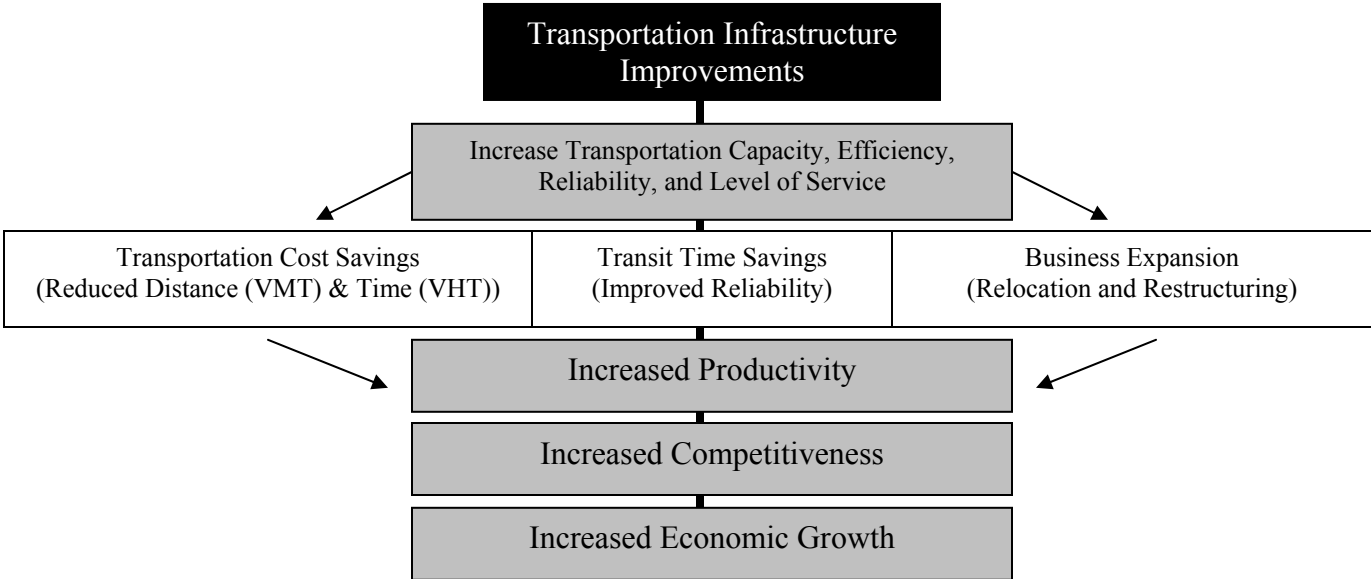


Chapter 7: Freight Plan

Introduction

Freight is defined as the transportation of commodities/cargo, raw or finished. It is an important player in the vitality of the local economy. The ability of freight to move to and from the St. Cloud Metro Area is an important factor in the effectiveness of supply reaching the demand of our residents and businesses. In its most simplistic form, raw materials are moved to local manufacturers. These manufacturers in turn produce goods. The goods are then distributed locally, nationally, and/or internationally to various businesses. Businesses consume, resell, or reuse the goods. Along each link in the supply chain, the form of the good may be altered. For example, raw lumber is used to make 2x8s, which are sold at a local retail outlet to a construction company. This company then uses the 2x8s to create floor joists in constructing a house. A resident that works for a local trucking company then purchases the house. This also illustrates how the freight industry is the foremost champion of employment, not only for shippers and haulers, but also within businesses that sell and/or consume products. Truck dependent industries employ nearly 50% of Minnesota’s workforce¹.

Exhibit 7A: Impacts of Transportation Investments



It is important to have a strong infrastructure, such as roadways, railroads, intermodal facilities, etc. to support freight movement. Investments in transportation infrastructure can lead to better or cheaper freight services, which in turn lead to increased productivity. Highway infrastructure improvements (Chapter 5), which may include additions of new roads, expansion or improvement of existing roads, and the strategic implementation of Intelligent Transportation Systems (Chapter 8), reduce costs for two reasons. First, as the network expands the density of its links increases, making point-to-point trips less circuitous and thereby reducing distances (measured in vehicle miles traveled). Second, the addition of new roads and capacity expansions on existing roads may decrease congestion and ultimately travel times (measured in vehicle

