0.163	6.874	2.40508
72	Scenic and sightseeing transportation	269	28.795	12.459	1.182	1.731	0.866	16.238	2.37945
73	Ball and roller bearing manufacturing	151	18.740	7.437	0.088	2.705	0.150	10.380	2.36698
74	Automotive equipment rental and leasing	305	34.559	7.469	0.676	14.959	1.749	24.853	2.36345
75	Food product machinery manufacturing	225	27.916	12.091	0.087	3.146	0.239	15.562	2.36117
76	Hand and edge tool manufacturing	804	106.072	32.008	0.453	16.876	0.739	50.077	2.36032
77	Other miscellaneous textile product mills	143	22.587	5.867	-0.006	1.172	0.129	7.161	2.35244
78	Maintenance and repair of equipment	418	49.647	15.009	3.261	-1.609	0.374	17.035	2.35167
79	Ferrous metal foundries	145	19.312	5.341	0.544	0.780	0.153	6.818	2.35022
80	Paperboard container manufacturing	250	52.793	10.225	0.323	2.030	0.504	13.081	2.34654
81	Company and enterprise management	358	36.087	21.972	1.017	1.436	0.672	25.096	2.34468

Table 9-13 – continued

Multiplier Rank	Industry	Total Employment	Industry Output*	Employee Compensation*	Proprietor Income*	Indirect Income*	Business Tax*	Value Added*	Employer Multiplier**
82	Computer systems design services	96	8.497	3.662	1.034	-0.766	0.164	4.094	2.33668
83	Non-depository credit intermediation	424	45.132	18.046	0.477	14.641	2.547	35.712	2.33639
84	Industrial process variable instruments	139	15.480	8.601	0.144	1.387	0.117	10.248	2.33275
85	Electron tube manufacturing	294	43.700	13.657	0.329	0.687	0.268	14.941	2.32951
86	Metal coating and non precious engraving	146	22.418	5.115	0.049	4.210	0.141	9.516	2.32852
87	Miscellaneous fabricated metal product manufacturing	198	28.328	6.835	0.084	3.432	0.179	10.530	2.32317
88	Ornamental and architectural metal work manufacturing	87	12.440	4.415	0.079	1.886	0.093	6.474	2.31289
89	Aluminum foundries	98	13.579	4.575	0.478	0.008	0.136	5.197	2.31071
90	Machine shops	995	116.403	42.845	0.580	6.643	0.989	51.057	2.30725
91	Metal cutting machine tool manufacturing	1,399	159.601	78.961	0.517	16.623	1.415	97.516	2.29782
92	Offices of physicians, dentists, and other he	5,323	509.960	274.521	42.749	65.914	2.885	386.069	2.28740
93	Maintenance and repair of highways, streets,	171	19.251	6.239	1.335	-1.192	0.222	6.605	2.28542
94	Electronic equipment repair and maintenance	416	49.628	15.942	4.004	7.262	0.937	28.145	2.27653
95	Engineered wood member and truss manufacturing	62	8.121	2.505	0.046	0.867	0.134	3.552	2.27278
96	Plastics pipe, fittings, and profile shapes	84	12.373	3.541	0.084	1.218	0.074	4.918	2.26759
97	Cutting and machine tool accessory manufacturing	1,336	167.221	54.877	0.336	13.160	1.340	69.714	2.26352
98	Industrial mold manufacturing	233	24.329	13.379	0.078	1.084	0.209	14.749	2.24838
99	Federal Non-Military	268	25.284	21.555	0.000	3.728	0.000	25.284	2.21866
100	Metal forming machine tool manufacturing	406	44.868	20.482	0.144	6.102	0.385	27.112	2.20336
101	Maintenance and repair of nonresidential buildings	1,018	90.681	36.634	8.008	-5.034	1.036	40.643	2.20189
102	Real estate	3,887	357.938	29.730	12.475	161.060	46.266	249.531	2.18646
103	Commercial machinery repair and maintenance	528	52.708	16.298	4.000	11.389	0.953	32.640	2.16545
104	New multifamily housing structures, non farming	450	40.915	16.305	3.663	-2.080	0.185	18.073	2.15761
105	Other support services	1,337	128.934	33.726	3.291	44.057	1.571	82.646	2.15729
106	Bread bakery product, except frozen, manufacturing	225	27.147	6.344	0.267	5.889	0.188	12.688	2.15050
107	Water, sewer, and pipeline construction	179	18.308	6.561	1.415	-1.175	0.196	6.996	2.11783
108	Commercial and institutional buildings	2,864	245.846	103.467	22.426	-17.285	2.492	111.100	2.11636
109	Spring and wire product manufacturing	725	78.303	27.940	0.339	12.128	0.555	40.962	2.11613
110	Sign manufacturing	81	9.534	2.766	0.153	0.332	0.093	3.345	2.08535
111	Plate work manufacturing	105	9.125	7.063	0.092	1.228	0.059	8.442	2.08309
112	Commercial printing	528	61.889	19.247	0.317	4.791	0.516	24.871	2.07358

