

SECTION 1

INTRODUCTION

SECTION 1 INTRODUCTION

1.1 Background

Planning for the transportation needs of the Region is an ongoing process that has been performed by the Rockford Area Transportation Study (RATS) for the past 40 years. This Long Range Transportation Plan (LRTP) reflects the historic work of RATS and suggests how the Region will provide for its transportation needs over the next 30 years. This Plan is based on present laws, trends and knowledge. Even while the Plan is being prepared there are unforeseen events and factors occurring that will inevitably cause changes to the Plan. Things change and that is why it is important to update the LRTP every five years.

Local, state and federal governments have the responsibility of constructing, operating, and maintaining most of the transportation systems in the Rockford Metropolitan Area (MPA). The movement of people and goods is an important function of government. It affects the economic well being of the Region. RATS has the responsibility of planning for the future connectivity and integration of the transportation system. RATS is also known as a Metropolitan Planning Organization (MPO). MPO is a federal designation that is used for government agencies that are responsible for transportation planning in urban areas. MPO and RATS are used interchangeably in this LRTP.

The Plan is divided into three main sections: plan definition, primary elements and refining elements. Plan definition deals with the factors that shape and influence the transportation planning process:

- Federal Guidance
- State Involvement
- The Regional Planning Process
- Socio-Economic Trends
- Land Use Planning
- Technology
- Public Finance
- Public Involvement
- Environmental Justice

The primary elements of the LRTP involve the transportation components of the Region. While the emphasis is on the roadway system, the Plan addresses all transportation components and stresses the integration and connectivity of these components. These elements include:

- **Section 3** – *Public Funding*
- **Section 4** – *Airports*
- **Section 5** – *Bicycle/Pedestrian*
- **Section 6** – *Rail*
- **Section 7** – *Roadway*
- **Section 8** – *Transit*
- **Section 9** – *Regional Economic Development*

Section 10, *Plan Refinement* discusses the refining elements of the Plan. The refining elements are policy and emerging issues that will influence the transportation planning process in the future:

- Air Quality
- Congestion Management Systems
- Context Sensitive Solutions
- Human Service Transportation
- Intelligent Transportation Systems
- Linking Planning and Operations
- Planning and the National Environmental Protection Act
- Public-Private Partnerships
- Safety and Security
- Smart Growth
- Strategic Regional Arterials

1.2 Goal and Objectives

The overall goal of this Plan is to promote a safe and efficient transportation system for people and goods in the RATS MPA. The intent is to provide a balanced multi-modal system that minimizes costs and impacts to the taxpayer, society and the environment. The Plan is a cooperative venture of RATS, all area local governments, the Illinois Department of Transportation and the public and private transit providers. The Plan adopts the following goals in meeting federal guidelines for transportation planning:¹

- Support the economic vitality of the Rockford MPA, especially by enabling global competitiveness, productivity and efficiency (see **Section 9**).
- Increase the safety and security of the transportation system for motorized and non-motorized users (see **Section 10.9, *Safety and Security***).
- Increase the accessibility and mobility options available to people and freight. Accessibility and mobility is discussed throughout this LRTP. Emphasis is placed on linking low-income households with employment opportunities, community services and community amenities through public transit. Transportation is a problem for low-income persons. They simply cannot afford to own, maintain and operate automobiles to the degree higher-income persons can. Low-income persons are typically public-transit dependent.
- Protect and enhance the environment, promote energy conservation, and improve the quality of life. These goals are discussed throughout the LRTP (see **Sections 5 and 10**).
- Integrate and connect the transportation modes for people and freight. Integration and connectivity is a major theme that is discussed throughout this LRTP.
- Promote efficient system management and operation. Again, the promotion of an efficient transportation system is a theme throughout this LRTP (see **Section 10.6, *Linking Planning and Operations***).
- Efficiently preserve the existing transportation system. It is important that the existing system is maintained and used to the fullest and most cost-effective manner before funds are used on new transportation facilities. Funding priority is assigned to maintaining existing facilities.

¹Transportation Equity Act for the 21st Century [1203(f)].

SECTION 2

PLAN DEFINITION

SECTION 2 PLAN DEFINITION

This section explains the elements that define the Long Range Transportation Plan (LRTP), including federal guidance, state guidance, the planning process of the Rockford Area Transportation Study (RATS), socio-economic trends and forecasts, local land use planning, transportation modeling, public funding, public involvement, and environmental justice.

2.1 Federal Guidance

The federal government has a distinct and important role in the overall transportation planning process for the Rockford Metropolitan Planning Area (MPA). The federal government is the primary provider of funding for transportation planning and capital improvements.² The Intermodal Surface Transportation Efficiency Act of 1991 and the 1998 Transportation Efficiency Act for the 21st Century (TEA-21), requires that the Rockford urbanized area, as a condition of federal financial assistance, have a continuing, cooperative and comprehensive transportation planning process. These laws provide policy and funding directives for multiple modes of transportation including aviation, automobiles, bicycles, pedestrian, rail, transit, and trucks.

TEA-21 officially expired at the end of 2004, but the federal government has enacted a temporary extension. A new federal transportation act is still in the approval process. This new act is expected to continue to address congestion and inter-modal connectivity, as well as new challenges in the areas of safety, security, and timely project delivery.

The federal government provides ongoing guidance for the transportation planning process. For example, the Federal Highway Administration (FHWA) and the Federal Transit Administration annually identify transportation Planning Emphasis Areas (PEA) for local organizations like RATS.

These PEA promote priority themes for consideration, as appropriate, in metropolitan transportation planning programs. The PEA for fiscal year 2005 are listed below:

1. Consideration of safety and security in the transportation planning process (see **Section 10.9**, *Safety and Security*).
 - Linking the planning and National Environmental Protection Act (see **Section 10.7**, *Planning and the National Environmental Protection Act*).
 - Consideration of management and operations within the planning processes (see **Section 10.6**, *Linking Planning and Operations*).
 - Illinois Department of Transportation (IDOT) consultation with RATS (see **Section 2.2**, *State Guidance*).
 - Coordination of human service transportation (see **Section 10.4**, *Human Service Transportation*).

The FHWA conducts certification reviews of the RATS transportation planning process. The most recent review, dated December 2003, requested that RATS put more emphasis on the following:

²During the three years 2005-2007, \$86.9 million is programmed throughout the Rockford Metropolitan Planning Area for roadway improvements. 55.3 million or nearly 61% of this is from federal sources. That is an average of \$18 million per year. An additional \$1-2 million dollars of federal funds are also appropriated to the area for public transit uses.

- More involvement should be sought from IDOT District 2 with a focus on involving RATS in the development of Illinois' Five-Year Program (see **Section 2.2**).
- Safety conscious planning (see **Section 10.9**).
- Update the public involvement process policy documents (see **Section 2.8, Public Involvement**).
- Ensure that the Rockford Metropolitan Planning Organization (MPO) website is operational by December 2004 (see **Section 2.8**).
- Publish "citizen-oriented" guides to transportation planning.
- The LRTP should emphasize safety conscious planning, integrating planning and environmental processes, and congestion management systems (see **Sections 10.2, Congestion Management Systems, 10.7 and 10.9**).
- Submit the draft Environmental Justice/Title VI Considerations report to the RATS Policy Committee for review, analysis, and approval (see **Section 2.9, Environmental Justice**).

2.2 State Guidance

IDOT has responsibility for planning, construction and maintenance of its extensive transportation network, which encompasses, highways, bridges, airports, public transit, rail freight and rail passenger systems. As such, IDOT has the following roles in transportation planning:

- IDOT is a voting member on both the RATS Policy and Technical Committees.
- IDOT reviews and comments on the planning documents prepared by RATS including the LRTP, the Unified Work Program and the Transportation Improvement Plan (TIP).
- Illinois is actively involved in the funding of transportation projects in the MPA (see **Section 3, Public Funding**).
- IDOT is responsible for the operation and maintenance of its roads in the Rockford MPA.
- The IDOT Bureau of Design and Environment Manual establishes uniform policies and procedures for the location, design and environmental evaluation of highway construction and reconstruction projects on the state highway system. While this manual is directed towards the state highway system, it provides standards that are used for many local roadways projects.

The federal government has indicated that RATS should get more involved in the development of Illinois' multi-year program. Each year, IDOT develops a Proposed Highway Improvement Program that is released in the spring and distributed for public comments. The program identifies the projects that are scheduled for the upcoming fiscal year (July 1-June 30) and the following six years. This program sets priorities for specific highway improvements in each of the nine IDOT Districts. The Rockford MPA is in District 2, which encompasses 12 counties in Northern Illinois.

2.3 The Regional Planning Process

The transportation planning process is required for the Region to obtain federal funding for transportation projects. This section will explain how RATS undertakes this task.³

2.3.1 Rockford Area Transportation Study

³Federal planning grants are passed through the Illinois Department of Transportation. For fiscal year 2005, \$385,000 was budgeted for transportation planning activities in the Rockford Metropolitan Planning Area. 80% federal, 20% local.

RATS is an organization of officials, planners, engineers and citizens that meet on an ongoing basis to study transportation needs and formulate transportation plans and programs. The laws of the Illinois allow multiple government jurisdictions to contract together for the purpose of carrying out the federally mandated planning duties. The authority of RATS and its responsibilities and duties are set forth in a Cooperative Agreement dated July 24, 2003.⁴ The government jurisdictions that are signatories to the Cooperative Agreement make up the RATS Policy Committee. The Policy Committee is responsible for directing the activities and procedures of RATS. The government jurisdictions and their representatives are listed in **Table 2-1**.

Table 2-1 RATS Policy Committee
City of Belvidere – Mayor Boone County – Board Chairman Illinois Department of Transportation – Deputy Director, Region 2 Engineer City of Loves Park – Mayor Village of Machesney Park – Village President City of Rockford – Mayor Winnebago County – Board Chairman

The Cooperative Agreement also calls for a Technical Committee that provides advice and recommendations to the Policy Committee. **Table 2-2** lists the representatives that make up the Technical Committee.

Table 2-2 RATS Technical Committee	
Voting Members	
Belvidere Public Works Department Belvidere – Boone County Planning Department Boone County Highway Department Village of Cherry Valley Greater Rockford Airport Authority Illinois Department of Transportation, District 2 Loves Park Community Development Department Loves Park Public Works Department	Machesney Park Planning Department Rockford Community Development Department Rockford Mass Transit District Rockford Public Works Department Village of Roscoe Winnebago County Highway Department Village of Winnebago Winnebago County Planning and Economic Development Department
Non-Voting Members	
Boone County Council on Aging Federal Highway Administration, Illinois Division Illinois Environmental Protection Agency Illinois Tollway	Illinois Department of Transportation, Division of Public Transportation Illinois Department of Transportation, Division of Urban Program Planning Ogle County Highway Department State Line Area Transportation Study

The Rockford Public Works Department personnel are assigned to RATS to perform day-to-day transportation planning staff functions.

2.3.2 The Study Area

⁴The Rockford Area Transportation Study was first established in the early 1960’s. Similar agreements have been in effect since that time.

The area where RATS performs transportation planning is called the Rockford MPA. The Rockford MPA has three parts:

- The urbanized area, as defined by the U.S. Bureau of the Census.
- The adjusted urbanized area includes other small areas that round off the irregular boundaries of the urbanized area. It also includes additional lands that are likely to be developed within the next five years and other abutting or nearby already developed lands.
- The forecasted area, which is expected to become included in the urbanized area in the next 30 years (through 2035). This area is determined through a consensus of the RATS Technical and Policy Committee members and is based on growth trends, local land use plans and general planning judgment.

The Rockford MPA is smaller than the boundaries of Winnebago and Boone Counties (see **Map 2-1**). However, to a limited extent, RATS coordinates planning and transportation improvement activities throughout both counties. This occurs voluntarily via the communication and cooperation of the Boone and Winnebago County officials serving on the RATS Policy and Technical Committees.

2.3.3 Significant Changes in the Planning Process

Since adoption of the 2000 LRTP, the following significant changes have occurred in the RATS planning process:

- The Year 2000 census data from the U.S. Bureau of the Census resulted in changes to the RATS planning area. The Rockford MPA was expanded to include areas in Boone County, larger areas in Winnebago County, most of Belvidere, Roscoe, Winnebago and Timberlane. The population of the Rockford MPA grew from 238,846 in 1990 to 280,082 in Year 2000 (a 17.3% increase). In addition, the Rockford MPA increased 87.6 square miles to correspond with the larger urbanized area.
- There was discussion about whether RATS and the State Line Area Transportation Study (SLATS) should be combined. SLATS is a federally designated MPO like RATS for the Beloit urbanized area. **Map 2-1** shows the Rockford MPA boundaries of both RATS and SLATS and the boundaries of the municipalities. The decision was made to reconsider the issue of combining the two MPOs until after the 2010 Census. In the interim, the two MPOs are to make concerted efforts to coordinate planning activities.⁵
- The U.S. Bureau of the Census shifted parts of Roscoe from the Beloit urbanized area into the Rockford urbanized area and, this area is now in the Rockford MPA.
- The Cooperative Agreement that forms and empowers RATS was revised on July 24, 2003. The revised agreement expanded the representation on the RATS Policy Committees to include Boone County and Belvidere.

⁵This issue is discussed in more detail in the Rockford Area Transportation Study report titled, *Transportation Planning in the Rockford-Beloit Area Issues Related to Changes in Organization and Structure*, August 22, 2002.

- A computerized transportation simulation model was completed for the region. This model is discussed in more detail in **Section 2.6, Transportation Model**. A comprehensive update of the RATS public involvement process was completed. (See **Section 2.8**.)
- RATS prepared several reports on the topic of environmental justice in the transportation planning process. (See **Section 2.9**.)

2.4 Socio-Economic Profile

The socio-economic factors that primarily affect transportation are population, households or dwelling units, and employment. The jurisdictions within the Rockford MPA and their respective populations are listed in **Table 2-3** along with the population increase from 1990-2000. The Rockford MPA has had significant population increase; this is due to population growth and expansion of the Rockford MPA boundaries. The ethnic and age profile of the population in the Rockford MPA is shown in **Table 2-4**. Attention to minority and low-income population distribution is important and the locations of those areas are shown in **Maps 2-2** through **2-6**. Population, households and employment are essential inputs to determine regional transportation impacts and future needs. **Table 2-5** shows the forecast of population, dwelling units and employment for the Rockford Metropolitan Statistical Area (MSA).

Jurisdiction	1990	2000	Change	Percent
Rockford	142,815	150,115	7,300	5.1%
Unincorporated	NA	54,474	NA	NA
Machesney Park	19,042	20,759	1,717	9.0%
Loves Park	15,457	20,142	4,685	30.3%
Roscoe	2,079	6,241	4,162	200.2%
Winnebago	1,840	2,958	1,118	60.8%
Cherry Valley	1,615	2,191	576	35.7%
New Milford	463	541	78	16.8%
Belvidere	16,049	20,860	4,811	30.0%
Poplar Grove	743	1,368	625	84.1%
Timberlane	NA	234	NA	NA
Caledonia	NA	199	NA	NA
Total:	238,846	280,082	41,236	17.3%

The Rockford MSA is designated by the U.S. Bureau of the Census and includes all of Winnebago and Boone Counties. As shown in **Map 2-1**, the Rockford MSA is larger than the Rockford MPA. In comparison, the population of the Rockford MPA was 87.2% of the MSA in the Year 2000. For forecasting purposes, the MSA data provides a better tool since most forecasts are done on a county basis. The forecasts are then allocated to smaller transportation analysis zones for the purpose of using the transportation model to determine impact and needs on the transportation systems. (See **Section 9, Regional Economic Development**.)

Table 2-4 Rockford Metropolitan Planning Area Population Profile		
Total	Population	Percent of Total
		286,442
Ethnic Groups		
White	235,071	82.1%
African American	29,248	10.2%
Hispanic	23,208	8.1%
Asian	4,839	1.7%
Other	11,802	4.1%
Age Groups		
Youth (under 17)	76,838	26.8%
Elderly (65 and over)	35,909	12.5%

Table 2-5 Population, Households And Employment Forecast For Rockford Metropolitan Statistical Area						
	2000	Forecast			Increase	Percent
		2010	2025	2035		
Population	321,090	348,570	393,750	429,130	108,040	33.6%
Households	123,030	136,910	154,030	165,930	42,900	34.9%
Employment	195,770	207,501	219,840	280,850	85,080	43.4%

Future land use is used to allocate where the future dwelling units and employment will occur. This information is assigned to the transportation-modeling program along with existing land use to determine future transportation impacts and needs. Where this growth will occur will be dependent on the land use practices of the various government agencies in the Region. **Maps 2-7a through 2-10b** illustrate the Year 2000 dwelling units and employment and where the Year 2025 forecasted growth in dwelling units and employment will occur.

It is important to note that **Maps 2-7a through 2-10b** only illustrate growth out to the Year 2025. This LRTP raises several issues about future growth that are being reviewed by RATS. Most of the new development has occurred in the outlying edges of the urban area. However, the Year 2035 LRTP anticipates that redevelopment will begin to show an increase in employment and dwelling units in the urban core. Also, different growth patterns than what is shown for the Year 2025 are expected. The Region is witnessing a greater growth rate than has been seen in the past. From 1970-1980, the population in the Rockford MSA grew 3.0% and from 1980-1990 grew only 1.7%. However, from 1990-2000 the growth rate accelerated to 12.8%. This accelerated growth rate is expected to continue through 2035. RATS is in the process of reviewing how and where growth will occur. (See **Section 9**.) Maps showing the Year 2035 growth will be prepared at a later date and amended into the LRTP.

The growth occurring in the Region will place a strain not only on the transportation system but on other municipal infrastructure as well. Municipal and county land use regulations will impact how and where growth will occur. The various land use practices of the government agencies in the Region will play an important part in this growth. It is important that consideration be given to linking land use and transportation.

2.5 Land Use Planning and Urban Form

The process of urban growth and transportation are inexorably linked. Transportation systems are affected by where people live and work. Transportation improvements can speed travel time and encourage new development. On the other hand, new development can result in putting more demands on transportation systems that cause the need for more transportation improvements. One aspect of this LRTP is to make a connection between land use and transportation. Land use, more than any other factor, affects the transportation system. Consequently, the transportation system has more impact on the urban form than any other factor.

It is important that the transportation plan recognize the importance of access to significant facilities such as airports, commercial facilities, cultural facilities, freight distribution facilities, industry, hospitals, government facilities, parks, retirement homes, and schools. Access via public transit is particularly important, and efforts should also be continued to provide non-motorized (pedestrian/bicycle) access to significant facilities (see **Maps 2-11** through **2-13**).

The transportation improvements in this LRTP are derived from land use forecasts. These forecasts are, in turn, used to estimate the number of vehicle trips that will be generated and to design and size the transportation system to accommodate those trips. Stated another way, the area's land use plans provide a starting point for determining the future dwelling units and jobs that provide a basis for assessing future transportation demand.

It is important that the counties and municipalities work together on land use plans. Some jurisdictions have overlapping land use planning authority. In Illinois, municipalities have authority to impose their plans in unincorporated areas up to one and one-half miles beyond their corporate limits. This is known as extraterritorial jurisdiction. This can result in two communities overlapping an area with differing plans. This potential conflict is generally resolved with boundary agreements. The communities of Cherry Valley, Loves Park, Machesney Park, Rockford and Roscoe have boundary agreements with each other. However, as these communities extend their municipal limits to the east there is a need for boundary agreements with the communities in Boone County. The communities within Boone County have a cooperative land use plan that is prepared by Boone County. Still, boundary agreements between the municipalities of Caledonia, Garden Prairie and Timberlane are recommended so that these communities remain true to the Boone County Plan. The communities in Boone County work cooperatively with each other and Boone County government officials on their land use planning efforts. Winnebago County only has a land use map that serves as a guide for proposed land use and two communities, New Milford and Winnebago, do not have land use plans; they negotiate land use development on a case-by-case basis.