¹ Minnesota Trucking Association

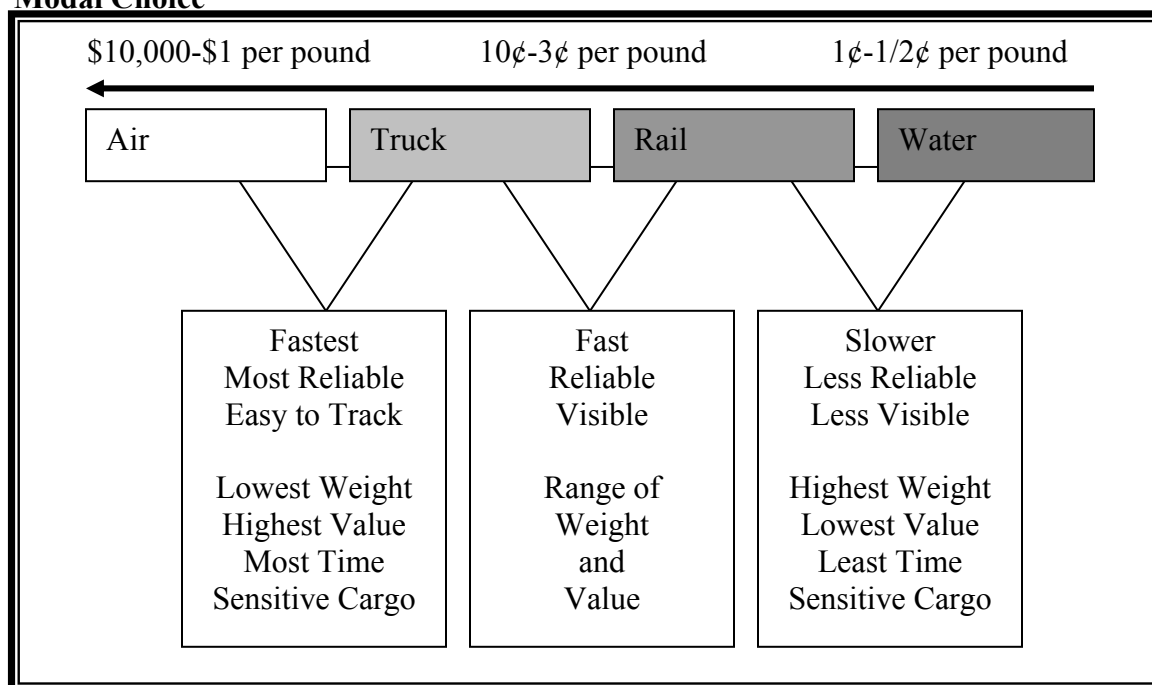
Chapter 7: Freight Plan

hours traveled). Accordingly, investing in a comprehensive transportation infrastructure improves the productivity of the freight hauling industry, businesses and transit (exhibit 7A).

Modal Choice

Goods may be moved by truck, rail, air, and water. Modal choice depends largely on the 1) Characteristics of the goods being moved (size, weight, packaging requirements, shelf life, value, etc.), 2) Where it is going, and 3) When it needs to get there. Not all modes may meet the shipping requirements of a particular good. In addition, more than one mode may be used to transport a good because either the product has been altered (size, volume, etc.) or it becomes more cost effective to use intermodal facilities. Therefore, it is important to understand what role each mode plays in the freight industry. Exhibit 7B illustrates the general characteristics associated with each mode.

Exhibit 7B Modal Choice



National Highway Institute

Freight Movement in Minnesota

Freight movement can be measured in either value of the good being moved or total weight (generally tons) of the product. Annually, 636 million tons of freight, 4 percent of the U.S. total, moves into, out of, intrastate, or through Minnesota. This freight is valued at approximately \$562 billion, or 6 percent of the U.S. Gross National Product² (see exhibit 7C & 7D). By 2020, the weight of freight shipped in, out, within and through Minnesota is expected to reach 1,019 billion

² Information provided by the Minnesota Statewide Freight Plan, May 2005. Minnesota Department of Transportation

Chapter 7: Freight Plan

tons, an increase of 60 percent over 2001. This will significantly increase freight transportation demand on the State's infrastructure. The value of Minnesota's freight flows is forecast to increase from \$562 billion to \$1.171 trillion between 2001 and 2020, more than doubling the current value of shipments. The growth rate in value is significantly higher than the growth rate for tons. This indicates that by 2020 the shipment of high-value goods will increase relative to 2001, while the shipment of low-value goods will decrease. However, the distribution of value between each of the trip types will remain largely unchanged.