Table 9-13 – continued

Multiplier Rank	Industry	Total Employment	Industry Output*	Employee Compensation*	Proprietor Income*	Indirect Income*	Business Tax*	Value Added*	Employer Multiplier**
113	Automatic environmental control manufacturing	1,720	168.890	89.131	1.001	25.697	1.339	117.168	2.06614
114	Highway, street, bridge, and tunnel construct	625	60.459	23.020	4.937	-2.187	0.630	26.399	2.06397
115	Motor vehicle and parts dealers	2,404	181.669	84.166	6.876	5.652	17.034	113.728	2.05949
116	Securities, commodity contracts, investments	2,461	167.991	66.872	22.824	-4.689	3.469	88.476	2.03277
117	Periodical publishers	407	43.287	11.031	1.870	8.378	0.333	21.612	2.01034
118	Furniture stores	624	45.163	19.723	0.880	3.327	5.282	29.212	2.00577
119	Database, directory, and other publishers	329	37.990	6.454	1.140	14.671	0.368	22.633	1.99635
120	Other maintenance and repair construction	397	30.230	14.972	3.171	-1.681	0.278	16.740	1.99303
121	Postal service	746	53.450	43.567	0.000	-1.382	0.000	42.185	1.97929
122	Motion picture and video industries	221	16.962	1.990	0.374	0.453	0.183	3.001	1.94348
123	All other crop farming	70	7.558	0.361	0.646	2.239	0.176	3.423	1.93801
124	Special tool, die, jig, and fixture manufacturing	665	49.965	31.950	0.176	1.034	0.404	33.563	1.93005
125	Travel arrangement and reservation services	231	15.704	5.570	0.563	1.341	0.238	7.712	1.91740
126	Legal services	1,509	104.659	46.514	12.138	20.155	0.604	79.412	1.91709
127	Non-upholstered wood household furniture manufacturing	122	11.329	3.218	0.051	1.150	0.058	4.477	1.91162
128	Architectural and engineering services	1,040	68.917	32.250	8.736	9.968	0.448	51.401	1.89014
129	Manufacturing and industrial buildings	478	37.327	17.521	3.703	-3.569	0.343	17.997	1.88415
130	Other new construction	1,456	96.169	54.217	11.508	-9.047	0.652	57.330	1.87570
131	Photographic services	529	38.344	9.464	2.387	11.526	1.634	25.011	1.87413
132	Insurance agencies, brokerages, and related	1,180	87.807	40.731	1.968	32.896	0.528	76.122	1.87054
133	Advertisings	589	39.255	16.312	4.277	7.084	0.439	28.112	1.85594
134	Management consulting services	438	28.119	14.177	3.841	5.441	0.170	23.629	1.84957
135	Warehousing and storage	459	29.055	16.973	0.064	3.998	0.959	21.994	1.83217
136	Electroplating, anodizing, and coloring metal	390	26.975	16.237	0.177	2.991	0.178	19.583	1.82684
137	Building material and garden supply stores	1,665	98.192	43.639	1.718	8.638	12.169	66.164	1.81622
138	Specialized design services	169	11.376	3.350	0.870	2.844	0.198	7.263	1.81075
139	Custom computer programming services	605	33.663	25.133	6.788	-2.011	0.190	30.101	1.80586
140	Data processing services	232	14.625	5.946	1.108	2.029	0.147	9.230	1.79941
141	Gasoline stations	868	48.502	17.066	3.511	0.612	5.537	26.726	1.79492
142	Museums, historical sites, zoos, and parks	125	7.477	1.930	0.005	-0.024	0.069	1.979	1.79395
143	Ranching and farming	232	23.679	1.285	2.278	-1.632	0.604	2.535	1.77878
144	Wood kitchen cabinet and countertop manufacturing	162	11.309	4.359	0.069	1.090	0.130	5.649	1.72601
145	Death care services	321	19.242	6.373	1.169	3.254	0.737	11.534	1.69879
146	Newspaper publishers	568	39.080	13.089	2.495	6.798	0.333	22.715	1.69378
147	Electronics and	698	33.550	21.747	2.964	-1.778	2.274	25.207	1.68981