It is important that government land use plans be updated on a regular basis. The private sector is responsible for much of the financial investment and the decisions on how development will occur. Private sector land use and development decisions change to reflect needs of the public. The values and desires of communities change. Communities should update plans to reflect changing patterns, needs and community objectives. Communities experiencing growth should update and amend their plans every 5-10 years to reflect the changing needs of the private sector and the community. **Table 2-6** summarizes the status of formal land use planning efforts in the Rockford MPA.

Open space land protection also has an impact on urban growth and the transportation system. The Rockford MPA has an extensive system of public parks and forest preserves. The Rockford Park District, the Winnebago County Forest Preserve District and the Boone County Conservation District play major roles in acquiring and holding open space (see **Map 2-14**).

Future transportation decisions should not encroach upon these areas but, instead, should enhance public access so that the public can enjoy and appreciate these areas. The region's natural features also affect the transportation system. The Rockford MPA is dissected by an extensive array of surface waterways and flood plains, including the Rock and Kishwaukee Rivers and numerous tributaries. These waterways and their adjacent floodplains and sensitive lands are important to the area's ecosystem. Efforts should be made to minimize the impact of transportation facilities and developments as they cross or traverse these natural areas.

Jurisdiction	Date of Plan	Transportation Component	Notes on Land Use Coordination
Municipal			
Cherry Valley	2004	Yes	Boundary agreement with Rockford. Potential plan conflicts with Boone County plans. Potential plan conflicts with Belvidere.
Loves Park	1997	Yes	Boundary Agreement with Rockford and Machesney Park. Potential plan conflicts with Caledonia and Timberlane.
Machesney Park	1994	Yes	Boundary agreements with Loves Park, Roscoe, and Rockford.
New Millford	N/A	No	
Rockford	2004	Yes	Boundary agreements with Cherry Valley, Loves Park and Machesney Park
Rockford (continued)	2004	Yes	Potential plan conflicts with Boone County plan and with Belvidere.
Roscoe	2001	Yes	Boundary agreement with Machesney Park. Potential plan conflicts with South Beloit and Rockton.
Winnebago	N/A	No	
County			
Boone	1999	Yes	Belvidere, Caledonia, Popular Grove and Timberlane are addressed in the Winnebago County Greenway Plan. Potential conflicts with Cherry Valley, Loves Park and Rockford Plans.
Winnebago	N/A	No	

The availability of sanitary sewers and municipal water also has an important affect on land use planning and metropolitan growth patterns. All of the municipalities require sewer and water with new development. Boone and Winnebago Counties may allow development on private well and septic systems in unincorporated areas. However, these developments generally are low density or small-scale in keeping with the agricultural or rural nature of the unincorporated areas.

The ability to provide utilities has an impact on both the type and location of new development. A variety of governmental units provide sanitary sewer and municipal water in the Rockford MPA.

These governmental units are summarized in **Table 2-7**. The largest and most important is the Rock River Water Reclamation District (RRWRD). The RRWRD provides sanitary sewer services for much of the Rockford MPA. The Illinois Environmental Protection Agency requires wastewater treatment districts to set up “Facility Planning Areas” (FPA). An FPA is the geographic area expected to be served by a treatment facility based on the capacity of the treatment facility, the intensity of development forecasted in the area, the anticipated volume and composition of the waste stream (see **Map 2-15**).

Unit	Sanitary Sewer	Water	Notes
Belvidere	X	X	
Capron	X	X	
Loves Park		X	
North Park Water District		X	Provides water to Machesney Park, Roscoe, parts of Loves Park and some unincorporated areas.
Popular Grove	X	X	
Rock River Water Reclamation District	X		Services Cherry Valley, Loves Park, Machesney Park, Rockford and some unincorporated areas.
Rockford		X	
Rockton	X	X	
South Beloit	X		Water is provided by South Beloit Water, Gas and Electric.

2.6 Transportation Model

RATS utilizes a computerized transportation model to analyze street and intersection congestion and forecast the need for future roadway improvements. RATS also performs transportation modeling for SLATS in an effort to coordinate planning activities between the two agencies. **Map 2-16** illustrates the Regional Transportation Modeling Area (RTMA). Note that the RTMA includes Winnebago and Boone Counties as well as those parts of SLATS.

The computerized transportation model that RATS uses is called TMODEL™. RATS recently used the model to develop a Year 2025 transportation system.⁶ It was intended that the transportation planning modeling program would be used in developing the Year 2035 transportation system. Unfortunately, it was not possible to utilize the transportation-modeling program in time for this 2035 LRTP. The roadway projects listed in **Section 7, Roadway**, are based on the results of the Year 2025 modeling effort. The transportation-modeling program will be used in the near future and the results will be amended into the Year 2035 LRTP.

The transportation model involves numerous mathematical equations to analyze large amounts of data. The model is a mathematical representation of the transportation process used to forecast where travel will occur and determine what roadway improvements will be needed. Demographic and land use forecasts are a major source of data input for the model.

⁶Boone County and Winnebago County Transportation Planning Study prepared for Rockford Areas Transportation Study and Stateline Area Transportation Study, March 2003.

Forecasted population and employment is tied into future land use to determine how the population, dwelling units and employment will be distributed in the study area. The study area is divided into zones for the purpose of the modeling effort and utilizes trip generation, trip distribution and trip assignment in the modeling process.

Trip generation is a prediction of the number of person trips that are generated by and attracted to each defined zone. Residential land uses “produce” trips, and the non-residential land uses “attract” trips. There are certain variables that are used to forecast the trip production. These include such socioeconomic variables as the number of households, household size, number of automobiles owned, and income. As the number of households, automobiles and income increase, so does the trip production. On the other hand, the type of non-residential land use (e.g. industrial, commercial, office, or education) will attract different numbers of trips.

Trip distribution, connects the zones that “produce” with the zones that “attract” trips. In other words, for each trip that originates in a zone, a destination zone is found. The trip distribution part of the model is determined by “attractiveness” between the zones. Most of the trips produced in a given zone will be attracted to a surrounding or nearby zone; some will be attracted to moderately distant zones; and a small number will be attracted to very distant locations. The type of trip also influences attractiveness, that is, work trips are generally longer than non-work trips. The long journeys are relatively few in number and most trips are relatively short (see **Figure 2-1**).

Trip assignment assigns the trips to specific roadway routes and determines the resulting highway volumes. The roadway choice decision is based on the travel times involved in the trips. It is also based on the general assumption that people minimize their travel times and traveling is perceived negatively. Roads have functional classifications: freeways, arterials, collectors and local roadways.

The classification is a function of the travel speed and vehicle capacity of the roadway. The functional classification is also used to determine an impedance function. The impedance function describes the opposition to handle traffic flow. For example, a freeway has much faster travel speeds and can handle a much greater volume of traffic than a collector street. Trips are assigned to the roadway network based on the impedance function of the roadway. In other words, the trips are assigned based on the least time or distance involved in the trip.

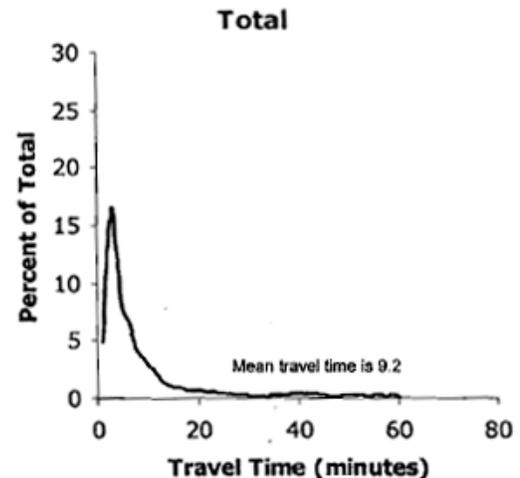


Figure 2-1 – Trip Duration Distribution

In addition to the above trips that begin and end inside the limit of the study area, there are external trips from outside the study area. There are three variations on external trips: external-external, external-internal and internal-external. External-external trips pass through the study area without stopping. Internal-external trips originate in the study area and travel outside the study area. External-internal trips originate outside the study area and travel to the study area. The number of external trips is derived from traffic counts taken on roadways entering the study area. These trips

are distributed and assigned to the study area. The external trips that are attracted to or produced in the study area are assigned to zones.

Finally, commercial vehicle travel is included in the model. Commercial vehicles are those other than passenger cars. The present model accounts for commercial vehicle trips by developing adjustment factors based on roadway classification. The adjustment factor assigns a certain volume of commercial traffic based on the passenger traffic.

2.7 Public Finance

The LRTP must be based on reasonable financial commitments and constrained based on the available public funding. Four steps are taken in order to fulfill this:

- Projections are made of future funding sources that are expected to be available for transportation uses.
- Estimates are made of the cost of constructing, maintaining and operating the total (existing plus planned) transportation system over the period of the plan.
- Projects are prioritized.
- Only projects that are can meet the financial constraint are listed; this is in accord with federal guidance on financial constraints.⁷

The constrained approach is applied at two levels – Transportation Improvement Plan (TIP) and LRTP. The TIP, which is updated annually, is a much more precise method of applying the financial constraint. As would be expected, projecting funding sources and estimating project costs for a 30-year period is difficult at best. It should also be noted that projects, which cannot be funded with the 30-year forecasted revenues may still be listed in this Plan, but will be programmed more than 30 years from the present.

The projection of future funding sources is provided in **Section 3**. Various sections of the LRTP discuss the transportation mode elements: aviation, bikeways/pedestrian, rail, roadways and transit. Each one of these sections discusses the proposed projects, estimates the associated project costs, prioritizes the projects and determines the projects that can be funded within the 30-year timeframe of the LRTP.

2.8 Public Involvement

Public involvement is an integral part of the transportation planning process in the Rockford MPA. Securing input from the public is an important means of obtaining feedback on the transportation system. Obtaining public input, however, is not an easy task. An agency such as RATS cannot assume that the public will provide feedback. The public needs to be provided with the opportunity to comment on transportation plans and programs. The Rockford MPO has prepared a document that outlines the public involvement process.⁸ The preparation of this LRTP provides another opportunity to secure input from the public on the transportation systems in the Rockford MPA. The following public involvement activities have been followed in the preparation of this LRTP.

⁷23 CFR 450.322.

⁸ *Public Involvement Process* dated April 24, 2003.

- Main Mailing List – The Rockford MPO maintains a mailing list of more than 150 people who have expressed interest in the transportation planning process. These people were notified that the LRTP would be updated prior to the start of the process. They were also provided notification when the LRTP was in draft format and available for review and comments.
- Rockford MPO Policy and Technical Meetings – These are open meetings where the public is encouraged to attend and provide input. The meeting agendas and notices are annotated with the comment that “Opportunities for public comment will be afforded.” The agenda and meeting notices are sent to all those on the Rockford MPO mailing list. The mailing list includes community organizations and newspapers.
- Public Notice – Annually, the Rockford MPO publishes a public notice in the Rock River Times announcing the planning activities for the year. Specific mention was made at the beginning of 2004 describing the initiation of the LRTP process. In the beginning of 2005, the public notice mentioned that this LRTP process was underway and invited the public to provide input on the plan.
- Website – The Rockford MPO has developed a website that provides extensive information about transportation planning activities in the region. The website address is: <http://www.ci.rockford.il.us/government/works/index.cfm?section=planning&id=405>. The LRTP is posted on the website.
- Four public information open houses were conducted on the draft LRTP. These open houses were used to discuss the LRTP and solicit comments from the general public. On July 6, 2005, they were held at the Rockford Public Library and the North Suburban Library in Roscoe. On July 7, 2005, they were held at the Loves Park City Hall and the Belvidere Community Building.
- Response to Public Input – The Rockford MPO policy is to explicitly respond to all public input received during the planning and program development process. The public comments and responses are compiled in an Addendum to this LRTP.

During the course of the development of the LRTP, specific attention was paid to obtaining input from the public on bicycle facilities in the region. A mailing list specific to the bicycling community was developed. The mailing list was developed through several community contacts and through articles in the newspaper that provided notification about the Rockford MPO planning activities. The mailing list was used to notify people about public workshops that were conducted on bike facility planning. The workshops served as forums to obtain input from the public on existing and proposed bike facilities (see **Section 5, Bikeway/Pedestrian**).

2.9 Environmental Justice

Environmental justice refers to federal guidance pertaining to non-discrimination in regard to transportation improvements. The intent of the federal guidance and rules are to allow all members of society full participation in any program or activity receiving federal financial assistance. It is also intended to ensure that federal programs, policies and activities do not have an adverse impact on minority and low-income populations.

The Rockford MPO has a long-standing tradition of applying the environmental justice doctrine to the transportation planning process. Since the last long-range plan, the Rockford MPO completed

two documents that describe the efforts to ensure environmental justice is applied to transportation in the Rockford MPA.⁹ Their activities can be summarized as follows:

- Determine where minority and low-income populations are located.
- Provide a bus transit system that can serve low-income persons.
- Determine during the planning stage of any projects, programs or regulations that effect these populations.
- Support projects with regional significance as opposed to just neighborhood significance.
- Ensure that minority and low-income areas receive a proportionate share of transportation funding based on population.
- Ensure that minority and low-income areas do not receive an inappropriate share of the adverse impacts of transportation projects.
- Make every attempt to involve minority and low-income groups during the public involvement process.
- Periodically review and analyze past actions to determine if, in fact, all groups are being treated equitably.

As previously stated, an important part of the environmental justice process involves determining the location of minority and low-income populations. **Maps 2-3** through **2-5** show the locations of minority persons and **Map 2-6** shows the location of low-income persons. The maps also show the routes of the transit system. The maps help to illustrate that these populations are adequately served by the transit system.

⁹*Environmental Justice & Title VI Considerations Related to Transportation Planning and Transportation Improvements in the Rockford Metropolitan Planning Area, September 2003 and Title VI & Environmental Justice Assessment of the Public Transit Services Provided by the Rockford Mass Transit District in the Rockford Urbanized Area, March 2004.*

SECTION 3

PUBLIC FUNDING

SECTION 3 PUBLIC FUNDING

This section discusses the funding revenue sources for the various transportation modes. Expenditure of the public funds is discussed in the individual sections of the Long Range Transportation Plan (LRTP). At the time of the preparation of this LRTP, the U.S. Congress was still at work in approving legislation that would renew the nation’s surface transportation laws. This renewal bill will impact federal funding of transportation projects. The renewal is expected to have the following affects:

- A strong funding commitment to the core programs established under the Intermodal Surface Transportation Efficiency Act of 1991 and the 1998 Transportation Efficiency Act for the 21st Century.
- A new “Safe Routes to School” initiative.
- Funds for a “Small Starts” program to support small capital projects for rail transit.
- Increased funding commitment to Metropolitan Planning Organizations (MPO).

3.1 Airports

There is one publicly owned airport in the Metropolitan Planning Area (MPA) – Northwest Chicagoland International Airport at Rockford (RFD). RFD is owned and administered by the Greater Rockford Airport Authority. A 30-year estimate of funding for RFD was not undertaken.

It needs to be pointed out that airports operate under planning guidelines imposed by the Federal Aviation Administration (FAA). This LRTP is prepared under guidelines established the Federal Transit Administration (FTA) and Federal Highway Administration. Airport planning efforts are very different from roadway and transit planning. While airports do undertake a Transportation Improvement Plan (TIP) similar to one that is prepared by the Rockford Area Transportation Study (RATS), it is done at the state level as opposed to the MPO level. In addition, airports do not prepare a long-range plan similar to this one. Still, roadway improvements that might be undertaken at or around RFD are coordinated as part of the overall RATS planning efforts. In addition, for the purpose of integration of the transportation system some discussion of public funding of airport improvements is provided below.

The RFD website indicates that over the past few years more than \$170 million has been invested in infrastructure improvements and facilities and the airport is in the midst of a \$13 million airport improvement program. Airport improvements are funded by federal, state and local funds. The federal funds are provided from the Airport Improvement Program, which is generated from taxes and user fees collected from the various segments of the aviation community. State funds are provided from Series B aeronautics Bonds and General Revenue Funds. Local funds come from a variety of sources.

Federally eligible projects are funded with 90% federal, 5% state and 5% local funds. RFD is classified as a Primary Airport by the Illinois Department of Transportation (IDOT) and thus receives entitlement funds based on the number of passengers enplaned. In recent years, RFD received the minimum annual appropriation, \$1 million. However, RFD has recently witnessed an increase in commercial activity. As the number of passengers grows, the entitlement funding should increase.

RFD also receives entitlement funds as a cargo airport. The most recent annual entitlement was \$2.3 million. RFD has also been the recipient of discretionary funds from the FAA; however, the amount of these funds was not provided.

IDOT also administers a state-local funding program; the purpose of this program is to fund airport improvements that have difficulty competing for federal funds. These projects are generally divided 80% state and 20% local. RFD has received these funds, but recent funding levels were not provided. RFD also has several sources of funds that are generated locally. Details on these historic funding amounts were not provided.

3.2 Bikeway/Pedestrian

Generally, funding for bikeway/pedestrian improvements is included with roadway improvements. For this reason, it is difficult to forecast the total amount of funds that will be available for bikeway/pedestrian improvements. Funding of many bicycle/pedestrian improvements comes from the Surface Transportation Program (STP) – Enhancement. It is expected that the use of STP-Enhancement Funds will continue in this fashion. In addition, some bicycle paths, lanes and routes are expected to be constructed along or parallel to roadways when the roadways are improved. Funding for these projects will most likely be taken from same source that is used for the roadway improvement.

In the last few years, Loves Park has annually allocated \$20,000 per year for sidewalk and curb construction and Rockford has annually allocated \$150,000 for sidewalk and curb construction and \$50,000 annually to curb construction for Americans with Disability Act compliance. If this trend continues, over the course of the 30-year period of this LRTP, these two agencies would allocate \$6.6 million to pedestrian improvements.

3.3 Rail

Historically, there has been no public funding of rail projects, since this has been the purview of the private sector. However, **Section 6, Rail**, discusses the recent *Rail Consolidation Study*. Under federal guidelines this LRTP must be financial constrained. This means that projects cannot be listed unless potential funding is available. For planning purposes the *Rail Consolidation Study* is addressed for planning purposes, but is not included as a project within the reach of the date of this LRTP – Year 2035. If financing becomes available the project can be amended into the LRTP.

3.4 Roadways

3.4.1 Capital Funding Sources

Table 3-1 lists and describes the public funding sources that have been recently used for roadway improvements. **Table 3-2** illustrates the funds that were expended from each of these funding sources over the last five years. The numbers are adjusted to Year 2005. For example, \$1 in 2001 had the buying power of \$1.08 in 2005. Therefore, the Year 2001 funds were multiplied by 1.08 to convert to Year 2005. Similarly, \$1 in 2003 had the buying power of \$1.04 in 2005. This table

shows that the average annual public funding for roadway improvements was \$65.5 million over the last five years. The numbers in **Table 3-2** are taken from the last five Transportation Improvement Plans (TIP) prepared by RATS. The revenue projections are provided in Year 2005 dollars. Likewise, the expenditure estimates are based on Year 2005 dollars. Adjustments for inflation and increased funding are taken into account in this fashion. It is assumed that the cost of goods due to inflation and the increased funding levels will balance each other out.

Tables 3-3 and **3-4** illustrate how these funds were used (types of projects) and which agencies had lead agency responsibility. It should be noted that 21% of the funding was dedicated to capacity expansion, new construction and right-of-way acquisition. This number shows how roadway funding is used primarily to preserve the existing transportation system.