Exhibit 7C

State Freight Movement by Weight (annually)

Direction	Weight (Tons)	Percent
Inbound	132.8 Million	21%
Outbound	152.4 Million	24%
Intrastate	208.4 Million	33%
Through	142.0 Million	22%

Exhibit 7D

State Freight Movement by Value (annually)

Direction	Value (Dollars)	Percent
Inbound	\$121.0 Billion	22%
Outbound	\$115.7 Billion	21%
Intrastate	\$166.4 Billion	29%
Through	\$159.2 Billion	28%

Nearly 22 percent of the freight tonnage and 28 percent of the value moving on the transportation system in Minnesota has neither an origin nor destination in the State, but rather, serves the national economy. The vast majority of the freight traveling through Minnesota is generated by the Midwest, Plains and Mountain states, which are also major trading partners for Minnesota. In addition, Minnesota serves as a major gateway for freight shipped to and from Canada. Overall, the freight shipped through Minnesota is split almost equally between rail and truck. The commodities moving through Minnesota are primarily bulk freight such as farm and food products, coal, chemicals and lumber.

Truck Movement

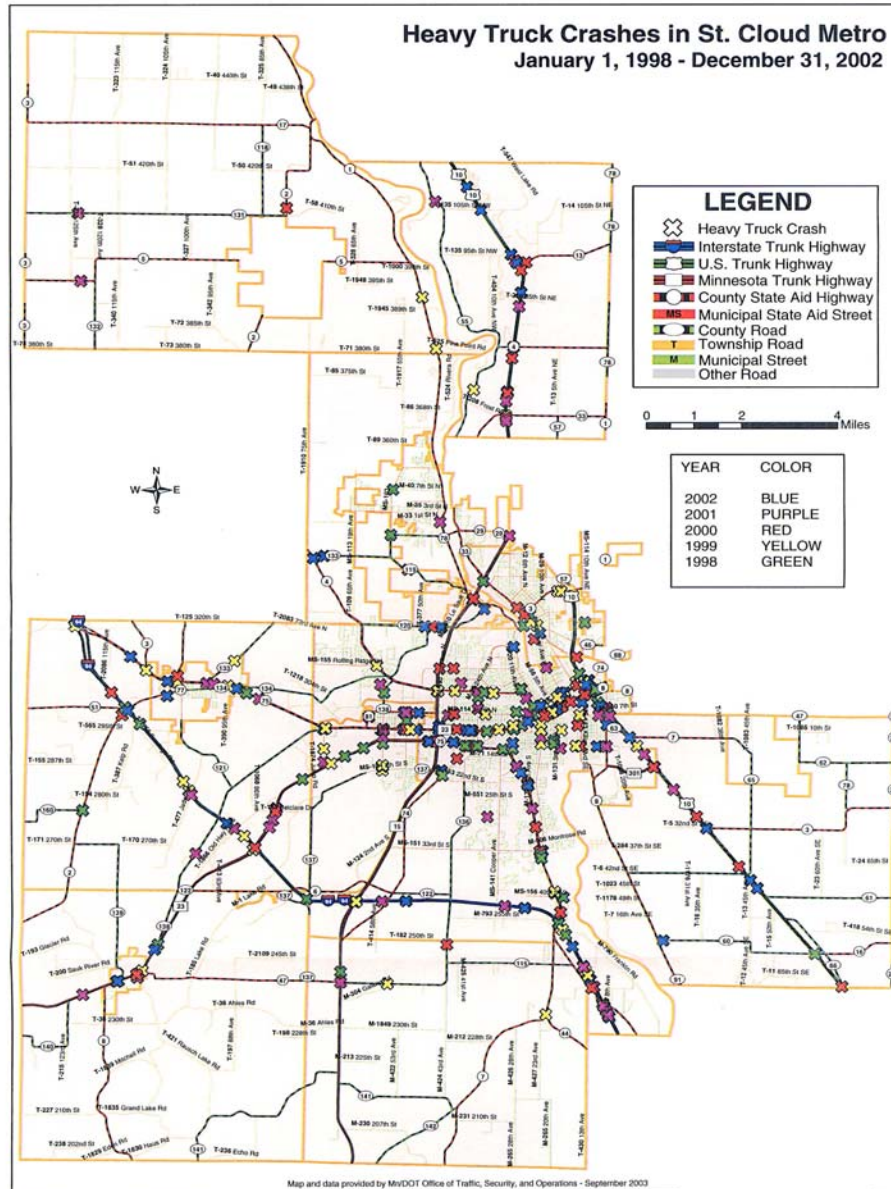
For the purposes of this Plan, a truck is defined as any vehicle designed for the transport of cargo (rather than passengers) with three or more axels. Therefore, smaller vehicles such as delivery trucks and the like are unclassified and are measured in person trips.