Table 9-13 – continued

Multiplier Rank	Industry	Total Employment	Industry Output*	Employee Compensation*	Proprietor Income*	Indirect Income*	Business Tax*	Value Added*	Employer Multiplier**
148	State & Local Non-Education	5,684	296.889	253.028	0.000	43.861	0.000	296.889	1.67539
149	Agriculture and forestry support activities	51	2.574	1.256	0.758	-0.287	0.065	1.792	1.64441
150	Animal production, except cattle and poultry	142	12.699	0.866	0.722	-0.413	0.177	1.353	1.62730
151	Miscellaneous store retailers	1,486	65.931	19.948	2.825	0.823	4.261	27.856	1.62182
152	Other personal services	251	13.587	2.249	0.410	4.478	0.297	7.434	1.61345
153	Grain farming	807	59.558	2.267	6.495	17.408	1.439	27.609	1.61030
154	Food and beverage stores	4,690	203.939	76.000	7.527	8.805	19.173	111.504	1.60729
155	Home health care services	795	35.612	18.499	2.851	-0.247	0.135	21.239	1.60449
156	Health and personal care stores	1,380	59.836	31.946	0.916	4.421	6.707	43.990	1.60061
157	Veterinary services	282	13.172	4.265	1.102	0.010	0.384	5.762	1.59553
158	State and local government passenger transit	107	4.631	4.805	0.000	-4.388	0.000	0.416	1.58512
159	Accounting and bookkeeping services	1,069	47.402	26.590	6.936	6.005	0.300	39.831	1.58488
160	Couriers and messengers	2,332	112.239	30.783	2.581	16.361	0.323	50.048	1.57939
161	Wood container and pallet manufacturing	65	3.826	1.317	0.025	0.175	0.047	1.564	1.57337
162	Nursing and residential care facilities	4,085	160.547	90.802	7.687	3.099	1.222	102.810	1.57316
163	State & Local Education	8,824	375.258	327.876	0.000	47.382	0.000	375.258	1.55472
164	General and consumer goods rental except videos	249	10.961	5.724	0.527	3.156	0.269	9.676	1.54793
165	Oilseed farming	474	27.214	1.335	3.526	7.839	0.739	13.439	1.54298
166	Laundry services	1,216	51.301	20.087	3.606	8.548	1.689	33.929	1.54041
167	Non-store retailers	920	33.223	9.575	1.890	0.644	3.987	16.095	1.51385
168	Scientific research and development services	70	2.666	1.854	0.502	-0.254	0.017	2.119	1.50296
169	Elementary and secondary schools	1,038	36.071	22.907	0.532	-0.796	0.000	22.642	1.49784
170	Other educational services	255	9.702	4.050	0.085	2.122	0.107	6.364	1.47354
171	Sporting goods, hobby, book and music stores	1,073	36.111	10.741	0.690	1.457	2.786	15.674	1.46804
172	Other amusement, gambling, and recreation industries	547	20.015	5.135	2.224	3.917	1.071	12.347	1.46724
173	Clothing and clothing accessories stores	1,228	40.364	16.232	0.749	3.015	4.794	24.790	1.45686
174	Colleges, universities, and junior colleges	544	18.464	9.869	0.268	-0.345	0.000	9.791	1.45555
175	Hotels and motels, including casino hotels	772	27.408	9.086	2.865	5.028	2.431	19.410	1.45541
176	Grant making and giving and social advocacy	832	22.830	8.820	0.000	0.000	0.025	8.845	1.44233
177	Business services	1,481	50.920	22.898	2.412	13.389	1.086	39.785	1.43589
178	General merchandise stores	4,304	133.324	60.459	0.630	10.439	13.831	85.359	1.42753
179	Personal care services	886	29.998	10.214	1.932	6.106	0.569	18.821	1.41468
180	Services to buildings	1,748	48.639	25.301	2.562	3.909	0.622	32.393	1.39348

Table 9-13 – continued

Multiplier Rank	Industry	Total Employment	Industry Output*	Employee Compensation*	Proprietor Income*	Indirect Income*	Business Tax*	Value Added*	Employer Multiplier**
181	Child day care services	696	21.927	7.038	0.555	3.209	0.197	10.998	1.37988
182	Food and drinking places	12,053	401.612	117.470	34.098	-1.343	20.738	170.962	1.37648
183	Car washes	422	12.298	3.650	0.868	3.821	0.379	8.717	1.35878
184	Civic, social and professional organizations	2,574	65.131	22.014	0.000	0.000	0.095	22.109	1.34653
185	Transit and ground transportation	549	13.775	3.624	3.275	0.248	0.633	7.780	1.34185
186	Investigation and security services	905	22.170	13.978	1.414	2.981	0.358	18.731	1.32489
187	All other miscellaneous professional and tech	897	26.492	4.951	1.281	15.505	0.305	22.042	1.32182
188	Video tape and disc rental	394	12.245	3.413	0.311	3.633	0.942	8.300	1.31872
189	Promoters of performing arts and sports and a	212	4.888	1.542	0.312	0.621	0.180	2.655	1.31037
190	Social assistance, except child day care service	1,921	41.207	24.649	1.959	-1.574	0.192	25.226	1.29105
191	Bowling centers	261	3.810	1.876	0.780	0.241	0.240	3.137	1.26560
192	Employment services	7,244	132.059	98.877	10.382	2.897	0.608	112.764	1.24286
193	Federal Military	718	13.394	11.420	0.000	1.975	0.000	13.394	1.24124
194	Performing arts companies	159	2.758	1.445	0.289	-0.178	0.103	1.659	1.22451
195	Hunting and trapping	56	0.984	0.019	0.023	0.109	0.042	0.193	1.14400
196	Fitness and recreational sports centers	380	3.748	2.549	1.062	-0.400	0.155	3.366	1.14237
197	Spectator sports	591	4.356	2.871	0.684	-0.286	0.375	3.644	1.12115
198	Private households	906	7.919	5.895	0.000	2.024	0.000	7.919	1.10804
Totals		**190,539**	**19,887.79**	**6,015.18**	**488.57**	**2,571.86**	**627.58**	**9,703.19**	

*Millions of dollars
**Social Accounting Matrix reflects all direct, indirect and induced impacts (including tax impacts).

According to the input-output data from the Impact Analysis for Planning model, the 2001 auto and light truck manufacturing employment in the Region was 2,521. Recently, DaimlerChrysler announced an expansion program, which will add 1,500 jobs to its plant; this will generate approximately 13,000 additional jobs in Winnebago and Boone Counties. Transportation improvements to ensure such an expansion are, therefore, economically justified.

Other major industries with reasonably high employment multipliers, 3.0 or more, include: fluid milk manufacturing, non-chocolate confectionary manufacturing, power generation and supply, hardware manufacturing, insurance carriers, monetary authorities and depositories, motor vehicle parts manufacturing, and truck transportation. At the bottom of **Table 9-13** are the industries with low multipliers, less than 1.4; these include: private households (with a multiplier of 1.11), spectator sports, Federal military, employment services, social assistance, investigation and security services, civic and similar organizations, food and drinking places, and services to buildings and dwellings.