Table 3-1 Roadway Public Funding	
Source	Description
Federal	
Bridge Replacement & Rehabilitation Program	Bridge improvements
High Priority Project	Special projects.
Major Bridge Fund	Major or serious bridge repair projects
National Highway System	Funding authorized for improvements on specially designated roadways of national significance
Railroad Safety Funds	Funding available for rail crossings
Surface Transportation Program	STP funds are separated as shown below.
STP-Enhancement	Projects which enhance the beauty of a roadway project improve non-motorized transportation opportunities mitigate for the adverse impacts of more traditional roadway projects or other qualified projects
STP-Hazard Elimination and Safety funds	Projects that improve safety
STP-State	Allocated to Illinois for use on state marked or unmarked routes or other qualified projects at the state's discretion
STP-Urban	Qualified projects at the discretion of Rockford Area Transportation Study and the Rockford Metropolitan Planning Area
State	
Illinois Department of Transportation	Illinois General Funds
Illinois Department of Natural Resources	Roadway and bike path improvements in conjunction with park recreation and natural areas
Local	
General Funds	Unspecified local funding source, usually the jurisdiction's general funds. It could also include County and Township 9123 Bridge Funds.
General Obligation Bonds	Authorized through local government for capital improvements
Motor Fuel Tax	Taxes on gasoline and fuel oil to be used by the state or local governments for roadway improvements. This is also the source for State Bridge Funds
Tax Increment Financing	Funds from Tax Increment Financing Districts set up by local jurisdictions.
Other Local Funds	Miscellaneous sources
Illinois Commerce Commission	Authorized for railroad crossing improvements
Truck Access Route	Funds from Illinois

Table 3-2							
Roadway Funding (1,000s) Five Year (2000-2005) Annual Average*							
Year	2001	2002	2003	2004	2005	Average	Percent
Federal							
HBRRP	2,017	4,228	2,122	286	2,112	2,172	
HPP	786	0	374	0	0	232	
Major Bridge	0	0	0	0	0	0	
NHS	3,253	21,218	2,080	0	7,740	6,891	
RR-Safety	1,109	840	936	459	0	670	
STP-Enhancement	0	1,829	0	2,285	2,240	1,274	
STP-HES	0	62	851	1,713	383	602	
STP-State	7,776	1,716	458	0	240	2,040	
STP-Rural	1,020	1,292	0	587	0	581	
STP-Urban	11,154	2,906	0	0	5,974	4,011	
Subtotal	27,116	34,151	6,820	5,328	18,689	18,473	28%
State							
IDOT	6,288	13,208	10,971	9,313	9,827	9,921	
IDNR	0	95	0	286	280	132	
Subtotal	6,288	13,303	10,971	9,598	10,107	10,053	15%
Local							
General Funds	17,548	13,843	12,782	20,864	17,899	16,608	
GOB	6,322	8,140	13,190	836	17,065	9,123	
MFT	3,592	4,297	4,113	6,169	10,247	5,690	
TIF	0	0	0	0	700	140	
Other local	1,671	0	8,391	3,560	0	2,724	
ICC	648	0	0	1,267	3,690	1,121	
TAR	0	260	0	0	310	114	
Subtotal	30,126	26,540	38,476	40,223	49,911	37,095	57%
Total	63,529	73,895	56,267	55,149	78,707	65,509	
Winnebago County Highway Department adjustment						<7,269>	
Revised Total						58,240	
All numbers are inflation adjusted to Year 2005							

Table 3-3		
Roadway Expenditures by Project Type Five-Year (2000-2005) Annual Average		
Work Type	(1,000's)	Percent
Resurfacing	25,229	39%
Reconstruction	12,831	20%
New Construction	8,305	13%
Intersection Improvement	4,984	8%
Right-of-Way Acquisition	4,983	8%
Engineering	3,457	5%
Rehabilitation	2,248	3%
Other	1,820	3%
Enhancement	1,116	2%
Green Light	453	1%
Utility	83	0%
Winnebago County Highway Department adjustment	<7,269>	
Total	58,240	100%

Jurisdiction	(1000's)	Percent
Rockford	19,516	34%
Illinois Department of Transportation	19,080	33%
Winnebago County	10,169	17%
Tollway Authority	3,486	6%
Boone County	2,295	4%
Belvidere	1,320	2%
Machesney Park	948	2%
Loves Park	495	1%
Winnebago	631	1%
Cherry Valley	300	0%
Total	58,240	100%

It should be noted that adjustment in the total have been made for Winnebago County. The forecasts need to be based on expenditures as opposed to planned or programmed dollars. This is due to the financial constraints on the transportation planning process. During the last few years Winnebago County has submitted planned costs as opposed to expenditures.

3.4.2 Capital Funding Forecast

The average annual expenditure number (\$58.2 million) is used to forecast funding for the roadway system. Over the 30-year period of the LRTP, \$1.747 billion will be available for roadway improvements. This becomes the fiscal constraint for roadways for project forecasting and planning purposes. Of note, the annual average roadway funding used in the Year 2000 LRTP was \$47.4 million (adjusted to Year 2005). Average annual roadway funding has increased 22.8% in the last five years.

Making funding estimates for next year, let alone the next 30 years, is a difficult task. There are unforeseen factors that can cause these sources to change. Near term forecasts are always more accurate than long-term forecasts. Past funding levels may not be a good predictor of future funds.

Indeed, in the five years since the last LRTP was prepared the funding levels have gone up. The changing nature of funding helps to explain the need to update the LRTP every five years. Still, using the sum total of the average expenditures over the last five years is considered the most believable tool for forecasting.

The funding projection is based on the average annual sum total of all funding over the last five years. The average annual sum total is used as opposed to forecasting the individual funding sources, since funding of individual sources is sporadic from year to year. A review of **Table 3-1** will show that there are very few line items that show a good year-to-year trend. In addition, especially with the federal sources, funding that is ample may become nonexistent at some point in the future. Likewise, other funding sources may develop in the future. By averaging all the funding sources, it is assumed that the funds that will increase or decline will balance each other out. The last five years are used in making the average as opposed to a longer period. Recent trends are considered as a better predictor of future funding levels.

Funding projections can be based on past averages or trends. With this LRTP it was decided to forecast based on the sum total average. As previously mentioned, funding is sporadic from year to year. As previously stated, with the individual funding sources, it is difficult to see a consistent year-to-year trend. The total roadway funding does show an increasing trend. However, a projection using trends analysis would show much higher funding amounts in the later years. This would result in an overestimation of the available funding. Thus, it was decided to use sum total average in making the future projection.

Finally, the Illinois State Tollway Authority (Tollway) has begun a long-range effort to modernize and rebuild much of the Tollway system in Illinois. The Tollway funding is not included in the above funding projections since this is a one-time major expenditure that should not be applied to annual average estimates. The Northwest Tollway improvements will begin in 2005 and continue through 2011. The total expenditure amount in the Rockford MPA is estimated at \$462 million. This would bring the 30-year public funding total for the Region to \$2.2 billion.

3.4.3 Operating Funds

RATS has not historically reviewed and made forecast of roadway system operation and maintenance costs due to the complexity of undertaking such an effort. There are varied and numerous things that would have to be considered with operation and maintenance costs, including:

- Highway patrol and related law enforcement
- Accident investigation and management
- Traffic data collection and analysis
- Street sweeping
- Pothole repair
- Striping and lane marking
- Signal maintenance and timing
- Roadway signing
- Sidewalk and alley repair
- Maintenance and administration
- Storm sewer and detention pond construction/maintenance
- Snow removal
- Mowing and weed control
- Trash and debris pickup/disposal

Undertaking a review of all these costs and performing a forecast of future funding needs is beyond the scope of this LRTP. Subjectively, however, judging from the professional opinion of local public works officials and local public attention and complaint levels, the existing transportation system within the Rockford MPO planning boundaries is being adequately operated and maintained with the revenue sources that are provided through federal, state and local jurisdictions. Adequate maintenance means two things:

- The system is, at all times, being maintained from the standpoint of safety.
- The efforts are being put forth in a conscientious and timely manner so as to extend the useful life of the system and its components.

3.5 Transit

The Rockford Mass Transit District (RMTD) is the main provider of transit services in the Rockford MPA. Several private non-profit organizations receive federal and state funding for providing demand response service, but; the amounts are generally very small and not covered in this LRTP.

3.5.1 Fund Sources

RMTD funding is primarily funded through a combination of federal and state subsidies. Local subsidies are also received from the Rockford, Loves Park, Machesney Park, Belvidere and Boone County. RMTD also generates revenues from transit fares and advertising on the buses. Funding sources are separated for capital and operating sources. **Tables 3-5** and **3-6** show the capital (i.e. buses, equipment and structures), operating funds and funding sources for the Years 2001-2005.

3.5.1.1 Federal

The FTA administers the federal funding programs.¹⁰ The main source of federal financial support for capital funds has been the Section 5307 program that provides urbanized area formula grants. This program allocates subsidies to eligible public transit agencies based on a formula that divides congressional apportionments according to population, population density, and the total revenue vehicle miles of public transit service provided in the area.

Section 5309 funds have been awarded for unique capital equipment or facilities need. These funds are awarded on a discretionary basis, that is, no apportionment formula is used like the Section 5307 funds. The RMTD must compete with other transit agencies in an effort to obtain these funds. The funds are awarded only for well-documented needs that cannot be met from other sources. Support from the IDOT Division of Public Transportation is needed to secure these funds.

Section 5310 funds are formula grants and loans for special need of elderly individuals and individuals with disabilities. These funds are available to RMTD and public or private not-for-profit agencies serving those people whom, for reasons of age or disability, cannot be adequately service by regular transit. RMTD has benefited from several 5310 grants over the last two decades, but has not made use of this funding in recent years.

3.5.1.2 State

IDOT provides considerable funding for local transit. In past years, IDOT has funded over 50% of the transit operating funding. IDOT has also provided most of the local match (usually 20%) required for capital projects. IDOT also administers the FTA Section 5310 and provides large parts of the matching funds for those awards.

3.5.1.3 Local

RMTD receives local subsidies, primarily for operating expenses, but sometimes for limited capital

¹⁰CFR Title 49, Transportation, Chapter 53, Mass Transportation.

needs. Rockford, Loves Park and Machesney Park provide funding to RMTD in exchange for services within their respective corporate limits. Local funding has no set formula or share proportion but is appropriated based on need and in the interest of maintaining existing service levels. In addition, fare box revenue creates a funding source for the RMTD.

3.5.2 Capital Funding Forecast

Table 3-5 shows the capital funding sources for the RMTD for the period 1995-2004 adjusted to Year 2005 dollars. They represent funds received during the fiscal year as opposed to expenditures. On average, the federal government has contributed 70.5% of the capital needs of the RMTD while the state and local sources have contributed 29.5%. As with roadways, the historic average is used to determine the capital funding availability for the next 30 years. Over the next 30 years the RMTD will have \$38.6 million in capital funds available.

This average is used to project future funding levels for the next 30 years. It should be obvious that funding is highly dependent on the federal and state governments. Still, this provides a valid number for financial planning purposes. However, given that it is a forecast, it is important to recognize the importance of updating the LRTP every five years.

In July 2000, RMTD took over service that was previously provided by the Loves Park Transit District (LPTD). LPTD ceased operation and the RMTD took over transit operations in Loves Park and Machesney Park. The RMTD also took over responsibility of the LPTD capital program (not reflected in the above table).

Year	Federal			Subtotal	IDOT	Municipal	Total
	Sec. 5309	Sec. 5307	Other FTA				
1995	1,798,686	399,234		2,197,920	643,932		\$2,841,852
1996	0	95,558	0	95,558	23,500	28,925	147,982
1997	179,200	353,405	0	532,604	85,332	1,747	619,684
1998	0	84,499	200,323	284,821	78,235	13,207	376,263
1999	845,556	1,838,686	0	2,684,241	867,376	1,541	3,553,158
2000	581,684	370,965	0	952,650	1,579,470	28,432	2,560,551
2001	0	170,900	0	170,900	89,401	4,703	265,005
2002	0	0	0	0	23,295	2,135	25,430
2003	0	0	75,228	75,228	88,395	1,150	164,773
2004	0	1,993,924	85,489	2,079,413	213,775	15,507	2,308,695
Averages:				907,334	369,271	10,816	1,286,339
Percent:				70.5%	28.7%	0.8%	

Source: Rockford Mass Transit District Form 103. Amounts are based on a fiscal year, July to June, and adjusted to 2005 dollars.

3.5.3 Operation Funding

Table 3-6 illustrates the RMTD operating funding sources and amounts received over the last ten years. Several things are of note. IDOT is the most important source of operating funds. Rockford, Loves Park and Machesney Park continue to be strong supporters of the RMTD. As mentioned

above, the RMTD took over the LPTD program in 2000. The table shows operating funds have increased after 2000. This appears to be a result of an increase in funding from the federal government and, to a lesser extent, additional funds received from Loves Park and Machesney Park. The operating funds that were previously apportioned to the LPTD are not included in the table.

Year	Rockford Mass Transit District Generated			Federal			IDOT	Local	Total
	Passenger Fares	Directly Generated	Subtotal	Section 5309	Section 5307	Subtotal			
1995	885,941	447,342	1,333,283	983,803	0	983,803	2,821,638	1,422,698	6,561,421
1996	1,014,746	214,844	1,229,590	498,281	0	498,281	2,786,407	1,739,210	6,253,488
1997	1,054,742	144,569	1,199,311	489,976	0	489,976	2,765,693	1,245,114	5,700,094
1998	1,038,402	138,905	1,177,307	89,411	372,428	461,839	2,818,543	1,368,088	5,825,778
1999	1,022,941	134,080	1,157,021	0	580,258	580,258	3,037,296	1,199,550	5,974,125
2000	974,770	115,926	1,090,696	0	415,140	415,140	3,279,963	1,419,497	6,205,296
2001	1,031,220	126,228	1,157,448	0	608,688	608,688	3,795,231	1,352,917	6,914,284
2002	1,035,225	105,254	1,140,479	672,721	101,712	774,433	4,217,067	1,650,858	7,782,837
2003	1,056,167	61,195	1,117,361	958,250	358,181	1,316,431	4,533,987	1,578,190	8,545,969
2004	987,560	61,692	1,049,252	0	917,125	917,125	4,659,003	1,619,423	8,244,803
Average:			1,165,175			704,597	3,471,483	1,459,555	6,800,809
Percent:			17.1%			10.4%	51.0%	21.5%	

A forecast of operating needs is not included in this LRTP. No major initiatives are planned for the RMTD. It is expected that the RMTD will continue to operate similar to the past, and sound fiscal management will be implemented. Therefore, as long as the federal and state funding is provided the RMTD should be able to provide service as it has in the past. The east side transfer facility may provide an opportunity to expand service. However, the expansion of service on the east side of Rockford and into Boone County remains unknown at this point.

SECTION 4

AIRPORTS

SECTION 4 AIRPORTS

4.1 Introduction and Background

There are three airports located in the Rockford Metropolitan Planning Area (MPA): Northwest Chicagoland International Airport at Rockford (RFD), Poplar Grove and Cottonwood. In addition, there are three airports located within two-hours driving time from the Rockford MPA that serve the residents of the MPA.

4.1.1 Northwest Chicagoland International Airport at Rockford

RFD is a commercial passenger and cargo airport that serves the Rockford MPA, as well as Northern Illinois. It is situated on 2,900 acres located in the southern part of Rockford. RFD is municipally-owned and operated by the Greater Rockford Airport Authority (GRAA). The GRAA is led by a Board of Commissioners with seven members appointed as listed below. Commissioners are appointed for a term of five years.

- Mayor of Rockford – three members
- Winnebago County Board Chairman – two members
- Mayor of Loves Park – one member
- Village President of Machesney Park – one member

RFD has two runways that allow instrument landings as described in **Table 4-1** and is a major airport that provides cargo, commercial, general aviation, and maintenance services. Aircraft based at RFD include 52 single-engine, 25 multi-engine, 15 jets and one helicopter for a total of 93. Year 2003 operations involved 11,472 carrier; 4,017 taxi; 24,050 General Aviation (GA) local; 39,895 GA itinerant and 4,385 military for a total of 83,819 operations.

Table 4-1		
Northwest Chicagoland International Airport at Rockford Runways		
Description¹	Dimensions	Instrument Landing System
1/19	8,200' x 150'	Category I
7/25	10,000' x 150'	Category III

Commercial passenger service at RFD recently has begun to expand. Air passenger enplanements grew during the late 1980's; reached a peak of 110,503 in 1991; and then began to decline. In Year 2000, there was only one commercial airline, Northwest AirlinK (an affiliate of Northwest Airlines) with 26,524 passenger enplanements. The Year 2003 enplanements declined to 16,982 and Northwest AirlinK left RFD. Shortly after, however, TransMeridian Airline initiated service.

Subsequently, several additional commercial airlines have begun operations to the destinations as shown in **Table 4-2**. The commercial service has been related primarily to vacation and charter service. Recently, the growth has been dramatic. Year 2004 passengers are expected to be approximately 100,000 (50,000 enplanements); and by year-end 2005 this number is expected to

¹The description refers to compass headings. A compass has 360 degrees with 0 degree being north and 180 degree being south. Runway 01/19 would be approached from either 10 degrees or 190 degrees.

increase to 200,000 (100,000 enplanements). (See **Section 4.2.2.3, Activity/Enplanement Forecasts.**)

Airlines	Direct Connections
TransMeridian	Las Vegas, Orlando, San Juan and Puerto Rico (seasonal)
Vacation Express	Charter service to Caribbean, Costa Rica and Mexico
Hooters Air	Atlanta, Denver and Las Vegas
SunShip 1	Cancun (seasonal) and Puerto Vallarta (seasonal)
Northwest Airlines	Detroit

RFD has an important role as a cargo facility that continues to show signs of growth. In 2003, RFD was the 23rd largest cargo airport in the U.S. when measured by landed weight. This is a gain from the 26th position when the Long Range Transportation Plan was updated in Year 2000. This cargo role comes primarily from the presence of United Parcel Service (UPS). RFD accommodates the second-largest sorting facility in the UPS system. Other cargo carriers and parcel distribution firms include, Airborne Express, BAX Global, Federal Express, Emery Worldwide Air Charter and Landstar Inway. Forecasts are described in **Section 4.2.1.6, Rockford Cargo Forecasts.**

RFD is home to Foreign Trade Zone (FTZ) 176 and is a U.S. Customs Port of Entry. An FTZ is a specially designated area, in or adjacent to a U.S. Customs Port of Entry, which is considered to be outside the Customs Territory of the U.S. Within this designated area, foreign and domestic merchandise may be stored, repackaged, manipulated, manufactured, destroyed or otherwise altered or changed and re-exported without the usual formal customs entry procedures and payment of duties and taxes.

4.1.2 General Aviation Airports

Poplar Grove Airport is a GA public-use airport that is privately owned by Steve R. Thomas. This airport has witnessed some dramatic growth in the last 10 years. In 1994 there were 45 aircraft based at the airport. Year 2003 statistics indicate that airport had the following aircraft: 427 single-engine, 23 multi-engine and two helicopters. Year 2003 operations involved 48,000 GA local, 18,000 GA itinerant for a total of 66,000 operations. The Poplar Grove Airport has three runways, as listed in **Table 4-3.** In Year 2004, 58 new hangars were constructed. In the next few years, the paved runway will be resurfaced and the runway lighting upgraded. The airport includes an adjacent airpark known as “Bel Air Estates” with 140 residential sites that will be expanded by 180 residential sites in the near future. Many of the sites have access to the airport via taxiways. The airport includes a museum called “Vintage Wings and Wheels Museum”, which was established to preserve history and educate youth about the significant contributions made by winged and wheeled vehicles.

Cottonwood Airport is a GA airport that is privately owned by Cottonwood Corporation but is a public use facility. It is located in northwest Rockford and has one 2,540-foot turf runway (18/36) that is lighted. Aircraft based at Cottonwood include 35 single-engine, two helicopters and six ultralights. Year 2003 operations involved 6,000 GA local and 3,000 GA itinerant for a total of 9,000 operations.

Description	Dimensions	Surface
12/30	3,773' x 50'	Asphalt/Lighted
9/27	2,709' x 200'	Turf
17/35	2,467' x 150'	Turf

4.1.3 Other Major Airports

The MPA is located within a two-hour drive of three major airports: O'Hare International Airport (ORD) and Midway International Airport (MDW) in Chicago and General Mitchell International Airport (MKE) in Milwaukee. Based on Year 2003 statistics, these airports were ranked 2nd, 26th and 49th (respectively) based on passenger enplanements, in the U.S. The precise number of Rockford MPA residents that utilize these three airports is not known. However, ORD is the closest of the three to the MPA and provides direct and connecting service, with great frequency, to many parts of the world. As such, it has an important economic and transportation impact and most likely attracts the preponderant share of Rockford MPA passengers.