The movement of goods by truck provides cost-effective, door-to-door service for businesses, factories, and consumers. Factors such as speed, route flexibility, specialization, and less stringent packaging requirements are some of the benefits to moving goods by truck. Access and versatility allows trucks to operate as a central link in the distribution of goods and services. Accordingly, trucks are the mode used most often for the timely movement of goods.

Chapter 7: Freight Plan

In the State of Minnesota, truck traffic is expected to grow over the next twenty years. Most truck freight moves primarily on Minnesota's Interstate Highway System and major Inter-Regional Corridors (IRCs) such as I-94, TH 10, TH 15 (regional corridor) and TH 23 in the St. Cloud Metro Area. These routes are State priorities for both travel time reliability and safety.

Exhibit 7E Truck Crashes (Information Provided by MnDOT)



Chapter 7: Freight Plan

Centrally located within the state, the St. Cloud Metro Area is an outstanding location, giving local trucking firms many opportunities to provide low-cost and efficient transport of goods. Currently, the APO travel model assumes that truck traffic accounts for 10 percent of the ADT on major roadways. By 2030 the truck traffic on all of these routes is expected to increase proportionally. While no new major highways are planned, capacity increases on existing highways are included in the Minnesota Statewide Transportation Plan.

The future of motor freight transportation involves coordination with the diverse trucking industry and the industrial/commercial facilities that depend on haulers. Therefore, as a transportation planning agency, the APO's objective is to maintain a consistent network of inter-connected roads that enhance the safe and efficient movement of goods.

To gain a better understanding of local trucking issues, the APO developed a questionnaire for key stakeholders to seek input into this 2030 Plan. The questionnaire was sent to local freight haulers, major retail stores (100,000 square feet or more) and large manufacturers with annual sales of more than \$1 million.³ Refer to Exhibit 7F for a map of the businesses that were sent the questionnaire. In addition, the APO solicited comments from the Mid-Central Minnesota Traffic Club, a group composed of local trucking interests. The results are as follows.

Truck Statistics in Minnesota

- Trucks deliver freight for 9,184 manufacturing companies, supply goods to 28,356 retail stores, and stock 15,162 wholesale trade companies.
- Trucks supply goods to over 3,000 agriculture businesses.
- Trucks (exclusively) deliver food and supplies to 68% of Minnesota Communities.

Connectivity and Congestion

A well-defined transportation network must exist in order to provide a sufficient amount of roadways for the efficient movement of goods.

Questionnaire Recommendations

- Improve north/south and east/west movements within the St. Cloud Metro
- Interchanges along TH 15 (at 2nd St, Division, and 3rd St)
- A bypass to Division Street or additional service roads
- Additional intersections with left turn arrows
- A bridge to service the St. Cloud Industrial Park West
- An additional bridge crossing the Mississippi River
- Extend Saukview Drive to connect from 72nd Avenue to TH 23
- Construct a bypass from I-94 to TH 10 on the eastside of St. Cloud

Access Control

Access controls can be effective in maximizing mobility for facilities carrying a high number of trucks (refer to Chapter 6: Access Management). Existing facilities, where these controls have

³ 2003 Manufacturers Register

Chapter 7: Freight Plan

not been exercised experience safety and congestion problems, impeding the movement of goods. In addition, locations of major generators (Exhibit 7F) are inversely related to crash locations. Exhibit 7E identifies crashes involving semi tractor-trailer trucks from 1998-2003. As such, through coordination with local zoning and engineering departments these corridors should be screened and potential strategies developed.