Care should be taken in interpreting multipliers. Some industries have low multipliers, but are very important to the economic viability of a region. The best example of such an industry is "elementary and secondary education", with a multiplier of 1.5. However, such a table is intended for use as just one tool for identifying the economic impacts of transportation investment, provided such investment can be tied to the retention, expansion or attraction of specific industries.

9.5 Other Economic Development Considerations

The Rockford Area Economic Development Council is "…the regional economic development leadership organization for the Rockford Area. The Council's mission is to retain and recruit employers to grow quality jobs." The council publishes data and information, which are used by industries and investors seeking to locate, expand or invest in Rockford. Among these publications are lists of sites actively being marketed for sale and/or development, as well as buildings available for lease or sale. These sites and buildings were address coded to determine their geographic location for mapping purposes.

Map 9-6 shows the land marketed for sale and/or development. Most of these sites are concentrated along the interstate highways, US-20 and in proximity to RFD. These sites designate areas of employment growth. Most of these sites already have good transportation access. As a result of recent expansion of the Greater Rockford Airport, some of the available sites there may require minor improvements in accessing IL-251. Such improvements may be justified even further, as they provide better highway links between the airport and the new intermodal facility (Global III) in Rochelle.

Map 9-7 shows the commercial and industrial building being marketed for sale or lease. Some of these buildings are old, and unless renovated, may not be competitive for industrial or commercial use. However, these buildings do identify areas of potential employment growth or redevelopment. Two concentrations of these buildings are in the paths of anticipated developments. These two concentrations are in Belvidere in proximity to the DaimlerChrysler plant and adjacent to RFD.

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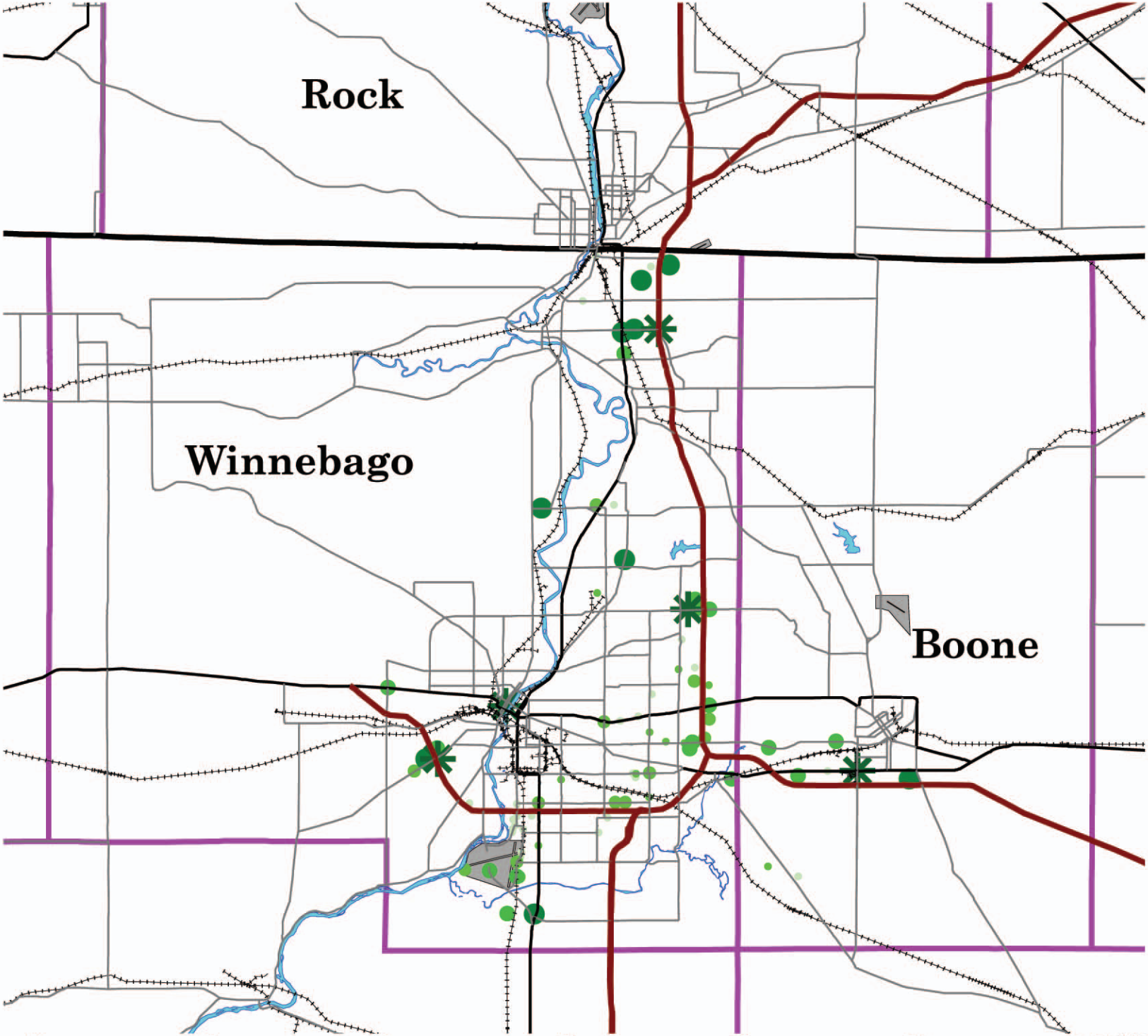