4.2 Northwest Chicagoland International Airport at Rockford

4.2.1 Air Cargo

Air cargo traffic consists of domestic and international freight, express and mail. In general, the demand for air cargo is derived from production, trade and economic activity. The recent rapid growth of global trade and production has accelerated that demand. Air cargo is transported, primarily, by two means: in the bellies of passenger aircraft; and in dedicated all-cargo aircraft. Service is both scheduled and non-scheduled.

4.2.1.1 Air Cargo Industry Structure

The attacks of September 11 were a time of great upheaval for the cargo industry. Predictions about the industry's recovery were mixed. But many of the industry changes that were forced by September 11 already were underway. Major factors include:

- Belly cargo was declining due to the increased use of narrow-body passenger aircraft.
- All-cargo airlines were increasing share and volume of cargo carried.
- Increased global trade and just-in-time delivery of production parts had created conflicts at many of the larger hub airports with constrained capacity.
- The cargo industry was expanding at secondary airports.

4.2.1.2 National Trends and Forecasts

According to the latest aerospace forecasts (2005-2006) of the Federal Aviation Administration (FAA), "the recovery in U.S. cargo activity occurred somewhat earlier and has been stronger than that of passenger traffic...U.S. air carrier cargo revenue ton miles (RTM) increased 4.8% in 2004, 3.8% in domestic markets and 5.5% in international markets". 67% of this cargo activity was transported by all-cargo carriers in 2004. All-cargo carriers transported 75.9% of domestic RTM

and 59.7% of international RTM. This was a rapid rise from the 70.0% and 49.3%, respectively, in 2000.

Both total RTM and all-cargo carrier share forecasts are considerably larger than forecast for the same period (2013) only three years ago. Total RTM will be 15.2% greater than previously forecast; and all-cargo share will be 68.8% versus the 62.8% of the earlier forecast. This rapid recovery from the devastating attacks of September 11 attests to the strength and increasing volume of the air cargo market. Much of the recovery is attributable to the industry move to all-cargo carriers, a move that minimizes the dampening effects of increased security procedures that affect air passenger movements.

Table 4-4 is a copy of Table 21 from the latest FAA forecasts; it shows recent data (1999-2004) and forecasts for 2005-2016 for all-cargo, passenger carrier and total cargo RTM for the nation. Over the 11-year forecast period, total RTM grow by 5.1% per year, from 35.1 billion tons in 2004 to 63.8 billion tons by 2016. This forecast amount nearly doubles the current (2004) RTM.

4.2.1.3 National Trends and Comparable Supplemental Airports

The nation's major air cargo airports are its coastal cities (Los Angeles, New York, Miami, Newark, and Atlanta) and its mid-continental entry and transfer points (Chicago, Louisville, Memphis, Indianapolis, Cincinnati). The former airports are gateways to airlines that carry cargo, both in all-cargo aircraft, and in belly space in passenger planes. The latter airports include hubs for hub-and-spoke operations of major package integrators (Federal Express, UPS and DHL). ORD is unique because it provides both gateway and hub-and-spoke operations for passenger and cargo traffic.

Chicago's exceptional location and attraction as both an entry and hub and spoke center for both passenger and cargo has brought its major airport, ORD, to capacity. Flight delays, runway conflicts and expansions of passenger operations into traditional nighttime cargo operations, have caused a shift in those cargo operations to smaller, less-crowded airports in the Midwest. RFD, along with Indianapolis, Louisville and Cincinnati, were major beneficiaries of this transfer. Between 1993-1998, RFD grew from an airport that went from being ranked 651st to 30th in the U.S. in cargo transport; making it the fastest growing cargo airport in the U.S. In 2003 and 2004, its rank hovered between 23rd and 26th, when nearly all of its 175,000 tons of cargo was carried in all-cargo carriers.

The move to smaller airports within large markets has become a significant trend, over the past several years, as capacity constraints and conflicts increased and cargo traffic growth accelerated.

RFD was a logical supplemental facility to the Northern Illinois market. Both Oakland and Ontario Airports have grown, recently, to supplement the major airports of San Francisco and Los Angeles, respectively. In July 2004, the expansion of Brussels-based DHL, a competitor to Federal Express and UPS, involved the development of the Wilmington Air Park, a former Air Force Base, approximately 46 miles northeast of Cincinnati. Consolidation and relocation of its operations from the Cincinnati Airport, in DHL's words, would "free DHL from sharing runways with other organizations' planes, as well as paying airport fees".

Fiscal Year	All-Cargo Carriers (millions)			Passenger Carriers (millions)			Total (millions)		
	Domestic	International	Total	Domestic	International	Total	Domestic	International	Total
1999	9,756.7	7,328.1	17,084.8	4,218.2	6,798.8	11,017.0	13,974.9	14,126.9	28,101.8
2000	10,283.5	7,568.2	17,851.7	4,415.3	7,789.6	12,204.9	14,698.8	15,357.8	30,056.6
2001	9,992.3	7,370.4	17,362.7	3,941.7	7,176.6	11,118.3	13,934.0	14,547.0	28,481.0
2002	9,629.9	8,202.1	17,832.0	3,337.4	6,594.0	9,931.4	12,967.3	14,796.1	27,763.4
2003 ³	10,450.7	11,766.8	22,217.5	3,819.1	6,775.1	10,594.2	14,269.8	18,541.9	32,811.7
2003 ⁴	11,153.3	11,766.8	22,920.1	3,819.1	6,775.1	10,594.2	14,972.4	18,541.9	33,514.3
2004	11,789.6	11,682.8	23,472.4	3,752.0	7,884.0	11,636.0	15,541.6	19,566.8	35,108.4
2005	12,301.6	12,535.2	24,836.8	3,841.5	8,345.8	12,187.3	16,143.1	20,881.0	37,024.1
2006	12,788.6	13,427.8	26,216.4	3,917.9	8,819.8	12,737.7	16,706.5	22,247.6	38,954.1
2007	13,273.3	14,356.8	27,630.1	3,988.6	9,302.8	13,291.4	17,261.9	23,659.6	40,921.5
2008	13,777.6	15,346.3	29,123.9	4,060.1	9,809.6	13,869.7	17,837.7	25,155.9	42,993.6
2009	14,291.8	16,403.6	30,695.4	4,129.3	10,343.1	14,472.4	18,421.1	26,746.7	45,167.8
2010	14,817.3	17,539.9	32,357.2	4,196.5	10,909.2	15,105.7	19,013.8	28,449.1	47,462.9
2011	15,361.2	18,744.4	34,105.6	4,263.6	11,499.2	15,762.8	19,624.8	30,243.6	49,868.4
2012	15,918.1	20,017.2	35,935.3	4,328.9	12,111.9	16,440.8	20,247.0	32,129.1	52,376.1
2013	16,484.9	21,379.9	37,864.8	4,391.4	12,758.6	17,150.0	20,876.3	34,138.5	55,014.8
2014	17,071.9	22,869.3	39,941.2	4,453.7	13,459.3	17,913.0	21,525.6	36,328.6	57,854.2
2015	17,679.1	24,415.5	42,094.6	4,515.5	14,170.5	18,686.0	22,194.6	38,586.0	60,780.6
2016	18,307.0	26,037.7	44,344.7	4,576.8	14,902.0	19,478.8	22,883.8	40,939.7	63,823.5

*Source: Form 41, United States Department of Transportation.

Table 4-5 shows comparative freight data for RFD and several comparable airports that have grown or expanded rapidly in cargo operations over the past decade. These airports include:

Year	Freight (tons)	Freight and Mail	Landed Weight
Rockford (RFD)			
1993	NA	NA	NA
1994	NA	NA	183,455,125
1995	NA	NA	611,693,820
1996	1,163	1,174	879,887,385
1997	25,740	25,745	1,247,241,695
1998	121,516	121,533	1,258,872,945
1999	124,832	124,832	1,286,642,730
2000	200,000	219,832	NA
2001	200,000	213,901	1,361,433,007
2002	190,000	194,042	1,260,688,390
2003	170,000	176,500	1,242,390,680
2004	170,000	175,500	1,271,605,264
Huntsville			
1994	NA	22,953	237,606,032
1995	NA	28,512	193,412,145

²Includes freight/express and mail Revenue Ton Miles.

³Domestic figures from 1999 through this line exclude Airborne Express, Inc. International figures for 2003 and beyond include new reporting of contract service by United States carriers for foreign flag carriers.

⁴Domestic figures from this line and beyond include Airborne Express, Inc.

Table 4-5 – continued			
Year	Freight (tons)	Freight and Mail	Landed Weight
Huntsville – continued			
1996	NA	28,211	160,173,284
1997	NA	38,900	272,252,516
1998	NA	47,656	351,738,490
1999	NA	53,173	459,673,789
2000	NA	66,620	NA
2001	NA	64,462	488,596,254
2002	NA	66,782	496,612,012
2003	NA	60,504	436,937,165
2004	NA	60,504	NA
Louisville			
1993	8,192	22,231	NA
1994	10,573	27,901	6,944,578,000
1995	8,768	29,924	6,890,901,500
1996	10,565	30,606	6,903,008,000
1997	181,723	201,407	6,940,291,000
1998	733,379	752,273	7,155,575,000
1999	783,034	796,760	7,614,762,500
2000	834,870	851,994	NA
2001	1,153,045	1,207,575	8,052,720,760
2002	893,342	937,236	8,403,069,500
2003	NA	NA	8,344,890,140
Toledo			
1993	113,872	119,734	NA
1994	109,567	110,917	1,668,339,200
1995	48,491	49,694	1,707,054,455
1996	211,866	212,118	1,688,755,887
1997	190,729	192,683	1,918,697,320
1998	179,492	181,974	2,097,561,023
1999	133,294	135,961	1,962,509,440
2000	104,095	105,444	NA
2001	74,441	86,755	1,152,676,580
2002	84,387	89,888	945,003,900
2003	NA	NA	921,464,100
Oakland			
1993	122,621	138,029	NA
1994	139,191	171,866	2,598,214,771
1995	NA	NA	2,911,682,180
1996	183,502	227,010	3,184,492,460
1997	NA	NA	3,472,115,680
1998	250,730	357,562	3,566,844,010
1999	NA	NA	3,537,913,672
2000	251,515	334,661	NA
2001	NA	NA	3,277,540,330
2002	278,199	340,687	3,492,727,930
2003	NA	NA	3,389,205,000
Ontario			
1993	17,205	32,014	NA
1994	21,907	39,208	1,821,654,540
1995	NA	NA	2,131,339,570
1996	6,201	56,886	2,330,573,670
1997	NA	NA	2,435,375,890

Table 4-5 – continued			
Year	Freight (tons)	Freight and Mail	Landed Weight
Ontario – continued			
1998	217,981	259,153	2,523,343,702
1999	NA	NA	2,502,806,850
2000	214,947	262,730	NA
2001	NA	NA	2,582,804,587
2002	287,204	367,623	2,887,626,050
2003	NA	NA	2,675,116,110

4.2.1.4 The Relationship to Chicago O’Hare International Airport

From 1990-2000, domestic and international freight and mail tonnage handled by ORD grew by 50.1%; the national growth was 81%. The recovery of the cargo industry, nationally (from 2000-2004) was better than expected, at 16.8%. Growth, over the same period, at ORD, was much lower, at 6.6%. This lower growth rate reflects the capacity challenges of ORD for accommodating the Region’s historic share of domestic and international freight and mail. **Table 4-6** shows the growth of domestic and international freight and mail tonnage at ORD from 1990-2004. The cargo growth at ORD is used as a surrogate for the Northern Illinois Region.

Table 4-6 Chicago O’Hare International Airport Freight and Mail Tonnage				
Year	Domestic	International	Total	% of United States
1990	738,350	349,493	1,087,843	6.67%
1991	706,318	382,195	1,088,513	NA
1992	839,374	390,080	1,229,454	6.90%
1993	840,718	423,362	1,264,080	5.32%
1994	863,509	521,104	1,384,613	6.67%
1995	819,972	542,341	1,362,313	5.86%
1996	824,956	564,084	1,389,040	5.17%
1997	882,687	668,919	1,551,606	5.45%
1998	896,655	693,012	1,589,667	5.62%
1999	890,559	797,358	1,687,917	5.71%
2000	816,447	824,077	1,640,524	5.46%
2001	611,796	802,038	1,413,834	4.96%
2002	601,836	834,550	1,436,386	5.17%
2003	689,331	912,405	1,601,736	4.78%
2004	629,020	1,056,788	1,685,808	4.76%

Sources: City of Chicago, Landrum & Brown (1990-2000)

Due to its capacity constraint, ORD has opted to prioritize its handling of international cargo. It has kept pace with or exceeded the national growth of international cargo, both in the decade 1990-2000, and in the subsequent four-year period. On the other hand, its ability to handle domestic cargo has eroded sharply, particularly since 1999 and 2000. **Table 4-7** shows the growth rates for domestic and international cargo for the U.S. and at ORD for 1990-2000 and 2000-2004.

Type	Total 1990-2000	Annual Rate	Total 2000-2004	Annual Rate
United States				
Domestic	63	5	6	1.5
International	110	7.7	27	6.4
Total	84	6.3	17	4
Chicago O’Hare International Airport				
Domestic	11	1	-23	-6.3
International	136	9	28	6.4
Total	51	4.1	7	1.7

4.2.1.5 Rockford Cargo Growth

If ORD had been able to accommodate domestic cargo at the national rate, during the 1990-2000 period, it would have grown from 738,350 tons to 1,203,510 tons, a growth of 465,160 tons; instead it grew by only 78,100 tons. The implication is that 387,060 tons was not accommodated. Over the same period, RFD freight and mail tonnage grew from nothing to 220,000 tons. RFD growth helped staunch the loss of air cargo service in Northern Illinois; it accommodated nearly 57% of the cargo growth that would have gone unaccommodated and eventually would have gone elsewhere.

The UPS air hub is the driving force behind the growth of RFD. The air hub was constructed in 1994 as a key component in the global UPS network. As the largest regional air hub in the country, RFD is the only facility of its type that handles cargo going coast to coast. RFD permits round-the-clock operations. In addition to UPS, RFD is served by several other parcel distribution services:

- Emery Worldwide Air Charter
- Landstar Inway
- Airborne Express
- BAX Global
- Federal Express

Since 2000, RFD has not recovered quite as well as ORD has in total cargo tonnage. Recently, however, RFD was “in the running for a new UPS sorting hub that could bring up to 1,000 new jobs”.⁵ This was due to UPS closing its sorting hub at Dayton. In spite of the considerable advantages of RFD, including a central U.S. location, available space, and being UPS’s second largest hub in terms of cargo freight handled, UPS has decided to relocate the largest part of its hub operation to Louisville; the deciding factor may be the \$20 million in incentives that Kentucky was willing to invest in the \$82.5 million UPS facility. However, UPS has decided to split the remainder of its activities among five airports with existing UPS facilities. The fact that a sizable portion of the UPS facility is to be relocated to RFD is a good indication of the strength of RFD.

Consequently, the factors that made RFD a strong candidate for UPS’s sorting facility remain. A 70,000 square-foot heavy freight (over 150 pounds) facility both from the Dayton relocation and as an expansion will come to RFD in 2006, along with 50-75 jobs. Furthermore, the RFD location and

⁵Rockford Register Star, 2/25/05.

site advantages are significant for additional air cargo development. For instance, Northwest Airlines passenger service, beginning May 2, 2005, also will bring air cargo to RFD; a new air cargo apron is being built to handle it. Other incentives for cargo development include: a U.S. Customs Port of Entry, an FTZ (176), and public warehousing. In addition, the rail freight facilities (Global III) of Rochelle, Illinois (20 miles to the south) give RFD an excellent multi-modal potential. Rochelle, Illinois, with its Center Point Development, is a major destination for trucks and has FTZ status from RFD.

4.2.1.6 Rockford Cargo Forecasts

Over the coming 25-year period, the consultants for the ORD expansion have estimated that ORD will be unable to accommodate, not only its past share, but also its current share of national air cargo. As air cargo shifts increasingly to all-cargo aircraft, ORD will see larger portions of its cargo unaccommodated. This unaccommodated cargo tonnage is likely to be predominantly all-cargo-carried domestic freight that can be distributed, like express packages, by truck; as overall all-cargo operations expand, international cargo will become a larger part of the mix, with distribution by both truck and rail. However, even international growth at ORD is constrained or limited. The GRAA has indicated that a major international cargo company at ORD currently is considering a development at RFD, where landside, as well as airside capacities exists.

Table 4-8 shows the existing and forecast all-cargo carried tonnage at an unconstrained ORD. It is assumed that a portion of the past-unaccommodated tonnage from ORD has gone to RFD. As the unaccommodated tonnage grows, some will be lost; but two major airports serving the central Region will carry much of the growth. The estimate of unaccommodated cargo has been divided into two segments: that destined to the North Region (Rockford); and that destined to the South Region (South Suburban). Because construction of the South Suburban Airport is not expected to be complete before 2008, RFD alone will accommodate the excess.

Year	Tons	Ops	Tons	Ops	Tons	Ops
	Domestic		International		Total	
1990	196,372	11,318	NA	3,522	196,372	14,840
1995	331,238	16,339	NA	1,999	331,238	18,338
2000	452,860	17,870	141,455	6,106	594,315	23,976
2001	347,125	15,222	178,641	5,883	525,766	21,105
2002	389,340	13,638	193,386	7,152	582,726	20,791
2003	440,765	13,493	211,888	7,763	652,653	21,257
2004	435,806	13,111	255,761	8,301	691,567	21,412
2008	661,672	20,000	451,503	14,600	1,113,175	34,600
2010	671,500	24,450	500,100	18,160	1,171,609	42,610
2012	787,742	28,678	531,744	19,309	1,319,486	47,987
2015	936,870	33,200	735,610	26,040	1,672,480	59,240
2020	1,113,350	37,490	1,039,400	34,860	2,152,750	72,350
2025	1,541,700	48,300	1,840,000	52,600	3,381,700	100,900
2030	1,809,430	56,700	2,352,270	67,210	4,161,700	118,910

Table 4-8 – continued						
Year	Tons	Ops	Tons	Ops	Tons	Ops
	Unaccommodated		South Region		North Region: Rockford	
1990	NA	NA	NA	NA	NA	NA
1995	NA	NA	NA	NA	439	22
2000	NA	NA	NA	NA	219,832	11,000
2001	NA	NA	NA	NA	213,901	10,700
2002	NA	NA	NA	NA	194,042	10,500
2003	NA	NA	NA	NA	176,512	9,800
2004	NA	NA	NA	NA	175,520	9,800
2008	155,700	5,190	104,300	3,475	226,900	8,500
2010	162,000	5,400	110,000	3,650	279,000	9,800
2012	309,000	10,230	210,000	7,000	378,000	13,000
2015	662,000	18,480	450,000	12,500	484,000	16,000
2020	1,143,000	31,600	760,000	21,200	675,000	18,750
2025	2,372,000	60,140	1,600,000	40,000	1,060,000	26,500
2030	3,152,000	78,140	2,100,000	52,000	1,575,000	39,000
2035	NA	NA	NA	NA	2,100,000	51,000

* Enplanes plus deplaned cargo.

Sources:

- 1990-2000 ORD data based on City of Chicago statistics and Landrum and Brown estimates.
- 2000-2004 Northwest Chicagoland International Airport at Rockford supplied data, unaccommodated based on forecast minus actual.
- 2001-2004 data based on City of Chicago statistics and ACG estimates.
- 2002-2012 tonnage forecasts based on Federal Aviation Administration 12-year national forecasts, maintained City of Chicago share of national cargo; blended forecast of Federal Aviation Administration and City of Chicago all cargo growth; operations based on past trends and extrapolations of gauge and lift.
- 2008-2015 South Region based on assumptions of 67% of unaccommodated, with balance added to Northwest Chicagoland International Airport at Rockford forecasts; 2015-2030, one-half balance added to Northwest Chicagoland International Airport at Rockford.
- 2008-2030 unaccommodated based on Chicago O’Hare International Airport capacity at 170%.
- 2015-2025 freight and express tonnage forecasts based on Federal Aviation Administration long-range forecasts adjusted to 2002-2013 forecasts and extrapolated to 2030; maintained City of Chicago share; extrapolated all cargo growth; operations based on extrapolation of gauge and lift.