Questionnaire Recommendations

- Improve access along TH 10
- Develop a connection to Veterans Drive between 44th Avenue and 3rd Street
- Develop a connection from TH 10 to I-94
- Review signal timing along TH 15 and TH 23 at Mayhew Lake Road
- Improve merging lanes on roadways with heavy truck traffic to assist in turning movements (Co Rd 75 in St. Joseph to Co Rd 133)

Intermodalism

The practice of intermodalism involves cooperation between various different modes of transport. Trucking can be paired up with air or rail to provide intermodal opportunities. Although intermodal facilities currently do not exist in the St. Cloud Metropolitan Area, the projected growth of the region (See Chapter 3: Land Use) could lead to greater need to development of such facilities. Thus, the various stakeholders for each facility should be incorporated into the planning process so that future opportunities are not precluded.

Questionnaire Recommendations

- Plan for citywide commerce and industry within industrial parks (specifically at the St. Cloud Airport)

Short Term Strategies

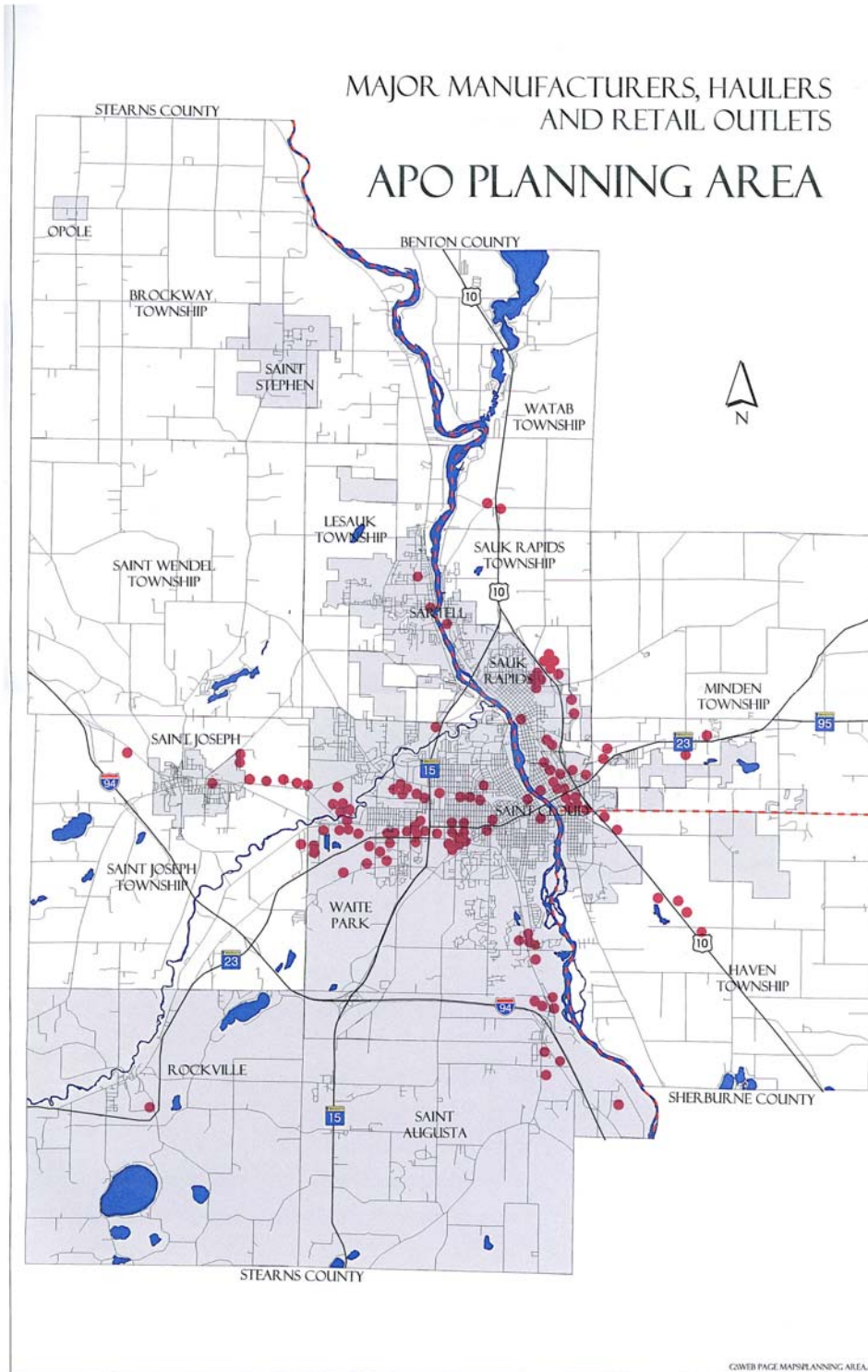
- Conduct a comprehensive freight movement inventory to provide a better understanding of freight mobility specific to the St. Cloud Metro Area. This inventory should include 1) commodity flow information (in, out, within and through), 2) the identification of major, local, freight generators (origins and destinations), 3) pivotal roadways used for freight movement to help identify deficiencies and impediments to freight connectivity (including intermodal connectivity), 4) crashes involving trucks relative to major freight corridors, and 5) the most appropriate modeling techniques to forecast potential impacts.