Year 2035 Long Range Transportation Plan

Map 9-6
Land Offered for Development

- Limited Access Road
- Primary Road
- Secondary Road
- Railroad
- Major Water
- State Boundary
- County Boundary

Available Acres

- Less than 10 Acres
- 10 - 20 Acres
- 20 - 40 Acres
- 40 - 80 Acres
- 80 - 160 Acres
- More than 160 Acres
- Airport

June 2005

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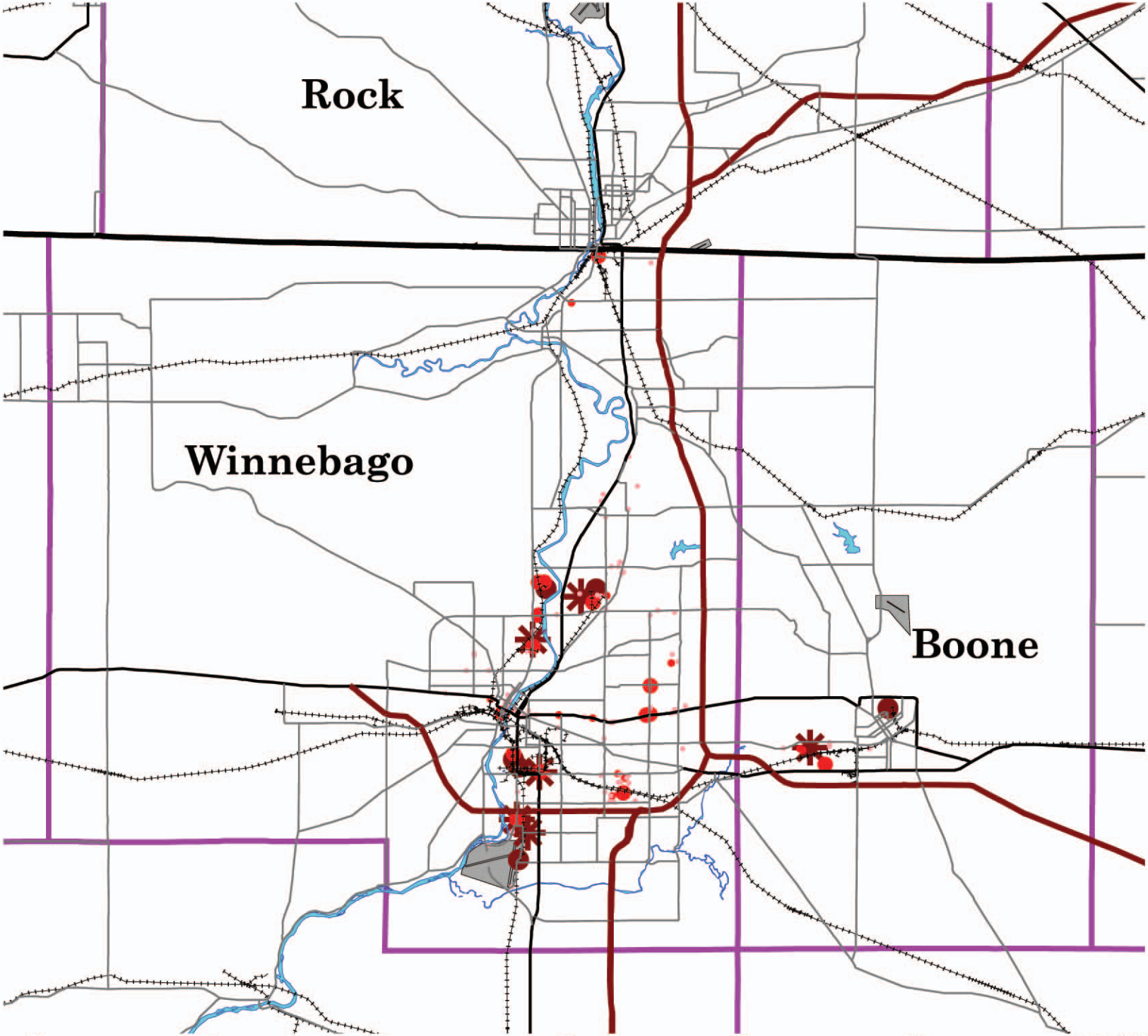

Year 2035 Long Range Transportation Plan

Map 9-7
Building Space for Rent or Sale

Limited Access Road
Primary Road
Secondary Road
Railroad
Major Water
State Boundary
County Boundary

Available Square Feet
- Less than 30,000
- 30,000 - 60,000
- 60,000 - 120,000
- 120,000 - 240,000
- More than 240,000

Airport

June 2005

Prepared by ACG:
The al Chalabi Group, Ltd.

9.6 Conclusion

Transportation investment is a major catalyst for economic development. In developing the LRTP, as well as the (Transportation Improvement Plan) TIP, special emphasis should be given to determining the economic impacts of the proposed improvements. Given the constrained financial resources of state and federal transportation agencies, priority should be given to those projects capable of promoting economic development. Lower priority must be assigned to transportation projects whose benefits are slight or illusory, given the structure of the Rockford economy.

The Rockford MPA is a self-contained and balanced economic region, with a strong manufacturing base, an attractive environment, and a skilled labor market. The transportation projects, which enhance these strengths, should be given the highest priority. Northwest Cook County and DuPage County are areas that during the past few decades have experienced significant growth but are now approaching full development. With full development comes congestion and constrained facilities; currently, these constraints are exacting their toll. Accordingly, some industries are seeking less congested, nearby areas in which to expand. Examples of such industries are: airfreight, trucking and manufacturing. The Rockford MPA has the potential to attract these industries, further strengthening its economy.