Note: In 2000, Northwest Chicagoland International Airport at Rockford handled approximately 135,000 or 220,000 (depending on sources) tons of all-cargo freight and is forecasted to grow, with growth independent of the Chicago market. In 2004, Northwest Chicagoland International Airport at Rockford handled approximately 175,500 tons of all-cargo freights.

The forecast shows RFD doubling in tonnage carried by 2012 and more than tripling by 2015. Operations will increase by 33%, by 2012 and by 66% by 2015, due to the use of larger freighters (see **Figure 4-1**).

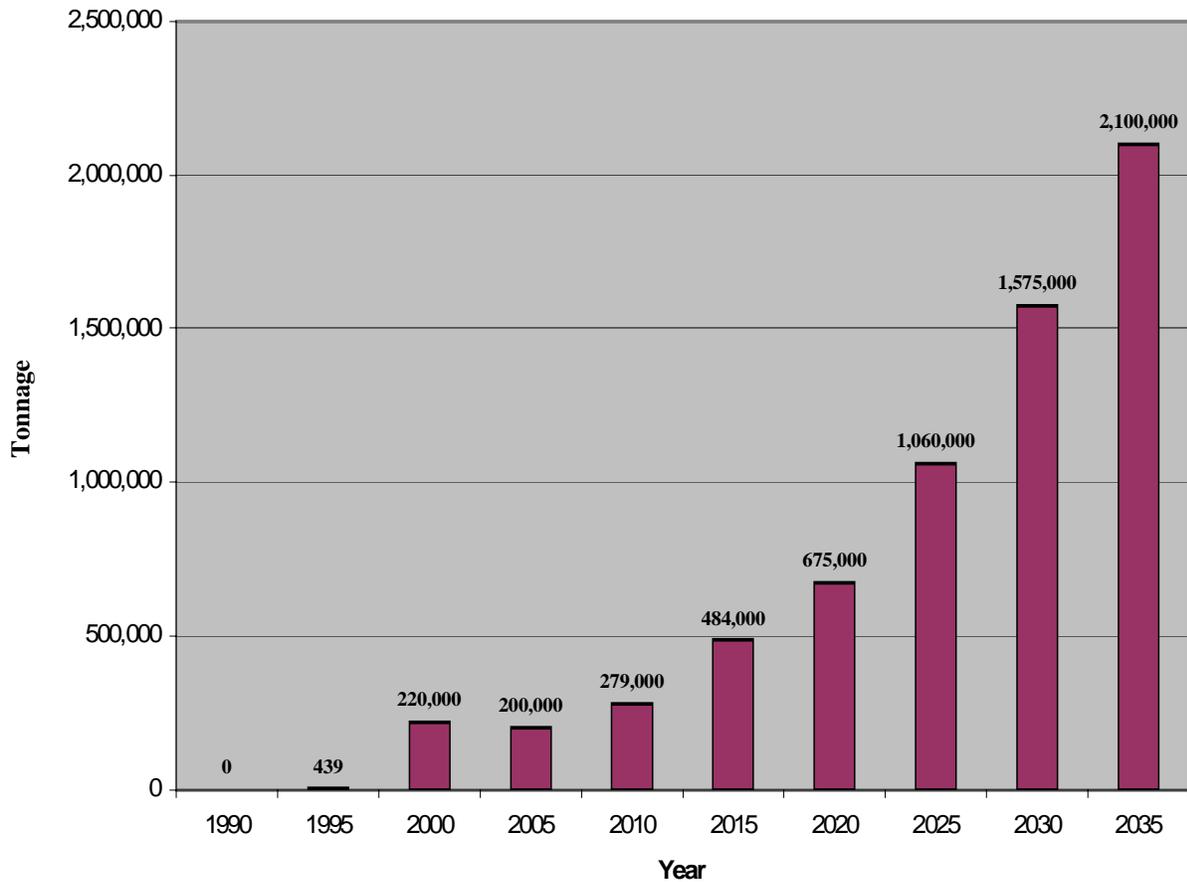


Figure 4-1 - Existing and Forecast Air Cargo Tonnage at Northwest Chicagoland International Airport at Rockford.

4.2.1.7 Rockford Global Trade Park

The Rockford Global Trade Park is an industrial redevelopment planning area located, primarily, in the southwestern portion of Rockford. It extends beyond, but adjacent to, RFD and two existing Tax Increment Financing districts. It is composed primarily of “older industrial properties” and vacant parcels “that have failed to attract new development.”

The growth of RFD, as a major air cargo and sorting hub, plus the development of the intermodal rail facility (Global III) at Rochelle, can be major inducements to development both of freight handling and of just-in-time industrial developments. The availability of developable land, well-located in respect to these facilities, as well as to the overall central location of goods movements in the U.S. and Canada, can be a significant incentive for related development to locate in the Rockford Global Trade Park.

4.2.1.8 Existing and Needed Infrastructure Improvements

Existing runway facilities include two runways that allow instrument landing: one at 10,000 feet; a second at 8,200 feet; these were described in **Section 4.1.1**. Runway 7/25 was extended to 10,000

feet recently to accommodate a rapidly growing air cargo activity, including UPS, Airborne Express and BAX Global. Lands End Outlet, located in Dodgeville, Wisconsin, is a major client of the airport; it requires express mail and just-in-time deliveries to the U.S. and the world. Its Dodgeville distribution center is the “size of 16 football fields,” according to its website, with over 80,000 packages shipped per day.

Discussions with GRAA personnel indicate recent improvements, including runway extension to 10,000 feet, perimeter highway relocation, and FTZ 176, are adequate for the foreseeable future.

Bridges on the highways to Rochelle will require improvement as truck traffic between RFD and Global III increases. Ramp space and exits at the airport will be added as necessary. There is midfield space (RFD owns 3,000 acres) available for hangar and maintenance facilities. The current RFD Airport Layout Plan (ALP) shows a proposed parallel Runway 7/25.

The assumptions that facilities at the airport are adequate are correct for the short-term future. However, if cargo demand in the Northeastern Illinois Region grows as forecasted, it is likely that substantial additional facilities will be required. This will include both warehousing and distribution facilities and the ramps and truck access to them. Provision also should be considered for substantial truck queuing and security services. **Map 4-1** shows the future ALP for RFD; with the future additions and improvements, as shown, there is adequate capacity to meet forecast demand.

4.2.2 Commercial Passenger Activity

4.2.2.1 Introduction

Rockford has generated and continues to generate substantial local enplanements, and has supported its own regional airport with passenger traffic. However, the proximity of the Rockford MPA to ORD has resulted in passenger growth eclipsing capacity at RFD.

For many years, RFD provided commuter service, by air, into ORD. By 1995, that connection was provided by an airline bus. As capacity constraints grew at ORD and congestion increased, RFD lost all commercial passenger operations in 2002, as well as the airline bus to ORD.

This decline and loss was not due to a reduction in demand for air travel by residents of the Rockford Region. Instead, the decline was due to marketing decisions by American and United Airlines to discontinue air operations and to introduce highly subsidized fares through ORD if the trip included an airport bus segment from RFD. The airfares from RFD to ultimate destinations were significantly lower, with these bus rides, than directly from ORD. This bus pricing policy discouraged, and eventually eliminated, competition. Initiatives by the GRAA and its business leaders, along with the elimination of subsidized airport buses, led to the return of air service.

Table 4-9 shows Office of Aviation Policy and Terminal Area Forecast enplanement data for RFD for 1976-2004 and forecast data to 2020.⁶ The FAA prior to the resumption of low-cost carrier service prepared this forecast; that is the reason for the minimal forecasts.

⁶Office of Aviation Policy and Terminal Area Forecast Plans and Management Analysis.

Year	Air Carrier	Air Taxi	Commuter	U.S. Flag	Foreign Flag	Total Enplanements
1976	8,594	23	NA	NA	NA	8,594
1977	13,258	111	NA	NA	NA	13,258
1978	12,392	771	1,489	NA	NA	13,881
1979	10,249	771	2,934	NA	NA	13,183
1980	12,674	1,511	40	NA	NA	12,714
1981	18,970	267	0	NA	NA	18,970
1982	13,903	293	6,019	NA	NA	19,922
1983	1,227	948	9,295	NA	NA	10,522
1984	13,824	1,188	5,499	NA	NA	19,323
1985	22,157	970	328	NA	NA	22,485
1986	7,607	1,427	NA	NA	3	7,610
1987	1,699	1,554	9,312	NA	NA	11,011
1988	3,748	284	15,338	NA	NA	19,086
1989	3,067	1,269	15,740	NA	NA	18,807
1990	5,735	415	94,759	NA	NA	100,494
1991	5,780	NA	104,608	NA	NA	110,388
1992	4,261	NA	102,228	NA	265	106,754
1993	4,187	NA	98,870	NA	168	103,225
1994	5,477	NA	97,065	NA	NA	102,542
1995	5,952	1,850	67,227	NA	NA	73,179
1996	4,626	1,850	43,407	NA	NA	48,033
1997	9,290	1,850	26,504	324	NA	36,118
1998	3,046	NA	31,502	NA	NA	34,548
1999	3,291	86	29,921	NA	NA	33,212
2000	4,083	86	24,446	151	NA	28,680
2001	2,549	86	12,192	NA	NA	14,741
2002	1,149	320	12,142	NA	NA	13,291
2003	5,315	320	NA	168	88	5,571
2004*	5,439	320	NA	NA	NA	5,439
2005*	5,439	320	NA	NA	NA	5,439
2006*	5,439	320	NA	NA	NA	5,439
2007*	5,439	320	NA	NA	NA	5,439
2008*	5,439	320	NA	NA	NA	5,439
2009*	5,439	320	NA	NA	NA	5,439
2010*	5,439	320	NA	NA	NA	5,439
2011*	5,439	320	NA	NA	NA	5,439
2012*	5,439	320	NA	NA	NA	5,439
2013*	5,439	320	NA	NA	NA	5,439
2014*	5,439	320	NA	NA	NA	5,439
2015*	5,439	320	NA	NA	NA	5,439
2016*	5,439	320	NA	NA	NA	5,439
2017*	5,439	320	NA	NA	NA	5,439
2018*	5,439	320	NA	NA	NA	5,439
2019*	5,439	320	NA	NA	NA	5,439
2020*	5,439	320	NA	NA	NA	5,439

4.2.2.2 Recent Passenger Activity

Recently, RFD has reintroduced leisure and vacation-oriented air service, with public scheduled charter flights to domestic and international destinations (see **Table 4-10**).

Airlines	Destinations
Trans Meridian Airlines	Mexico/Caribbean
Vacation Express	Las Vegas
Hooters Air	Orlando/Fort Lauderdale
Sunship 1 Airlines	Atlanta, Denver, Puerto Vallarta
Casino Express	Myrtle Beach, San Juan

On May 2, 2005, Northwest Airlines began commuter service from RFD to Detroit. This twice-a-day service to a major hub airport on a major hub airline gives RFD substantial domestic access for business, as well as leisure, trips. In fact, RFD already is promoting its service, thorough Northwest, to Baltimore, Cleveland, Hartford, Kansas City, Louisville, Montreal, Pittsburgh and Tampa.

The GRAA, itself, is promoting low-fare flights to the above-listed cities through its Miles Ahead program. Recent data from GRAA staff indicate that passenger traffic for 2004 was 100,000; the forecast made by airport staff for 2005 is 250,000 passengers (see **Table 4-11**)

Year	Passengers	Enplanements⁷
2004	100,000	50,000
2005 (forecast)	250,000	125,000

RFD documentation for enplaned passengers for January/February 2005 was 8,115; this would indicate a 60,000-enplanement level, if the typical January/February ratios for Northern Illinois were applied. However, RFD serves a predominantly leisure-oriented group, with above-average winter boardings that would tend to lessen the forecast. On the other hand, service by Northwestern Airlines did not start until May 2005; this service would accelerate enplanement levels. Consequently, the GRAA estimate appears reasonable.

4.2.2.3 Activity/Enplanement Forecasts

In two studies conducted, in 1995 and 1997, for the Illinois Department of Transportation (IDOT), it was determined that the Rockford MPA generated approximately 420,000 originating enplanements, origin/destination, in 1990 and 1993. Of this number, approximately 100,000, or 24%, either enplaned at RFD or boarded airline buses at RFD destined for ORD. The remaining 320,000 enplanements went directly to ORD, MDW, MKE, or other airports. The fact that there are 17 daily buses to ORD from the Rockford area attests to this major flow of traffic.

⁷Enplanements are enplaning passengers. Passengers include enplaning and deplaning. Consequently, passengers are twice the number (in general) of enplanements.

In 1990, the Rockford MPA generated approximately the same number of origin/destination enplanements per person as that generated in the U.S. as a whole. That ratio is 1:20 enplanements per person. The Rockford MPA also had a wealth index that was the same as that for the entire nation. This enplanement number (the 420,000 cited above) represents the total air trips generated locally. However, they originate (fly from) not only RFD but from ORD, MDW and MKE, as well as other airports. Service, flight frequency, destinations offered and fares determine where the flights originate. Rockford MPA trip generation is based on the same factors as those generated nationally. These factors include population size, household numbers, local employment numbers and income.

Using the current or forecasted U.S. ratio of trips (or enplanements) per person and adjusting for income changes (wealth index), we can estimate the total enplanements generated in the Rockford MPA in 2004 and in the forecast year of 2030. The two major factors used for the forecast are the population growths from 346,980 in 1994 to 411,050 in 2030, and the decline in the wealth index from 1.00 in 1990 to 0.96 in 1996 and to 0.88 in 2030. The wealth index is compiled and forecast for counties and the Rockford MPA by Woods & Poole Economics (WPE).

The comparison between U.S.-generated enplanements and Rockford MPA-generated enplanements are shown in **Table 4-12**. Also shown, is the potential capture of these enplanements by RFD, assuming a ratio similar to that of 1990-1993, factored by the wealth index, and a capture rate of approximately 24%. Such a rate seems reasonable given the recent growth of low-cost carriers, both nationally and at RFD, and the emerging Northwestern Airlines business/leisure service through Detroit. Enplanements at RFD would be higher if airlines decide to provide additional service to tap a severely underserved region.

Year	United States Generated		Northwest Chicagoland International Airport at Rockford Generated		Northwest Chicagoland International Airport at Rockford Captured	
	Ratio	Enplanement	Ratio	Enplanement	Ratio	Enplanement
1990-1994	1.20	311,809,290	1.20	416,300	0.24	104,000
2004	1.53	430,655,380	1.50	481,000	0.24	115,000
2030	2.42	915,910,200	2.22	912,000	0.24	220,000
2035	NA	NA	NA	NA	NA	260,000

A fairly rapid growth of enplaned passengers from the current of 50,000 (2004) to the forecasted of 100,000 enplanements (200,000 passengers) by 2005 seems reasonable based on prior metro area-generated enplanements and the historic capture rate of RFD. For the same reason, doubling of this number to 220,000 enplanements (440,000 passengers) at RFD also seems reasonable, based entirely on a locally generated enplanement volume (see **Figure 4-2**).

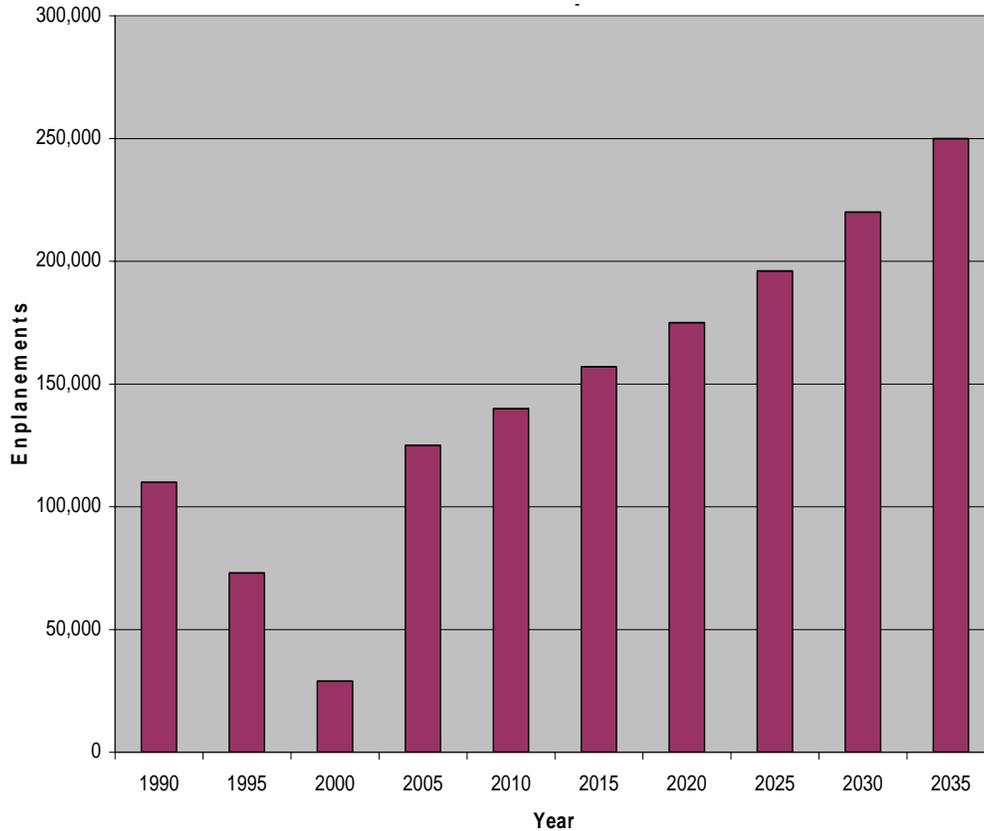


Figure 4-2 - Existing and Forecast Commercial Passenger Enplanements at Northwest Chicagoland International Airport at

4.2.2.4 Passenger Facility Infrastructure: Needed Improvements

As passenger activity grows at RFD and as cargo grows as anticipated, improvements will be required to separate these two activities – both landside and airside. Air passengers need to be buffered from truck queues and cargo security. Terminal facilities also will face expansion needs as enplanements increase beyond the 100,000-150,000 level. And, in keeping with the RFD claim of being a “hassle-free” airport, parking will need to expand as passenger activity does.

4.2.2.5 Rockford Airport as a Major Economic Catalyst

Major commercial passenger airports long have been catalysts for economic development and growth, attracting offices, industries and destination facilities. ORD is a resounding example of this impact. Since the mid-1990’s there has been a dramatic rise in the importance of major commercial airports to the economies of the regions they serve. The accelerated growth in global trade and production has made air cargo hubs equally forceful magnets for economic development. RFD has substantial potential for becoming the economic development catalyst for the Rockford MPA. Its air cargo activity can double by 2012 and triple by 2018. With its abundant available land and its access to intermodal rail and truck facilities, considerable distribution-related and just-in-time industries could be attracted. Expanded commercial passenger service would increase the desirability for development even more. Greater detail of the economic potential for the Rockford MPA is discussed in **Section 9, Regional Economic Development**.

SECTION 5

BIKEWAY / PEDESTRIAN

SECTION 5 BIKEWAY/PEDESTRIAN

Most of the municipal land use plans in the Rockford Metropolitan Planning Area (MPA) have a transportation component that promotes the development of bicycle and pedestrian systems and encourages a healthy life-style. Providing for pedestrian and bicycle systems is an important part of the transportation plan. For young, old, low-income and disadvantaged persons, these systems may be their only means of transportation.

5.1 Bikeway System

The Region has supported and planned for the development of a bikeway system for many years. The oldest part of this system is the Rock River Recreation Path that was constructed by the Rockford Park District (RPD) in the mid 1970s. Bicycle system planning was initiated with the Regional Bikeway and Pedestrian Plan adopted by the Rockford Area Transportation Study (RATS) on June 27, 1984. The RPD, the Winnebago County Forest Preserve District, Rockford, Loves Park, Machesney Park, Cherry Valley, and Winnebago County also adopted this plan. An extensive bikeway system has also been developed in Boone County through the efforts of the Belvidere/Boone Planning Department and the Boone County Conservation District. Bikeway systems within the Rockford MPA include: Perryville Path, Willow Creek Trail, Mel Anderson Memorial Path, Bauer Bridge Bike Trail, Cherry Valley Path, and Stone Bridge Trail. There are also several bikeway systems that extend beyond the Rockford MPA; the Pecatonica Prairie Path, Hononegah Recreation Path and Long Prairie Trail.