Long Term Strategy

- Improve deficiencies on the roadways used by major freight generators identified by the detail freight movement inventory.

Chapter 7: Freight Plan

Exhibit 7F



Chapter 7: Freight Plan

Rail Movement

Minnesota's rail system consists of four major carriers known as Class I. These carriers have annual gross operating revenues over \$261.9 million and move 31 percent (in tons miles) of the total freight for Minnesota (10 percent of the total value). In general, they are considered long-haul carriers. The Class I companies operate 3,250 miles of rail lines in Minnesota and include:

- Burlington Northern Santa Fe (1641 miles)
- Canadian Pacific Rail System (651 miles)
- Union Pacific Railroad (507 miles)
- Canadian National Railways (451 miles)

The St. Cloud Metropolitan Area includes portions of Stearns, Benton and Sherburne Counties, in which only the Burlington Northern Santa Fe (BNSF) rail line operates. Therefore, providing for the needs of rail transportation in the St. Cloud Metropolitan Area involves working closely with the Burlington Northern Santa Fe Railroad. Each year, the Burlington Northern carries high volume bulk cargo long distances such as coal, aggregates, paper products, freezers, and scrap.

Intermodal Opportunities

In order to ensure proper functioning of the railroad as a viable transporter of goods, it must continue to capitalize on intermodal opportunities. The use of trailers and containers on flat cars promotes cooperation between trucking and rail modes. This cooperation can limit congestion on local highways, save energy, and be more environmentally friendly. Currently, various industries throughout the St. Cloud Metropolitan Area must truck freight to St. Paul to reach the nearest intermodal facility. Accordingly, with rail lines owned by one major carrier, opportunities may exist for expanded use of railroads in goods movement, creating many opportunities for partnerships between select trucking companies and BNSF. With the increased use of intermodal transport due to its cost-saving efficiency, trucks and trains can effectively increase productivity and lower transportation costs. Mn/DOT's implementation of the Intermodal Management System should enhance the ability to provide these coordinated services. However, challenges exist to the expansion of intermodal freight movement, especially in Minnesota.

It should also be noted that safety is an important issue surrounding rail movement. Local jurisdictions should identify potential conflicts with other users of the transportation system such as automobiles, bicyclists and pedestrians. Mn/DOT's implementation of the Safety Management System should enhance the ability to track this information.

Short Term Strategies

- Conduct a comprehensive analysis of rail movement within the APO's Planning Area to identify the types of goods being moved, track usage, surrounding land use (i.e. zoning) at existing rail terminals, and location(s) that have had conflicts with other modes of travel (i.e. automobiles).

Chapter 7: Freight Plan

Long Term Strategies

- From the rail analysis, develop a localized rail plan identifying the location of *potential* intermodal facilities (rail and truck) and Intelligent Transportation Systems (Chapter 8) that could be implemented to improve both logistics and address safety.

Air Movement

Airports play a role in guiding the development of a safe, affordable, and well-balanced transportation system by providing effective passenger and freight transportation. The types of cargo shipped by air tend to be low-weight, high value products that are extremely time sensitive. Nationally, airfreight accounts for less than one percent of the total ton of freight shipped and six percent of the value. It is important to note that to move freight by air successfully, it must be closely tied to truck or rail movement. Therefore, connectivity of the airport to freight facilities within the region is very important. These direct connections are vital because time sensitivity is the single most important factor for modal choice.

Currently, the St. Cloud Municipal Airport does not provide air cargo services. However, due to its proximity to the Twin Cities, in the future, business demands may lead to an increase in this type of service. Therefore, it is important to provide safe and convenient access to airport services through all local and regional planning endeavors.