There also has been discussion of developing part of the Rockford MPA into dormitory communities for the Chicago Region. There are relatively inexpensive agricultural lands in Boone and Winnebago Counties that can be attractive for such development. Proponents of such development are promoting extensions of commuter facilities into these two counties. However, such extensions of commuter facilities and the development of dormitory communities have their disadvantages, including:

- As seen from the input-output model findings, private households have the lowest multiplier.
- Attracting some of the skilled workers from the Rockford MPA to the higher-paying jobs of Chicago can force higher labor costs on local industries to remain competitive, creating adverse impacts on its economic base.
- Dormitory communities may generate more costs than income and, unless carefully controlled, may lead to higher infrastructure and service costs borne by the public. This is particularly true if the development is low density.

The 2035 LRTP process offers an excellent opportunity to evaluate and discuss the reasonable alternative futures available to the Rockford MPA. Only through such discussion with the area's political and business leadership can an effective transportation plan be completed.

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SECTION 10

PLAN REFINEMENT

SECTION 10
PLAN REFINEMENT

10.1 Air Quality

The Rockford Metropolitan Planning Area (MPA) remains in conformity with the National Ambient Air Quality Standards (NAAQS). Regions that are not in attainment with NAAQS, have to address air quality pollution in the regional transportation planning process. Vehicles can be major sources of air pollution emissions. The Illinois Environmental Protection Agency operates air quality monitoring stations at four locations in the Rockford MPA (see **Table 10-1**).

Table 10-1
Air Quality Sampling Locations in the Rockford Metropolitan Planning Area

Address	Equipment
Maple Elementary School – 1405 Maple Avenue, Loves Park	Ozone
Walker Elementary School – 1500 Post Street, Rockford	Ozone
Fire Dept. Administration Building – 204 1st Street, Rockford	Particulate Matter
City Hall – 425 East State Street, Rockford	Carbon Monoxide

The air quality data from these stations was reviewed for the Years 1999-2003. The air quality criterion that warrants attention is the eight-hour NAAQS for ozone. The Rockford sampling location generally has higher values than the Loves Park location and is, therefore, used for illustration purposes. The figure below shows the eight-hour ozone data for the last five years. The Rockford MPA continues to remain below the NAAQS for eight-hour ozone. There was only one period (1st quarter 2002) that exceeded the standard (see **Table 10-2**). However, the Rockford MPA is close to exceeding the standard.

Table 10-2
Ozone Eight-Hour Sample Results (parts per million) from Rockford Location

Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
2003	0.081	0.079	0.078	0.076
2002	**0.092**	0.084	0.084	0.079
2001	0.082	0.082	0.078	0.078
2000	0.078	0.076	0.075	0.069
1999	**0.085**	0.084	0.082	0.082

The National Ambient Air Quality Standards for eight-hour ozone is 0.08. Data is rounded to the significant figure specified by the standard. Therefore, to exceed the standard the number must be 0.085 or higher. Exceedance of the standard is based on the average of the fourth highest value each year over a three-year period.

The Rockford Area Transportation Study (RATS) will continue to observe air quality emissions in the Region. The number of vehicle trips is expected to increase in the Rockford MPA, which could cause an increase in air emissions. This could cause an increase in air emissions. Vehicle emissions can be a major cause of ozone pollution. An increase in ozone could cause the Region to become non-conforming to the NAAQS. Should this occur, RATS would have to demonstrate transportation plans and programs that would conform to the NAAQS. Any major expansion of the transportation system should address air quality issues as part of the National Environmental Protection Act Process (NEPA) process. Proactive measures addressed in the transportation planning process can help to reduce emissions and ensure that the Region stays in conformance with NAAQS.

10.2 Congestion Management System

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) introduced the concept of establishing monitoring and management systems to guide the optimization of transportation infrastructure. A Congestion Management System (CMS) is a systematic process for managing congestion by providing information on transportation systems performance and building on alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet state and local needs.[1] The CMS process provides a means of utilizing the existing system as best as possible without spending large amounts of money on expanding the roadway network. A previous report recommended that the Rockford Metropolitan Planning Organization (MPO) use four primary components in its CMS process: system monitoring, strategy considerations, project selection, and effectiveness evaluation.[2]

10.2.1 System Monitoring

System monitoring provides information needed to identify existing and potential problems, recommend solutions and evaluate the effectiveness of these solutions. The Rockford MPO uses level of service objectives, transportation modeling, Geographic Information System (GIS), and traffic data as tools for the system monitoring. How these are used for system monitoring is described below.

10.2.1.1 Level of Service Objectives

The Rockford MPO utilizes Level of Service (LOS) as a measure of roadway congestion. LOS is a quantitative measure based on the roadway classification (freeway, arterial, or collector) and the amount of traffic that is operated on the roadway. There are six LOS categories. LOS A and B are the best ratings and represent road segments having more or less complete free flow at the roadway design speeds. In urbanized areas, these are levels of service are generally only seen during off-peak periods. LOS C would be the ideal peak period rating. LOS D is below peak period rating. LOS E represents a roadway that is at capacity, while LOS F is the worst rating and signifies frequent gridlock or near gridlock congestion on the roadway segment.