Illinois has been instrumental in promoting the bikeway system in the Rockford MPA. Most notable is the Grand Illinois Trail. This trail is a 475-mile looped bikeway system that runs through the MPA, east to connect to Chicago's Lakefront Trail, turns southwest through Joliet and goes along the Illinois and Michigan Canal and the Hennepin Canal to the Quad Cities, north along the Mississippi River to Galena and then back to the MPA. Within the Rockford MPA, the Grand Illinois Trail is made up of several shared-use paths that include the Pecatonica Prairie Path, the Rock River Recreation Path, the Bauer Bridge Trail, the Willow Creek Trail, and the Long Prairie Trail. The Grand Illinois Trail has informally connected these paths with on-street routes.

In reviewing the bikeway system, attention is brought to the three-tier system as defined by the American Association of State Highway and Transportation Officials (AASHTO):

- Shared-Use Paths – These facilities are completely separated from motor vehicle traffic lanes. They are designed for the exclusive use of bicycles and pedestrians. These are separate from pedestrian sidewalks, which are discouraged for bicycle use.
- Bicycle Lanes – These are restricted rights-of-way, usually abutting and adjacent to other traffic lanes used by motorists, designated for the exclusive use of bicycles.
- Signed Bicycle Routes – These are shared roadways designated only by signs, used by both motorists and cyclists. They serve to provide continuity to other bicycle facilities or to indicate to bicyclists, as with bike lanes, that there are certain advantages to using these routes as compared to alternative routes.

The Region has promoted and developed an off-street shared-use bikeway system. There is only one bicycle lane (Bauer Bridge Bike Trail in Machesney) and no bicycle routes designated only by signs. Other than the Bauer Bridge Bike Trail, which already exists, there are no on-street lanes or routes planned or proposed for the bikeway system. Connectivity of the bikeway system is hindered by the inability to use on-street bikeway facilities. A review of this policy is warranted as discussed below.

On January 20, 2005, the Rockford Metropolitan Planning Organization (MPO) conducted a workshop to encourage public involvement in the bicycle system planning process. This group represented a cross section of bicycle stakeholders from throughout the Rockford MPA. The attendees were requested to review the existing plan, propose new bikeway facilities, or recommend changes to bikeway policy. Any thoughts or ideas in regard to the bikeway system were encouraged. After open discussion, the attendees were asked to rank the planned bikeway system along with new proposed facilities and policies that were discussed (see **Table 5-1**).

Rank	Project Description	Score	Connectivity	On-Street	New	Policy
1	Connect Charles Street Path to Perryville Path	28	X	X	X	
2	Connect Rock Cut Trail to Long Prairie Trail	27	X			
3	Riverside Bike Bridge - Improve Grade Separation on westside	27				
4	Use-shared off-street paths or on-street routes to connect existing paths	27	X	X		X
5	Connect Willow Creek Trail to Rock River Path through Machesney Park	25	X	X	X	
6	Connect Rock River Path to Page Park	22	X			
7	Mill Street/Perryville Connection to existing Kishwaukee River Trail	16	X			
8	Perryville Road/State Street - Increase signal crossing times or add an expanded median island on State Street as a refuge during long crossing.	16				
9	Provide designated on-street bike route system	13		X		X
10	Harrison Street Bike Lane from Mulford Rd to Kishwaukee St.	12		X		
11	Roads and intersections should be designed using the AASHTO Guide for the Development of Bicycle Facilities	11				X
12	Connect north-south paths (Perryville Path and Rock River Path) with east-west paths	11	X	X		
13	Kishwaukee River Path East	10				
14	Connect downtown bike path on west side of Rock River to the Rock River Trail on the east side	10	X	X		
15	Connect Riverside Bike Bridge to Mel Anderson Trail	10	X	X	X	
16	Spring Brook Path/Mulford Road – add actuated signals at the intersection to permit pedestrians and bikes to cross Mulford Road.	10			X	
17	Connect Midway Village to Perryville Path by way of Guilford Road	10	X	X		
18	Provide regional bikeway system map	10				X
19	Continuous Bike Path along both sides of the Rock	9			X	

Rank	Project Description	Score	Connectivity	On-Street	New	Policy
20	Identify gaps in sidewalk system and fill in the missing links.	9				X
21	IL 251 in Rockford - crossing in a safe manner	8				
22	Connection of Willow Creek Trail that goes directly west to Rock River and then turns south to connect to existing path	5	X		X	
23	Kishwaukee River Path West	4				
24	Keith Creek Path	2			X	
25	Bike Lane along Kishwaukee Ave. south of Harrison to Ogle County	2		X	X	
26	Applewood Lane Connection between Spring Brook Path and Rock River State Park	1	X		X	

Connectivity refers to projects that promote connect existing bike paths. On street refers to using bike lanes or routes in the roadways. New represents projects not previously identified in the Regional Bikeway Systems Plans. Policy refers to issues that will have to be addressed by the Metropolitan Planning Organization Policy and Technical Committees. Applewood Lane Connection between Spring Brook Path and Rock River State Park

As it turns out, connectivity of the existing paths, especially in an east-west manner was highly ranked. In addition, the use of on-street lanes or routes as a method of connectivity was also highly ranked. On-street routes/lanes could provide an important and cost-effective means of connecting the existing bikeway system. However, this issue will need to be addressed by the Rockford MPO Technical and Policy Committees. The use of on-street bikeway facilities would be a major change in the bikeway system in the Rockford MPA.

RATS previously developed a bikeway system plan that appeared in the Long Range Transportation Plan (LRTP). However, a comprehensive evaluation of the bikeway system policy and facilities is warranted. The Rockford MPO Technical and Policy Committees should consider the policy in regard to encouraging on-street bike lanes and routes. If recommended, this would cause a major change in the bikeway system plan. In addition, prioritization of bikeway system improvements would have to be reconsidered with the policy change. Project prioritization should proceed after the issue with on-street bike lanes/routes is resolve. Prioritization of bikeway system improvements is not an easy task. There is not a technology tool similar to a transportation model that can be used to identify system needs. Elected officials should accomplish the prioritization process with input from the public, stakeholders and the Rockford MPO Technical and Policy Committees. A bicycle system plan is shown on the Boone and Winnebago Greenway Plan (see **Map 2-14**). However, as stated above, RATS will need to go through a formal process to consider the on-street policy for bicycle lanes and routes and the prioritization of projects. In addition, additional bicycle improvement projects have been identified through the RATS public involvement process.

5.2 Pedestrian System

The Rockford MPA has an extensive pedestrian system. Most municipalities have required sidewalks to be constructed as part of the land subdivision process. However, some parts of the Rockford MPA were developed under regulations where sidewalks were not required or the municipalities waived the sidewalk requirements. One of the most notable examples of lack of sidewalks is the commercial area along East State Street. This area is automobile oriented and does

not allow for safe pedestrian movement. An adequate pedestrian system is especially important for access to bus stops, schools, medical facilities and senior citizen housing.

Providing access to the transit system is an important function of the pedestrian system. In 1992, the Rockford MPO undertook an inventory of the pedestrian system near (within three blocks) of the area's fixed-route bus stops. The inventory found inadequacies in the pedestrian system for disabled persons. These included areas with no sidewalks and sidewalks with deteriorated conditions or slopes that would inhibit wheelchair passage. Along most of the major streets in the older parts of the urbanized area curb cuts (wheelchair ramps) were not available at the intersections. Much has been done to correct these deficiencies. Unfortunately, there was not a quantification of the survey results so the remaining extent of deficiencies is unknown.

Attention to persons with sight disabilities is also of concern. Audible walk signals should be considered at signalized intersections in conjunction with the standard visual walk signals. Braille information can be added to most pedestrian signage, and Braille or audible information can be provided at bus terminals and information kiosks. The Rockford Mass Transit District (RMTD) has already put Braille information on some bus stop signs and audible information on buses.

5.3 Bikeway/Pedestrian Recommendations

RATS has a long history of working to improve the pedestrian and bikeway system in the MPA. The following policies have been encouraged by the MPO over the years:

- All new developments of half-acre per lot densities or greater to have a pedestrian system, preferably sidewalks on both sides of the street.
- Programs to add and repair sidewalks.
- Sidewalk and street connection that meet the Americans with Disabilities Act standards.
- Corridor studies that promote pedestrian sidewalks and bicycles paths.
- The overall development and implementation of the Regional Bikeway and Pedestrian Plan.

The positive results of past planning efforts and policies are evident throughout the MPA. However, it has been more than 20 years since the original Regional Bikeway and Pedestrian Plan was adopted. A comprehensive update to the pedestrian/bicycle system plan is in order. A thorough and comprehensive evaluation of where the Region is at, where it should be going, and how it should get there would be a useful process for the communities in MPA.

The public workshop conducted on January 20, 2005 showed a high level of interest from the bicycle community to connect the bicycle system through the use of on-street means. This would require a shift in policy that is not within the bounds of this LRTP. Should this policy be found acceptable, it would take some additional planning and engineering effort to determine how to best implement it.

Additional workshops like the one held on January 20, 2005 would be useful in prioritizing bicycle and pedestrian system improvements. This stakeholder involvement process can provide an excellent forum for feedback on the bikeway system. The comprehensive update should also address the pedestrian system within the Rockford MPA. This process should include public workshops that focus on the pedestrian system.

SECTION 6

RAIL

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.

Company	Rail Commodity	Railroad
Aetna Plywood, Inc. – 1931 11 th 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
Gunitite 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 6 th 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 5 th 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 23 rd 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**)

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.

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 signaled 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.

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 report¹, 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**.

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

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

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 Atlanta², 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**).

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 1997³. 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.

²Rail Intermodalism and New Rail Industrial Location Dynamics, Just-in-Time Real Estate, Urban Land Institute, 2004.

³1997-1998 External Travel Survey, Chicago Area Transportation Study.

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 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.

#	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 / 2 nd St - 3 rd 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 of 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	Rubblization
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.

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.

Fiscal Year ¹	Bus	Demand Response
1995	1,541,119	76,418
1996	1,668,301	42,339
1997	1,531,870	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.

¹Fiscal Year is from July to June.

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.

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-urbanized 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.

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 in 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 known 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.

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.

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

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

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

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

<p>Count Question Resolution program and geographic program revisions. Dash (-) represents zero or rounds to zero. (X) Not applicable</p> <p>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)</p> <p>Source: Population Division, United States Census Bureau; Release Date: April 14, 2005</p>
--

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.

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.

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

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.

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

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

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.

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%	

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 a 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%

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%	

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.

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.

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.

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

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 manufacturing	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

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

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.

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.

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**).

Address	Equipment
Maple Elementary School – 1405 Maple Avenue, Loves Park	Ozone
Walker Elementary School – 1500 Post Street, Rockford	Ozone
Fire Dept. Administration Building – 204 1 st 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.

Year	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th 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.

¹23 CFR 500.109.

²See *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.

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 an acceptable level of congestion as defined by the objectives established by the Rockford MPO.

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.

³Regional 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**).

The proposed Tollway improvements will improve the LOS percentage for the interstate classification. Also, the transportation model program was not used to determine LOS for the Year 2035 Transportation System. This will be done at a later date and amended into the LRTP. At that point a LOS classification for the Year 2035 will be prepared.

Classification/Level of Service	C or better	D or worse
Interstate Freeway	18%	82%
Principal Arterial	80%	20%
Minor Arterial	81%	19%
Collector	86%	14%

Still, it should be noted that congestion is expected to become more apparent in the Rockford MPA. CMS will become important as a tool to address the future congestion. The Rockford MPO is well into the process of building a CMS and will continue with those efforts. It will be important to continue to monitor trends concerning increases in dwelling units, employment, average daily traffic and other factors. These signs will help to ascertain the rapidity of the growth and congestion.

10.2.1.3 Geographic Information System

GIS provides a means of storing data and making geographic comparisons. Winnebago County is in the process of developing a regional GIS, referred to as the Winnebago County Geographic Information System (WinGIS).⁴ WinGIS will be an effective tool for storing and mapping traffic related data. The impact that this tool will have on transportation planning is still in review. The use of the WinGIS system for transportation planning programs should be more fully developed when the next LRTP update occurs.

10.2.1.4 Traffic Data

The traffic data provides a means of looking at present roadway data and comparing it to historic data to determine trends in the use of roadways. Traffic data is also used to calibrate the transportation model, and is collected every five years by the Illinois Department of Transportation (IDOT). The most recent data collection effort was completed in 2004. Maps are prepared by IDOT and RATS to show the data. The data is also available on IDOT and RATS websites.

10.2.2 Strategy Consideration

Strategy considerations are alternative measures for relieving congestion that provide efficient and effective use of the existing as well as future transportation systems. Strategy considerations in the Rockford MPA are traffic signal timing, truck routing (see **Section 7.3.6, Truck Routes**), public transportation (see **Section 8.1, Rockford Mass Transit District**), bikeway/pedestrian improvements (see **Section 5, Bikeway/Pedestrian**) intelligent transportation (see **Section 10.5, Intelligent**

⁴The Winnebago County Geographic Information System effort was established by a formal agreement in May of 2000 between Winnebago County, the City of Rockford, the Rockford Park District, the Rock River Water Reclamation District, Loves Park, Machesney Park, Cherry Valley and the North Park Public Water District.

Transportation Systems), and smart growth (see **Section 10.10, Smart Growth**). Improved signalization and signal timing has been and will continue to be the primary means to manage congestion. This is generally the first step taken to reduce any noted congestion.

Another strategy that is not presently utilized, but may be considered, is increasing speed limits on roadways where it could be accomplished within acceptable safety parameters. Occasionally, speed limits are set too low without a full evaluation based on traffic engineering principles. Increased speed limits have the ability to decrease congestion by allowing traffic to move more quickly through a roadway and reducing total travel time. Safe speed design will generally be accomplished along with improved signalization in conjunction with corridor studies performed for individual roadways. Coordinated signal systems can also reduce travel times without increasing speed limits.

10.2.3 Project Selection

The project selection process is intended to ensure that the most efficient the following and effective improvements and measure are applied to reduce congestion. RATS has developed selection criteria for Surface Transportation Program (STP) funding:⁵

- Have all the preliminary engineering and engineering design funded from local or state sources. The right-of-way (ROW) acquisition also be funded from local or state sources.
- Are of regional significance and of obvious benefit to more than one community participating in the RATS planning process. This includes all the communities and unincorporated. areas in the Rockford MPA as explained in **Section 2.3, The Regional Planning Process**.
- Have one or more of the communities committed as a local sponsor.
- Address some weakness in a major link (arterial level or higher) as identified on the RATS functional classification system maps. Weaknesses will be identified by the use of computerized traffic simulation models and other accepted means. The rehabilitation of bridges on arterial or higher level roadways is considered acceptable.
- Are coordinated with other urban infrastructure improvement such as public sewer and water, and development/redevelopment efforts. Projects that have the potential to greatly improve the economic development potential of lands within one or more of the defined communities should be given special consideration. The ability of a project to aid in implementing adopted development, redevelopment or land use plans of the communities is important.
- Have potential to relieve traffic congestion as well as the mobility of commuters.
- Have the potential to increase the efficiency of long-distance travel throughout the area.
- Complement one or more of the seven Transportation Efficiency Act for the 21st Century (TEA-21) factors.

Technical data will be used to further evaluate candidate projects where the projects appear to be equal under the criteria specified above. In addition, Rockford uses a pavement management system, based on a pavement condition index, to select roadway reconstruction projects when federal

⁵The criteria are based on the Rockford Area Transportation Study Resolution 94-2. This resolution was most recently affirmed with Resolution 20-4, which assigned Surface Transportation Program funds to the Harrison Avenue Improvement Project.

funds are used for the projects.

Transit-related projects shall be considered eligible for STP funds if they have obvious regional significance and if the capital needs of the area's public transit systems cannot be adequately met from other more direct or traditional transit funding sources as administered by the Federal Transit Administration (FTA). Capital needs for significant transit service expansions that have good potential to reduce low-occupancy vehicular traffic and/or traffic congestion should also be considered eligible for STP funds.

Enhancement projects as defined under ISTEA shall be considered eligible for STP funds when the funding normally reserved for such projects is insufficient and the projects can demonstrate significant regional benefit similar to a highway-related project. Thus, links on the Regional Bikeway and Pedestrian Plan may be considered eligible.

10.2.4 Effectiveness Evaluation

Effectiveness evaluation pertains to measures that are used to determine the effectiveness of the congestion mitigation strategies. The transportation modeling effort and the LOS objectives have been utilized as effectiveness evaluation measures. As congestion increases and the CMS becomes more important, the Rockford MPO will have to consider developing a more formal effectiveness evaluation process. The Rockford MPO has begun the development of monitoring systems that will provide a framework for additional effectiveness evaluation.

10.3 Context Sensitive Solutions

In 2003, legislation was passed instructing IDOT to adopt the principles of Context Sensitive Solutions (CSS) in its planning and design of major projects. CSS is an interdisciplinary approach that seeks effective, multimodal transportation solutions by working with stakeholders to develop and build cost-effective transportation facilities that fit into and reflect the project's surrounding. Through early, frequent and meaningful communication with stakeholders, and a flexible and creative approach to design, transportation projects should improve safety and mobility for the traveling public, while seeking to preserve and enhance the scenic, economic, historic and natural qualities of their settings. CSS policy seeks to obtain stockholder's views and ensure that quality of life issues such as neighborhood aesthetics, safety, pedestrian and bicycle use, public transportation access, environmental preservation, and historic preservation are included in all aspects of project planning and design.

Stakeholder involvement is an essential tool of the CSS process and should be initiated in the early planning stages of a project when its feasibility is still uncertain. Stakeholder involvement at this stage can help in forming and obtaining consensus for a project's need and value. It can also give planners a better idea of how much the project is likely to cost, so that they can fit it into the overall programs with greater accuracy.

IDOT is formulating a program to develop a standard process for CSS stakeholder involvement, along with a statement of design flexibility. To date, IDOT has applied CSS principals to only major projects, but will eventually apply the principles on standard and smaller projects, including those

in the Region. In addition, the Tollway has stated that they will establish corridor-planning councils to strengthen the partnership between the Tollway and the communities that it services. It is expected that a regional planning council will be established that will be instrumental in applying the CSS principals to the Tollway projects.

The IDOT and Tollway CSS programs are still in the development stages. The Rockford MPO will continue to monitor the development of both programs. This LRTP recognizes these programs and provides a framework for the advancement of the CSS process and its principles. The Rockford MPO has an established public involvement process that could be used for both the IDOT and Tollway stakeholder process. In addition, the Rockford MPO is working to promote pedestrian and bicycle use, multimodal connectivity, public transportation and smart growth in the Region.

The MPO promotes the concept of Context Sensitive Design (CSD) at the local level. CSD deals with the application of CSS principals to specific roadway design projects. While the Rockford MPO has not developed a formalized CSS process, many of the principals of CSS have been incorporated into this LRTP. It is recognized that every transportation project is unique and must adapt to the particular needs of the community in which it is located. It is important to use a full range of design and other project management tools to respond to the need of stakeholders. The stakeholder involvement process should help the designers to focus on the most critical issues and avert problems that might otherwise arise during construction.

The use of corridor studies provides an important tool for using the principles of CSD/CSS. A corridor study is a means of reviewing roadway improvements along specific length of roadway and pay specific attention to the land use/transportation connection as well as the CSD/CSS principles. The Region has fully embraced the concept of CSD/CSS with recent corridor studies. These corridors have included the Forest Hills Road/Riverside Boulevard/Alpine Road Area, Harrison Avenue from IL-2 to Mulford Road, West State Street from downtown to Meridian Road, and the IL-2 through the Rockford MPA. The more recent studies dealing with West State Street and the IL-2 Corridor have fully embraced the concept of CSS.

10.4 Human Service Transportation

In February 2004, President George W. Bush signed an executive order addressing human service transportation coordination. This executive order recognized that transportation services should be seamless, comprehensive and accessible to those who rely on them for their lives and livelihoods. For persons with mobility limitations related to advanced age, low-incomes and disabilities, transportation should be available and affordable as possible. The strategy is to coordinate human service agencies that support transportation with public and private transit providers. The intent is to coordinate transportation systems and thus increase the ability of government officials, at all levels, to make the most efficient and effective use of limited resources. The Rockford area has a well-established system in place to address human service coordination. The Rockford Mass Transit District (RMTD) serves as the “Coordinated Service Provider” and has the following responsibilities in this regard:⁶

- Monitor paratransit needs and public and private services provided in the Rockford MPA.

⁶Rockford Area Transportation Study Resolution 2001-7, March 29, 2001.

- Periodically report to RATS, IDOT and other pertinent public agencies or officials regarding paratransit needs and the status of paratransit service delivery.
- To the extent possible, encourage the communication and cooperation between all paratransit service providers in the Rockford MPA, public and private, and encourage these entities to conduct and coordinate their services in a manner that provides the greatest possible level of paratransit service for the public dollars invested.
- On an annual basis, or more often as needed, meet with the Boone County Council on Aging (BCCA) for the purpose of coordinating the transportation services of RMTD and BCCA.
- Meet with persons and agencies seeking new public-assisted paratransit services and, where possible, attempt to service those needs with public-provided resources available to RMTD (or in Boone County, with the services provided by the BCCA).
- Whenever a new and unmet paratransit need is identified and said need cannot be accommodated by RMTD (or BCCA in Boone County), assist area entities, to the extent possible, in developing applications that can qualify them for FTA “5310” and “5311” funds or other applicable funding assistance.

There are various private entities in the Rockford area that provide services to the transportation-disadvantaged. These include churches or religious organizations, hospitals, social service organizations and other not-for-profits. There are three not-for-profit entities that the Rockford MPO has endorsed in application and for IDOT and federal transit assistance in recent history:

- Lifescape Community Services
- The Barbara Olsen Center of Hope
- The Booker Washington Community Center

Before endorsing the award of a paratransit vehicle to any agency the Rockford MPO has studied their situation, verified their needs, and determined that the public mass transit services cannot more cost-effectively provide for their needs. The RMTD is the official “Coordinated Service Provider” for the Winnebago County portion of the Rockford MPA (and BCCA for Boone County), has been charged with addressing all public transportation requests and evaluating needs. RATS, RMTD and BCCA have entered into a formal Cooperative Agreement to jointly consider the transportation needs of all persons in the Rockford MPA, but particularly the transportation-disadvantaged.

The Rockford MPO has, in follow-up observations, determined that the three private agencies are literally driving the wheels off those vehicles and that given timing considerations and other special circumstances, their needs cannot be commingled. The Rockford MPO feels that the transportation system in the Rockford MPA is responsive, comprehensive, coordinated and cost-effective for the transportation-disadvantaged. Additional efforts, beyond the present efforts to coordinate public and private transit providers, are not necessary. The Rockford MPO will apply the principals discussed above in the future.

10.5 Intelligent Transportation Systems

The Rockford MPO is involved with Illinois in coordinating and implementing Intelligent Transportation Systems (ITS) in the Region. In 2004, IDOT began the development of a set of comprehensive plans, strategies, and documents to develop and coordinate the deployment of ITS

around the state. Collectively, these plans, strategies and documents are referred to as ITS Architecture. ITS applies computer, electronic, and communications technologies to improve the safety, reliability, and operation of transportation systems. The ITS Architecture seeks to assure that systems throughout a community, a region, the state, and eventually the nation as a whole, utilize equipment and techniques in a manner that ensures communication, consistency and standardization. The goals are to achieve maximum benefits from the ITS investments and to assure that the motoring public can use these improvements as fully as possible and with a minimum of confusion as they travel from place to place throughout the nation. The ITS Architecture identifies the elements of the system, lays out what each component does, and describes the flows of information between components. Creating an ITS Architecture helps to ensure that current and future systems and components, created through different projects, will operate together through the application of national ITS standards.

Through the development of “intelligent” transportation projects or improvements, deployed under the umbrella of the ITS architecture, the MPO and IDOT hope to improve the movement of goods and people. ITS projects will make the Illinois transportation system safer, better coordinated, and more efficient. They will provide a tool to collect, analyze, act on, and distribute real-time information on the performance of the many parts of the transportation system.

A report on the ITS Architecture for North-Central Illinois (Boone, Winnebago, DeKalb and Ogle Counties) was prepared in a cooperative effort between IDOT and the Wisconsin Department of Transportation. The report involves regional stakeholders that have roles and responsibilities in traffic management, emergency management, information service provider, transit management, operations and management and parking management.

On March 24, 2005 the MPO adopted the North-Central Illinois Architecture document as the Regional ITS Architecture. The following concepts are candidates for future regional implementation. Decisions on the implementation will be made at a later time.

- Traffic Management and Maintenance Control Center – This center would serve for coordinating interagency activities during traffic incidents. It would also be used to distribute traveler information through the use of dynamic message signs.
- Interstate Traffic Monitoring and Traveler Information – Incidents will be verified through the use of traffic detectors and traffic cameras.
- Advance Signal Operations/Coordination and Surface Street Traffic Monitoring – Will enhance existing signal systems and make them more responsive to actual traffic conditions.
- Agency Data Sharing – This element will implement or enhance traffic data sharing with emergency response agencies.
- Winter Weather Maintenance Enhancement – This element will enhance the ability to better predict, respond to, and minimize winter weather impacts.
- Arterial Dynamic Message Signs and Dynamic Trailblazer Signing – Will assist motorists by providing them with alternative route signing and timely information on planned and unplanned incidents.
- Construction Work Zone Safety, Traffic Monitoring and Traveler Information – This element will monitor and detect fluctuations in traffic conditions influenced by construction activity or unplanned incidents.

- Advance Rail Crossing Notification System – Enhancement to estimate the time of arrival and duration of closing.
- Supplement Emergency Vehicle Traffic Signal Preemption – Improvements to all traffic signals on Illinois State routes that will allow emergency vehicles to preempt a signal or temporarily modify its timing.

An effort that preceded the North-Central ITS Architecture effort was a partnering agreement called the Beloit-Janesville-Rockford (BJR) Arterial Management Workgroup. The group included Boone and Winnebago Counties along with Rock County, Wisconsin. The objective of this group is to provide travelers with safe and efficient transportation facilities, and communicate timely and reliable information in the event of a major incident with the Region. The group has prepared an Interstate Alternative Route Operations Guide. The intent of the guide is to enhance communication between agencies during an incident by providing a common listing of contacts and identified areas of concern. The guide provides a predetermined alternative route to use when an incident occurs on I-90/I-39 between Janesville, Wisconsin and Belvidere, Illinois and it is necessary to divert traffic.

Finally, in Year 2004, IDOT began a project to develop and coordinate development of an ITS around the state. The statewide ITS Architecture provides a framework to coordinate use of various ITS technologies throughout the state to improve operations, to assist travelers and to provide guidance in the development of regional architecture.

10.6 Linking Planning and Operations

Federal transportation planning requirements place an emphasis on the role that the Rockford MPO should play in linking transportation system planning and operations. This link is important to improve transportation decision-making and the overall effectiveness of transportation systems. Coordination between planners and operators helps ensure that transportation investment decisions reflect full consideration of all available strategies and approaches to meet regional goal and objectives. Regional transportation planning and investment decision-making requires a great deal of inter-jurisdictional coordination. Similarly, effective regional transportation systems management and operation requires collaboration and coordination among operating agencies across jurisdictions and between transportation and public safety agencies. The focus of linking planning and operations is to provide stronger connections between these two processes and activities.

There is already a fairly strong and informal link between planning and operations agencies in the Rockford MPA. Rockford is the lead agency for the Rockford MPO. The Rockford MPO staff works within the Rockford Public Works Department Division of Traffic and Engineering. The Traffic and Engineering Division is primarily an operations orientated division. This provides close coordination on the planning and operations level within Rockford. In addition, given that the size of the Rockford MPA and the relatively small number of governmental agencies, communication between planning and operations personnel is somewhat streamlined. Finally, the RATS Technical Committee is composed of municipal, county and state officials, some of which have operations as well as planning responsibilities. The Technical Committee provides an important forum for bridging these two systems.

As certain technology advancements are developed in the Region there will be more of a need to

formalize the link between the planning and operations systems. A Regional Concept for Transportation Organizations (RCTO) is a strategy for ensuring that operations activities build toward a common vision and relate to the broader regional planning process. The RCTO is expected to provide a coherent operation strategy towards linking planning and operations. The development of the RCTO should include participation by the Rockford MPO to ensure consistency with the Region's vision and goals. It should also involve stakeholders that depend on regional operations coordination. Greater participation from emergency and safety management personnel are expected in this effort. There are seven linkage mechanisms that should be addressed in the RCTO:

- Performance measurement
- Congestion management systems
- Regional intelligent transportation systems
- Institutional arrangements
- Data collection and arrangements
- Funding and resource sharing
- Regional transportation systems management and operations project.

These seven linkage mechanisms are discussed in more detail below.

10.6.1 Performance Measurement

Performance measures are useful to identify where a transportation improvement is needed. The key performance measurement that is presently used by the Rockford MPO is the LOS as discussed in **Section 10.2.1.1**. The process of developing and implementing additional performance measures can be used to motivate collaboration between transportation operations and planning staffs. Performance measures should focus attention on customer-oriented outcomes that can place an emphasis on the transportation planning process by:

- Framing the attributes of the transportation system that are most important.
- Providing information on current conditions and trends.
- Evaluating the success of implemented and on-going projects.
- Providing a metric for communicating with decision makers and the public about past, current, and expected future conditions.
- Serving as criteria for investment decisions in the transportation planning process.

Performance measures can be grouped into three categories:

- Input measures address the supply of resources (i.e., capital project budget).
- Output measures address the delivery of transportation programs, projects, and services (ex: miles of roadway built).
- Outcome measures address the degree to which the transportation system meets policy goals and objectives (reduced miles of congestion, decreased travel times or reduce air pollution).

The Rockford MPO has been very good at documenting input and output measures, which are provided throughout this plan. The outcome measures are more difficult to develop because they focus on the effects that the traveling public most cares about – issues such as travel time and delay, safety, and reliability. The RATS has established a LOS objective for the Rockford MPA that is the primary performance outcome measure. However, as other refining elements of the LRTP such as

congestion management systems, safety and security, and intelligent transportation systems are developed, the implementation of additional outcome performance measures should be considered.

The Rockford MPO should work within the Region to jointly define the most appropriate measures and associated data needs.

10.6.2 Congestion Management Systems

The Rockford MPA does not presently witness significant congestion; however, it is expected to become a problem in the future. Improving the linkage between planning and operations will be part of the overall CMS.

10.6.3 Intelligent Transportation Systems Architecture

ITS projects make use of electronics, communications, or information processing to improve the efficiency or safety of the transportation system (see **Section 10.5**). ITS development will present opportunities for improving the linking of planning and operations. The North-Central ITS Architecture was a result of coordination and collaboration between planning and operations practitioners.

10.6.4 Institutional Arrangements

Institutional arrangements refer to agreements and organization structures both within transportation agencies and between agencies. It generally involves forums that regularly bring together transportation planners and operations practitioners. The BJR work group cited in **Section 10.5** is a good example of an Institutional Arrangement. The Rockford MPO Technical Committee brings planning and operations personnel together. As RATS gets more involved in the Regional ITS Architecture there will be a need to involve more safety and emergency management personnel in the planning process. Whether this is done through the Rockford MPO Technical Committee or a separate operations committee will have to be determined as these forums and arrangements develop.

10.6.5 Data Collection and Sharing

Data sharing should be seen as the first step to broader coordination between planning and operations. Sharing data will require establishing new relationships with other agencies and building a mechanism to support sustained data exchange and storage. The Regional ITS Architecture is expected to identify new data sharing opportunities. A central clearinghouse will be needed to facilitate access to the Region's transportation data for both planning and operating agencies. This requires that a regional agency take stock of all transportation data that is available and develop a partnership agreement to make data retrievable from a central access point. It is not clear at this point as to what regional agency will play that role. The WinGIS program has begun the development process of a regional data clearinghouse. Whether WinGIS, the Rockford MPO or some other agency becomes the transportation clearinghouse will be determined at a later date.

10.6.6 Funding and Resource Sharing

Funding and resource sharing refers to the arrangements by which operating agencies collaborate to submit funding requests, develop pooled funding mechanisms, or share equipment and facilities.

Efforts should be made to promote new relationships and arrangements that support broad regional systems management perspective and better link operations with regional planning. New funding mechanisms can help to create bridges between planners and operations managers. ITS equipment that enhances corridor management activities would be a good starting point.

10.6.7 Transportation Systems Operations Projects

Regional transportation systems operation means an integrated program to optimize the performance of the existing infrastructure through implementation of multi-modal, cross-jurisdictional systems, services and projects (see **Section 10.5**).

10.7 Planning and the National Environmental Protection Act Process

The Federal Highway Administration (FHWA) and FTA have recommended that the transportation planning process and NEPA process be more integrated and work in harmony. Any transportation project that is supported by federal funding is subject to the NEPA process. The FHWA and FTA have the lead federal agency role, respectively, for highway and transit projects and, thus, are responsible for the NEPA process. The FHWA and FTA have stated that the environmental analysis produced during the NEPA process is sometimes disconnected from the transportation planning process. Analysis and decisions occurring during transportation planning are sometimes ignored or redone in the NEPA process, resulting in a duplication of work and delays in the implementation of transportation projects. Recognition of the NEPA process will help prepare transportation plans that are useful for the NEPA process.

The NEPA process is used as an “umbrella” for compliance with over 40 environmental laws, regulations, and executive orders. The required environmental document depends on the degree of impact and will result in one of the following:

- Environmental Impact Statement (EIS) – Prepared for projects that have a significant impact on the human and natural environment. The EIS provides a full description of the proposed project, the existing environment, and the analysis of the beneficial and adverse impacts of all reasonable alternatives, including input from the public. A Record of Decision presents the selected decision, the basis for that decision, and the environmental commitments to mitigate for project environmental impacts.
- Environmental Assessment (EA) – Prepared for projects where it is not clearly known if there will be significant environmental impacts. If the analysis in the EA indicates the proposed project will have significant environmental impacts, an EIS is prepared. If there is not a significant impact, this conclusion is documented in a separate decision document, called the Finding of No Significant Impact.
- Categorical Exclusions – Prepared for projects that do not have a significant impact on the environment.

There are three parts of an EA or EIS that directly relate to the transportation planning process. They are the parts that deal with purpose and need, alternatives analysis and affected environment. The first stage of the NEPA process is the development of project purpose and need. The

transportation planning process should provide the basis or foundation for the purpose and need statement in a NEPA document. Much of the work that is undertaken in the transportation planning process can be used to explain the purpose and need of a project during NEPA process.

Alternatives analysis is also an important part the NEPA process. A project's alternatives are shaped by the purpose and need for the project. The transportation planning process can be used to provide the initial evaluation of alternatives. Corridor studies are useful tools in the transportation planning process. The LRTP may leave open the possibility of multiple approaches to fulfill a plan objective. Corridor studies can be used to “zoom-in” on a particular area for the purpose of alternatives analysis.

Analysis and information products from transportation planning process can be Inc. into and relied upon for NEPA documentation on the affected environment. Transportation planning products can provide valuable inputs to the discussion of affected environment. These transportation planning process products should be prepared so as to feed into the NEPA process.

Another direct link between NEPA and transportation planning is the requirement that a project must be included in the Transportation Improvement Plan (TIP) before it can be given NEPA approval. Different types of transportation projects will have varying degrees of complexity and potential to affect the environment.

Integration of the transportation planning process can help streamline the environmental process. TEA-21 mandated “Environmental Streamlining” provisions as a means to expedite the provisions of the environmental review process. Environmental Streamlining requires transportation agencies to establish realistic timeframes and then to adhere to those timeframes. The efficient and effective coordination of multiple environmental reviews, analysis, and permitting actions is essential to meeting the Environmental Streamlining mandate for highway and transit projects under TEA-21. A key element of Environmental Streamlining is communication with and the gathering of input from the public and stakeholders.

Projects that may need to be addressed through the NEPA process include the following:

- Capacity Expansion Projects (see **Table 7-3**, *Major Capacity Expansion Projects*)
- Enhancement Projects (see **Table 7-4**, *30-Year Project Cost Summary*)
- East side bus transfer facility (see **Section 8.3**, *Rockford Mass Transit District Capital Improvement Plans*)
- The Commuter Rail Initiative (see **Section 8.6**, *Proposed Commuter Rail*)
- Northwest Chicagoland International Airport at Rockford improvement including proposed Runway 7/25 (see **Section 4.2.1.8**, *Existing and Needed Infrastructure Improvements*)

10.8 Public-Private Partnerships

As transportation needs continue to increase, public funding is expected to fall behind in meeting the investment demand for transportation infrastructure. It is unrealistic to assume that sufficient funding to meet this demand can be realized by increasing taxes. Changes in current practices that could promote greater and more effective private sector involvement in the delivery of transportation projects will need to be considered. Partnerships between private investors and public transportation agencies can bring not only greater funding, but also more intellectual capital and innovation.

Public-Private Partnerships (PPP) refers to contractual agreements formed between a public agency and a private sector entity that allow for greater private sector participation in the delivery of transportation projects. PPP describes an expansive set of relationships from relatively simple contacts for fee-based service to complex agreements for design-build-finance-operate-maintain. Traditionally, private sector participation has been limited to separate planning, design or construction contracts for a fee based on the public agency specification. For example, the preparation of this LRTP was a result of a public-private partnership between RATS and T.Y. Lin International, Inc. under a fee service agreement.

More recently, PPP has been expanded to involve a government agency contracting with a private company to renovate, construct, operate, maintain, and/or manage a facility or system. While the public sector usually retains ownership in the facility or system, the private party will be given additional decision rights in determining how the project or task will be operated or completed. A recent well-published example is Chicago's leasing the Chicago Skyway Bridge to a private firm to collect tolls and maintain and operate the bridge. Other models are being developed to increase the involvement of the private sector in the finance and operation of surface transportation facilities.⁷

Expanding the private sector role allows the public agencies to tap private sector technical, management and financial resources in new ways to achieve public agency objectives. Some of the primary reasons for public agencies to enter into public-private partnerships include:

- Accelerating the implementation of high priority projects by packaging and procuring services in new ways.
- Turning to the private sector to provide specialized management capacity for large and complex programs.
- Enabling the delivery of new technology developed by private entities.
- Drawing on private sector expertise in accessing and organizing the widest range of private sector financial resources.
- Encouraging private entrepreneurial development, ownership, and operation of highway and/or related assets.
- Allowing for the reduction in the size of the public agencies and the substitution of private sector resources and personnel.

Government procurement laws and regulations can be an impediment. Government has a system of procurement and oversight built on the traditional design-bid-build model. This system has obvious benefits, but, in many cases, stifles innovation. Public agencies spend considerable time and resources developing systems for soliciting projects, ensuring adequate competition, and

⁷United States Department of Transportation, *Report to Congress on Public-Private Partnerships*, December 2004.

allocating the risks associated with designing, constructing, and operating a large transportation facility. These administrative procedures limit private sector flexibility and have deterred many governments from fully exploring PPP. Legal, financial, political, and cultural hurdles are often encountered in the formation of PPP. Public agency management of a PPP requires special expertise at the project development and contract management levels. It is essential to involve personnel that understand agency objectives and regulations, as well as private business and contracting conventions.

Getting the private sector involved will be a challenge. Private sector investment can make up some of the public funding shortfall, but it will require a fair return on investment. Revenue sources will still need to be identified. Tolls and fees certainly represent a major source of funds to support private sector investment, but other potential sources of income such as development fees and tax increment financing may also be needed.

As transportation demands increase and barriers are removed there will be more movement towards the use of PPP. RATS does not recommend any specific public-private partnerships at this time. The purpose of this section is to draw attention to the issue and start the thought process needed to encourage PPP for funding future projects.