Table 10-3 shows the LOS objectives that RATS has established for the Rockford MPA. It has been recommended that a small percentage of the overall roadways be below LOS C. The objectives were established based on the recommendation of the RATS Technical Committee. There is no specific guide that says that the transportation network has to meet these objectives. The objectives allow for a certain amount of congestion, which is a generally accepted practice. A transportation system with no congestion would most likely not be efficient. That is, if the system had higher objectives it might be considered as overbuilt and not efficient.

[1] 23 CFR 500.109.

[2] See *The Rockford Area Congestion Management Activities*, 1997, by Transcore. The report was subsequently reviewed and adopted by the Rockford Area Transportation Study as the official assessment and strategy for dealing with congestion in the Rockford Metropolitan Planning Area.

Table 10-3 Level of Service Objectives for the Rockford Metropolitan Planning Area		
Classification/Level of Service	**C or better**	**D or worse**
Interstate Freeway	95%	5%
Principal Arterial	90%	10%
Minor Arterial	90%	10%
Collector	90%	10%

10.2.1.2 Transportation Modeling

The transportation model program, as discussed in **Section 2.6**, *Transportation Model*, was used to measure the existing roadway LOS throughout the Rockford Transportation Modeling Area.[3] **Table 10-4** illustrates the current LOS by roadway classification. The interstate freeways do not presently meet the objectives set by RATS for the Rockford MPA but are close to meeting the objective. Other than the interstate system, the Rockford area is presently meeting the LOS objectives that have been established. Based on this, it can be stated that the Rockford MPA, other than the interstates, has as acceptable level of congestion as defined by the objectives established by the Rockford MPO.

Table 10-4 Level of Service by Roadway Classification		
Classification/Level of Service	**C or better**	**D or worse**
Interstate Freeway	91%	9%
Principal Arterial	94%	6%
Minor Arterial	95%	5%
Collector	95%	5%

The transportation model program provides a means to determine where congestion presently occurs in the roadway network. **Map 10-1** shows the locations of roadways that presently operate at LOS levels D, E or F. Congestion in the Rockford area is currently limited to a small number of intersections and roadway segments. The identification of the areas with low LOS becomes immediate candidates for CMS considerations.

Given the lack of congestion in the Region, it would seem that the need to implement a CMS is not important. However, like all other urban areas in the country, travel and traffic congestion are increasing in the Region. The transportation model was used to forecast future LOS based on the Year 2025 Long-Range Transportation Plan (LRTP); that is, planned roadway improvements were included in determining the future.

Map 10-2 and **Table 10-5** illustrates that in the Year 2025 even with planned improvements the Region would not meet the LOS objectives. It should be noted that the Illinois State Tollway Authority (Tollway) has proposed expansion improvements. The Year 2025 LOS classification was prepared prior to the Tollway announcement.

[3]Regional Transportation Modeling Area refers to all of Winnebago and Boone Counties plus the part of the State Line Area Transportation Study in Wisconsin (see **Map 2-16**).