10.9 Safety and Security

Federal guidance has recently placed an emphasis on safety in the transportation planning. The transportation planning process provides a means to address safety in the early stages of a project. This concept of safety conscious planning is to place an emphasis on creating a safe roadway environment that is forgiving in the event of a crash. It implies a proactive approach to the prevention of accidents and unsafe transportation conditions by establishing inherently safe transportation networks. RATS endorses its regional planning role to make the transportation system safer.

The human and economic consequences of motor vehicle crashes are unaffordable and unacceptable. Nationally, over 40,000 deaths and three million injuries occur annually. Regional traffic crash statistics for Boone and Winnebago Counties are shown in **Table 10-6**.

Year	Crashes	Killed	Injury
2003	10,536	49	3,658
2002	10,334	46	3,504
2001	10,840	26	3,481
2000	11,067	46	3,589
Average	10,694	42	3,558

The compilation of data will be key to the initiation and development of safety conscious planning. Crash data can provide an important means to determine specific locations that have safety

⁸Illinois Traffic Crash Facts and Statistics compiled by the Illinois Department of Transportation, Division of Traffic Safety.

problems. Rockford has a system in place to map traffic-related accidents. The Rockford MPO would like to expand this effort to the Region. The development of a regional information system through the use of WinGIS provides a means to do this.

IDOT will have an important role in the development of safety conscious planning effort. Much of the data needed to identify and define safety problems is compiled and resides at the state level. IDOT has developed a vehicle accident reporting system that could be utilized by the Rockford MPO. In 2005 it was announced that IDOT would develop a Comprehensive Highway Safety Plan (CHSP). Much of the direction on safety conscious planning is expected to come from the CHSP.

Beyond the data collection effort there are other efforts that the Rockford MPO can undertake. These include outreach, safety criteria, expertise development, road safety audits and alternative modes of transportation. The strategy for implementing these efforts will be formed after the CHSP is developed.

10.9.1 Transportation Security

The events of September 11 were an awakening for metropolitan areas to prepare for and respond to unexpected security incidents. All government agencies need to think about their role in regard to planning and responding to such events. The Rockford MPO has little authority or responsibility beyond that of developing the transportation plan and transportation improvement program. However, the Rockford MPO provides a centralized location of information on the transportation system. This information could be used to help identify vulnerable areas and to help with security disaster planning.

In terms of the Rockford transportation system, it is difficult to foresee a part of the system that would be vulnerable to physical attack. It is a medium-sized urban area and does not seem a likely choice for a terrorist attack. Still, the need to plan for such events is unquestionable. A leading document on this matter suggests that bridges would be the most likely components of the transportation system that would be vulnerable to physical attack.⁹ Most of the bridges in the Region are either over the Rock River or are part of the interstate system. Bridge inspection is conducted every two years. However, the bridges are normally inspected for structural reasons and safety has not been considered as part of the process.

Another area of concern is moving large numbers of people escaping the immediate area following a disaster incident. The Rockford MPO could identify the most effective routing for emergency vehicles, as well as for the evacuation of large numbers of people.

10.9.2 Transit Security

In the past, transit security (i.e., protection from crime) has not been a significant problem in the Rockford area. The RMTD Transfer Center includes the presence of a security officer and dispatchers. The bus-loading area is lighted and monitored with security cameras. Also, the Transfer

⁹ See National Research Council, *Improving Surface Transportation Security, A Research and Development Strategy*, Washington DC National Academy Press, 1999.

Center is located across the street from the Public Safety Building (police headquarters).

On the buses themselves, drivers have the authority to expel unruly patrons at any time. RMTD policy prescribes that the bus be stopped in a safe, lighted area and that the dispatcher be notified by radio. Younger school children are not usually expelled from buses. Instead, school principals are notified and children who are frequently or seriously disruptive are prohibited from riding. The school principals are expected to notify parents, but the transit agencies can also contact parents, if needed. At present, the frequency of incidents where patrons need to be expelled has been small.

To minimize the crime problem, all transit vehicles (fixed-route and paratransit) are radio equipped. Some paratransit vehicles are also equipped with cellular phones. The vehicles have constant communication potential with their dispatching centers and, during evening hours, all radio communications are monitored by Rockford's 911 Emergency Center.

10.10 Smart Growth

Smart growth is an emerging urban planning concept that deals with guiding the growth of a community in an effective manner. The smart growth movement promotes an efficient transportation system that will result in cleaner air, reduced travel costs, fewer travel delays, healthier communities and reduced costs for transportation infrastructure. Smart growth is intended to integrate land use and transportation planning and encourage connectivity, accessibility and mobility in the transportation system.

A smart growth initiative was started by Winnebago County in January 2002 through grant assistance from IDOT. Phase I of this effort was completed in Year 2004 and Phase II begun at the end of 2004. This effort is expected to continue throughout the preparation of this Plan and will not be completed until late in the Year 2005. However, it will have an important affect on future transportation and land use practices in the Region. RATS will monitor the Winnebago County Smart Growth effort and the final outcome will be employed in the next LRTP. However, some of the strategies of smart growth are already employed by the MPO and are discussed in this LRTP, such as:

- Development of a cooperative transportation planning process that encourages regional cooperation and participation by all stakeholders affected by the Plan.
- Preservation of transportation resources by applying the majority of public funding to renovate, repair and improve the existing transportation system versus funding new roadways.
- Encouraging alternative modes of transportation: sidewalks, bike paths and bus/rail transit.
- Recognition of the Winnebago County Regional Greenway Plan and the need for transportation improvements to avoid these sensitive areas.
- Achieving maximum effectiveness of transportation investment through the application of congestion management systems.
- Encourage human service transportation.
- The CSS concept discussed in this LRTP is inspired by the smart growth principles.

The Rockford MPO promotes the principles of smart growth and is already well along in working with the concept. The Winnebago County effort provides an exciting opportunity to further advance these principles. It may take some time for the Winnebago County efforts to formulate into policy for the Region; however, the Rockford MPO has a framework in place that will encourage smart growth practices.

10.11 Strategic Regional Arterials

10.11.1 Intent of the Strategic Regional Arterials

The Chicago Area Transportation Study and the Northeastern Illinois Planning Commission have designated a system of Strategic Regional Arterials (SRA) as part of the development of their LRTP. The SRA system augments the primary expressway system and helps to accommodate long distance, high volume traffic needs of the Region (see **Map 10-3**). From a traffic perspective, the purpose of SRA will vary depending on the attributes of the area in which they are located. The ability to preserve ROW for expansion and to control and consolidate access is important considerations. There is no single design that will be appropriate for all SRA designated routes. In all cases the compatibility of the roadway design with the needs of public transit is considered. As part of a comprehensive approach, the SRA system is intended to:

- Supplement the primary expressway system
- Enhance public transportation
- Accommodate commercial vehicle traffic
- Increase personal mobility and reduce congestion

10.11.2 Need for a Strategic Regional Arterial

Historically, the Rockford Region has lacked the roadway investment typical of regions of similar size. At this point in time it is not practical to begin to build an internal freeway or expressway system in the Region.

The Northeast Illinois SRA system concept provides a planning mechanism to guide the modernization of the existing arterial roadway network in the Rockford Region, especially as it relates to the modernization of the entries to the urban core.

This framework is a natural fit for the sweeping changes in transportation planning that were initiated with ISTEA and TEA-21. The national transportation laws shifted the views of transportation professionals by asking for a reconsideration of the way planners and engineers had traditionally approached transportation planning, such as:

- Think intermodal, going beyond traditional modal boundaries.
- Invest strategically, using limited resources wisely on facilities and technology.
- Think of transportation in the greater context of the community, the environment, health, safety and the economy.
- In a broader context, invite more participation in the decision-making.

10.11.3 The Strategic Regional Arterial Planning Process

Development of a comprehensive, long-range plan for an SRA system will be a lengthy process that will span the planning horizon of the LRTP. The process should identify both short and long range improvements. Key objectives to this planning process are as follows:

- Determine the types of roadway improvements needed.
- Examine ways to enhance public transportation.
- Identify and protect needed rights-of-way.
- Manage access to SRA routes to improve through traffic movement and reduce conflicts.
- Coordinate land use and development projects with transportation improvements.
- Identify ways to encourage and accommodate the growth in commercial traffic.
- Accommodate necessary bicycle and pedestrian travel on the SRA route corridors.
- Identify potential environmental concerns.

10.11.4 Strategic Regional Arterial Route Types

Within the overall SRA network, there are significant differences in the roadway environment that determine how routes may function on the system. Three different types of SRA routes have been designated corresponding to the different types of roadway environment: urban, suburban, and rural. The designation of route types within the overall SRA system reflects the density of development within the different portions of the Region. The projected density of dwelling units in 2025 can be used as a criterion for defining route types (see **Map 2-7b**). The suggested densities from Northeast Illinois are:

- Urban – Over 5.0 dwelling units per acre.
- Suburban – Between 0.5 and 5.0 dwelling units per acre.
- Rural – Less than 0.5 dwelling units per acre.

SECTION 11

REFERENCES

SECTION 11 REFERENCES

Plan Definition

Federal Guidance

- 23 USC 134 and 49 USC 5303-5306.
- Sections 174 and 176 (c) and (d), Clean Air Act [42 USC 7504, 7506 (c) and (d)].
- Title VI of the Civil Rights Act of 1964 and the Title VI assurance executed by the State of Illinois under 23 USC 324 and 29 USC 794.
- Section 1101 of the Transportation Equity Act for the 21st Century (Public Law 105-178) regarding the involvement of disadvantaged business enterprises in the Federal Highway Administration and the Federal Transit Administration funded planning projects [Sec 105(f), Public Law 97-424, 96 Stat. 2100, 49 CFR part 23].
- The Americans with Disabilities Act of 1990 [42 USC 12101 et seq.] and U.S. Department of Transportation regulations “Transportation for Individuals with Disabilities”[49 CFR Parts 27, 37 and 38]
- Statewide Planning; Metropolitan Planning; Rule” Federal Register, October 28, 1993, and as superseded by the Transportation Equity Act for the 21st Century, June 9, 1998.
- Federal Register, Statewide Transportation Planning; Metropolitan Transportation Planning; Proposed Rule, Volume 65, Number 102, May 25, 2000.
- Code of Federal Regulations, Title 23: Highways, Part 450 – Planning Assistance and Standards.
- Federal Highway Administration, The Metropolitan Transportation Planning Process: Key Issues, <http://www.mcb.fhwa.dot.gov/documents/BriefingBook/BBook.htm#back>
- Federal Highway Administration, Certification Review of the Metropolitan Transportation Planning Process for the Rockford Transportation Management Area, December 2003.
- Federal Register (Volume 69, Number 28), Federal Transit Administration Fiscal Year 2004 Apportionments, Allocations and Program Information; Notice, February 11, 2004.
- Federal Highway Administration, Illinois Division, letter dated November 5, 2004 from Norman Stoner, Division Administrator, to Dick Smith, Office of Planning and Programming, Illinois Department of Transportation, concerning FY 2005 Planning Emphasis Areas.
- Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework: Issues and Plans, April 2, 2004.

State Guidance

- Illinois Department of Transportation, FY 2005-2011 Proposed Highway Improvement Program.
- Illinois Department of Transportation, Bureau of Design and Environment Manual, December 2002.
- Rockford Area Transportation Study.
- Long-Range Transportation Plan: Year 2000-2025, July 27, 2000.
- Unified Work Program for FY 2005, May 20, 2004.

Planning Process

- Rockford Area Transportation Study, Transportation Planning in the Rockford-Beloit Area Issues Related to Changes in Organization and Structure, August 22, 2002.
- Rockford Area Transportation Study, Cooperative Agreement Forming and Empowering the Rockford Area Transportation Study, July 24, 2003.

Land Use Plans

- Boone County, Boone County Comprehensive Plan, prepared by Vandewalle and Assoc., adopted November 10, 1999.
- City of Belvidere, West Hills Neighborhood Plan: A Detailed Land Use Plan for the U.S. Business Route 20 Corridor in West Boone County, adopted July 22, 1997, prepared by Vandewalle and Assoc.
- City of Loves Park, Comprehensive Plan, adopted by the City Council on August 18, 1997.
- City of Rockford, Year 2020 Land Use Plan, September, 2004.
- Village of Cherry Valley, Cherry Valley Comprehensive Plan, April 2004, (Draft).
- Village of Machesney Park, Village Plan 1994, prepared by Trkla, Pettigrew, Allen and Payne, Inc.
- Village of Roscoe, Comprehensive Plan 2001 Update, prepared by Missman Stanley and Assoc.
- Winnebago County, Year 2010 Land Use Guide, map prepared by Northern Illinois University Department of Geography.

Transportation Modeling

- Bucher, Willis and Ratliff, Boone County and Winnebago County Transportation Planning Study Phase 1-A: Development of PM Peak and Daily Travel Demand Models and an Evaluation of Existing Transportation Conditions, June 2004.
- Bucher, Willis and Ratliff, Boone County and Winnebago County Transportation Planning Study Phase 1-B: Forecast Medium to Long-Range Travel Demand and Road Improvements, June 2004.
- Bucher, Willis and Ratliff, Boone County and Winnebago County Transportation Planning Study Phase 2: Transportation Plan for Northeastern Winnebago County, June 2004.

Public Involvement

- Rockford Area Transportation Study, Public Involvement Process, April 24, 2003.

Environmental Justice

- Rockford Area Transportation Study, Environmental Justice and Title VI Considerations related to Transportation Planning and Transportation Improvements in the Rockford Metropolitan Area, September 2003.
- Title VI and Environmental Justice of the Public Transit Services provided by the Rockford Mass Transit District in the Rockford Urbanized Area, March 2004.
- Federal Highway Administration, Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 6640.23, December 2, 1998.

Primary Elements

Public Funding

- Rockford Area Transportation Study, Fiscal Year 2005 Transportation Improvement Program, August 26, 2004.
- Rockford Area Transportation Study, Fiscal Year 2004 Transportation Improvement Program, August 28, 2003.
- Rockford Area Transportation Study, Fiscal Year 2003 Transportation Improvement Program, August 29, 2002.
- Rockford Area Transportation Study, Fiscal Year 2002 Transportation Improvement Program, August 2, 2001.
- Rockford Area Transportation Study, Fiscal Year 2001 Transportation Improvement Program, January 25, 2001.

Airports

- Northwest Chicagoland International Airport at Rockford, www.rockfordairport.com
- Poplar Grove Airport, www.poplargroveairmotive.com
- Illinois Department of Transportation, FY 2004-2008 Proposed Airport Improvement Program.
- City of Rockford, Rockford Global Trade Park Industrial Redevelopment Planning Area: Redevelopment Plan and Project Tax Increment Finance District, prepared by Kane, McKenna and Assoc., Inc., March 15, 2004.
- City of Rockford, Rockford Global Trade Park Industrial Redevelopment Project Area #1: Redevelopment Plan and Project Tax Increment Finance District 1, prepared by Kane, McKenna and Assoc., Inc., June 7, 2004.

Rail

- City of Rockford, Rockford Railroad Consolidation Study, September 2003, prepared by Wilbur Smith Assoc.
- Upper Midwest Freight Corridor Study, www.uppermidwestfreight.org

Roadway

- Steve Ernst; Statements to Illinois State Toll Highway Authority at public hearings on April 17, 2002; November 17, 2003; and March 8, 2004.
- Illinois Toll Highway Authority, Long-Range Plan Summary, 2004.
- City of Rockford; Business US-20 – West State Street Corridor Study; prepared by Wight and Company, Wolff Clements and Assoc., Limited, Gary W. Anderson and Assoc., Inc. and Real Estate Planning Group; September 2002.
- Rockford Area Transportation Study, Average Daily Traffic Counts – Rockford Urban Area: 1999 Data and Roadway Functional Classifications.
- Rockford Area Transportation Study, Truck Routes: Rockford Urban Area: 1999 Data and Roadway Functional Classifications.

Mass Transit

- Vlecedes Schroeder Assoc., Inc., Roscoe/Rockton Transit Feasibility Study, December 2003.
- Rockford Mass Transit District, Route and Schedule Book, effective March 1, 2004.

- RLS and Assoc., Inc., Dayton Ohio, Belvidere Urbanized Area Transit Development Plan: Technical Memorandum #1 – Existing Conditions, June 21, 2004.
- Northern Illinois Commuter Rail Initiative, Commuter Rail Feasibility Study, October 20, 2004, prepared by Transystems Corporation.

Refining Elements

Air Quality

- Illinois Environmental Protection Agency, Illinois Annual Air Quality Report 2003, August 2004.
- Makler, Jonathan and Arnold M. Howitt, Conforming to the New Air Quality Standards: Tips for Transportation Agencies, Transportation Research News, July-August 2003.

Congestion Management Systems

- TransCore, Rockford Area Congestion Management Activities, October 1997.
- Missman, Stanly and Assoc., Riverside Boulevard Congestion Management Study, June 2003.
- Winnebago County Highway Department, Forest Hills-Riverside/Alpine Congestion Management Study, January 1999, prepared by Barton-Aschman Assoc., Inc.

Context Sensitive Solutions

- Illinois Department of Transportation, Context Sensitive Solutions: Detailed Guidelines for Practice, www.dot.state.il.us/css/home.html
- American Association of State Highway and Transportation Officials, A Guide for Achieving Flexibility in Highway Design, May 2004.

Intelligent Transportation Systems

- Illinois Department of Transportation, Illinois Statewide Intelligent Transportation System Architecture: Volume III - Concept of Operations, prepared by Edwards and Kelcey, September 2004.
- Illinois Department of Transportation, Illinois Statewide Intelligent Transportation System Architecture: Regional Architecture Development Plan, prepared by Edwards and Kelcey, September 2004.
- Illinois Department of Transportation, Illinois Intelligent Transportation Systems Newsletter, Number 1, July 2004.
- Wisconsin Department of Transportation District 1, North-Central Illinois Intelligent Transportation Systems Architecture, prepared by TransCore, February 2003.
- Wisconsin Department of Transportation District 1, Alternate Route Operations Guide for the Beloit/Janesville/Rockford Arterial Management Workgroup, May 28, 2004.

Management and Operations

- United States Department of Transportation, Federal Highway Administration, System Management and Operations: Planner's Resources, www.plan2op.fhwa.dot.gov
- United States Department of Transportation, Federal Highway Administration, Getting More

by Working Together-Opportunities for Linking Planning and Operations, September 10, 2004.

- Transportation Research Board, Performance Measures of Operation of Effectiveness for Highway Segments and Systems: A Synthesis of Highway Practice, 2003.

Planning and Environment

- Integration of Planning and National Environmental Protection Act Processes, a memorandum from DJ Gribbin, Chief Counsel, Federal Highway Administration and Judith S. Kaleta, Acting Chief Counsel, Federal Transit Administration dated February 22, 2005.
- Federal Highway Administration and Federal Transit Administration, Linking the Transportation Planning and National Environmental Policy Act, February 2005.

Safety & Security

- American Association of State Highway, The Strategic Highway Safety Plan, September 1997.
- Transportation Research Board, E-Circular E-C025, Safety-Conscious Planning,” January 2001.
- Federal Highway Administration, Regional Transportation Operations Collaboration and Coordination: A Primer for Working Together to Improve Transportation Safety, Reliability, and Security.
- Civil Engineering, Bridge and Tunnel Security, Volume 74, Number 9, pp 41-49, September 2004.

Smart Growth

- Winnebago County, Winnebago County Balanced Growth Initiative, prepared by Teska Assoc., Inc. and the Metropolitan Planning Council.
- Institute of Transportation Engineers, Smart Growth Transportation Guidelines: An Institute of Transportation Engineers Proposed Recommend Practice, 2003.

Strategic Regional Arterials

- Illinois Department of Transportation, Bureau of Design and Environment Manual, Chapter Forty-Six, Strategic Regional Arterials.
- Clark Dietz, Inc., City of Rockford Harrison Avenue Principal Arterial Study: Illinois Route 2 to Mulford Road, July 2000.

Other

- Stateline Area Transportation Study: Beloit, Long Range Transportation Plan: 1995-2020.
- Institute of Transportation Engineers, Transportation Planning Handbook, 1999.