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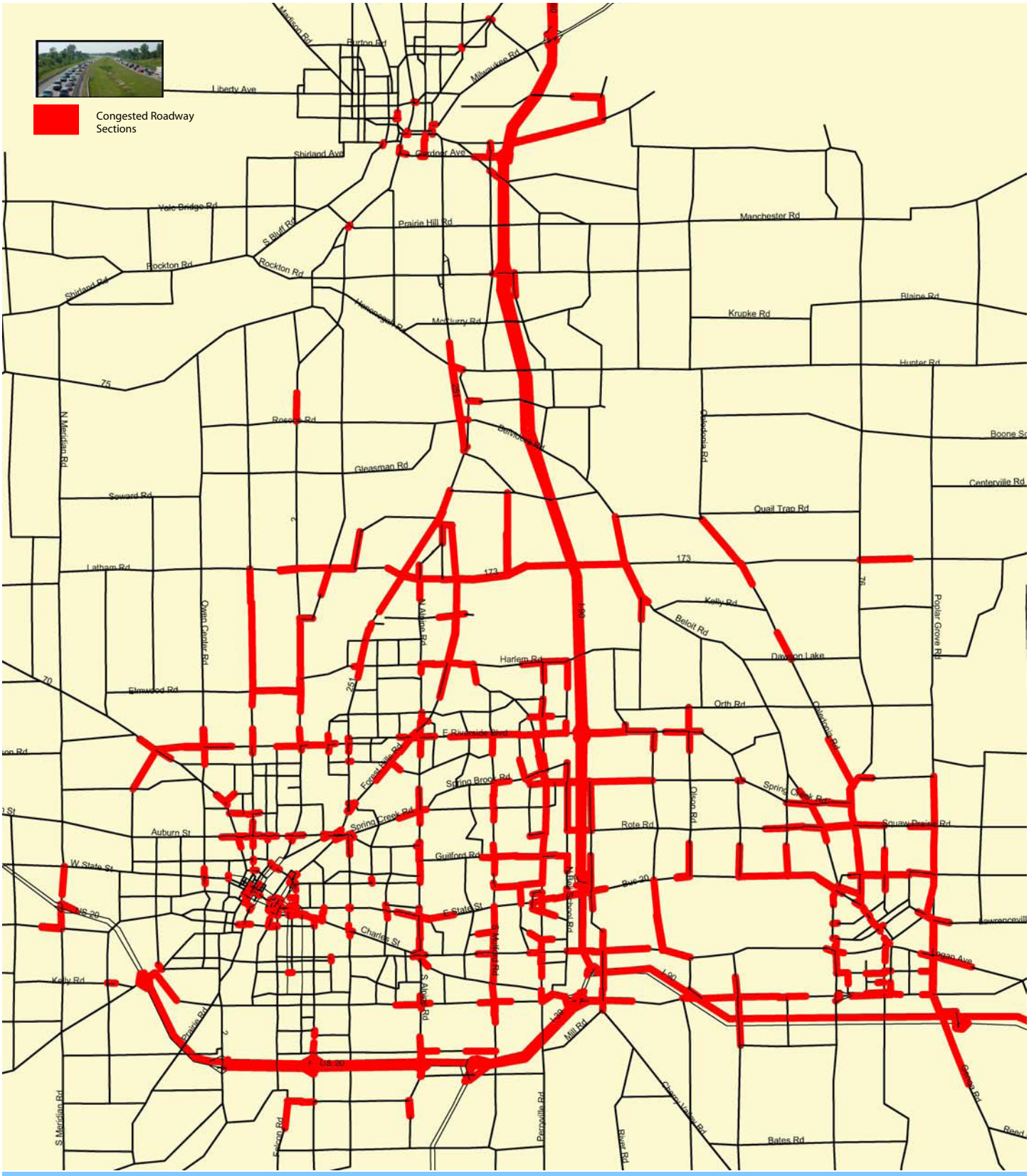
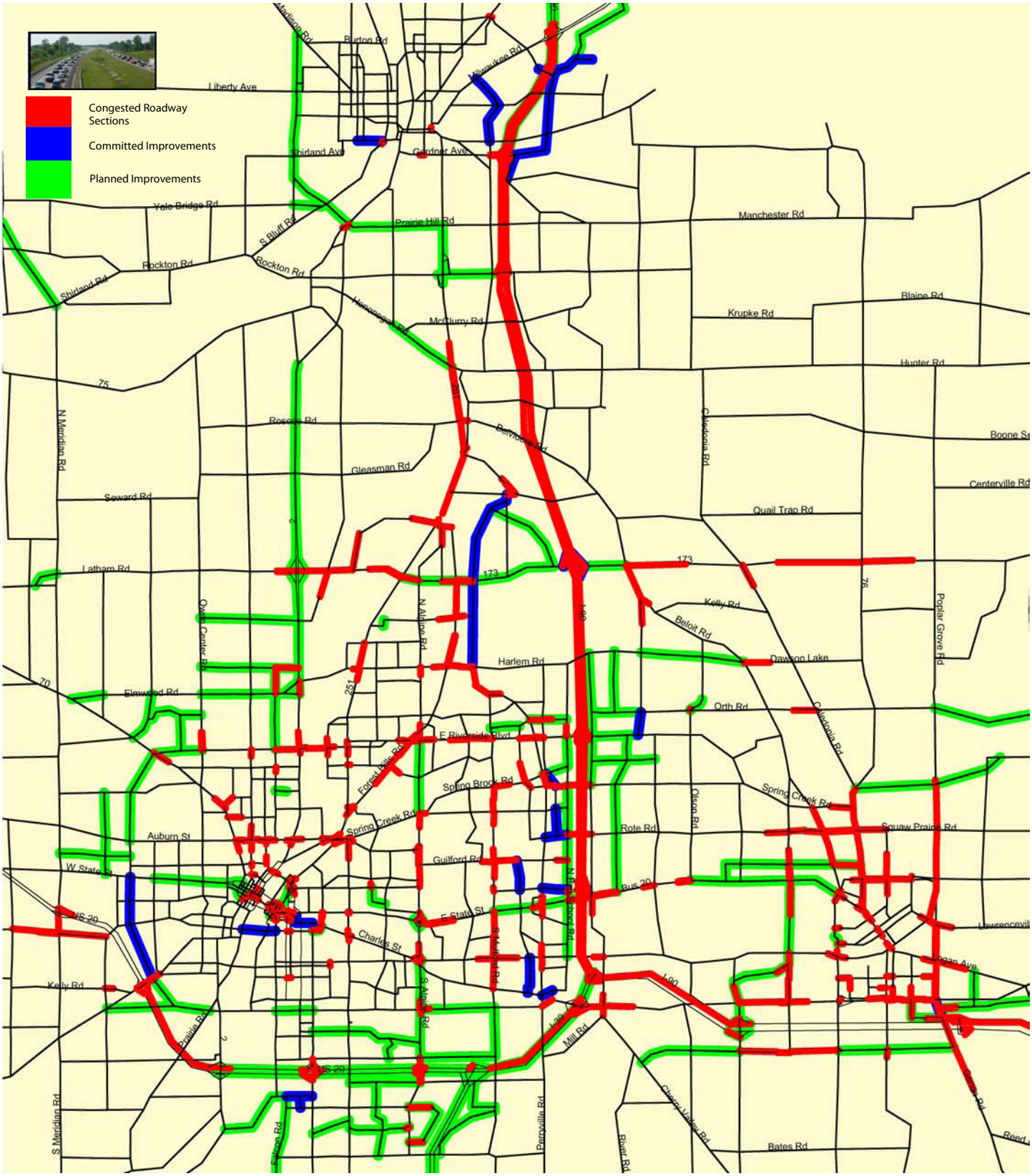


EXISTING NETWORK - 2025 TRAFFIC

Boone County - Winnebago County – Beloit, Wisconsin Transportation Study



FUTURE NETWORK - 2025 TRAFFIC

Boone County - Winnebago County – Beloit, Wisconsin Transportation Study