

2003

JUNE

Tier 2 Air Service Study

Minnesota in Partnership with Wisconsin



TECHNICAL REPORT

Office of Aeronautics
Minnesota Department of Transportation

Prepared by:

KRAMER aerotek, inc.
Ricondo & Associates, Inc.
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Chapter 1 - Summary

1.1 Overview

In 2002, the Office of Aeronautics convened an Advisory Committee to identify ways to increase the commercial use of perimeter airports outside of the Minneapolis-St. Paul metropolitan area.

There were many important reasons to begin the dialogue. After a seven year planning effort, the Minnesota Legislature had directed the Metropolitan Airports Commission (MAC) to set aside the concept of a replacement airport and implement a \$3.1 billion airport improvement program at MSP. The new focus was on maximizing existing airport resources. While no capacity shortfalls exist at MSP near term, increased use of smaller jet aircraft opened the possibility for better utilization of perimeter airports and for relief from traffic congestion on the roads into the Metro area.

The Tier 2 Air Service Study began as an exploration of the roles and functions of the Tier 2 airports that surround Minneapolis-St. Paul. These airports are in both Minnesota and Wisconsin and include Duluth, Rochester, St. Cloud and Eau Claire. The study launched with the premise that someday the highways would be even more crowded and that eventually MSP might have capacity issues of its own. Since major changes at airports require planning, design, environmental assessments, community and political consensus and finally money, lots of money, it seemed prudent to examine what were the possible future roles for these airports and start to get straight on what needed to be done to build an inter-regional system of passenger airports in the metropolitan area.

The project took place at one of the most chaotic periods in airline history: a recession, world turmoil as terrorism injected itself into everyday life, a highly contagious and deadly SARS virus and a structural breakdown of the airline industry. As the Air Transport Association has characterized the situation, it is one with all of the ingredients for the *Perfect Storm*.

Many wondered whether this was the time to think about air service to small communities. However, it was MnDOT's Office of Aeronautics view that perhaps this is the perfect time amidst the perfect storm. In a situation where airlines must adapt or die, it is necessary and possible to retrain the eye and begin to see the possibilities.

One of the most positive national outcomes of the last two years is a new awareness of the real partnerships in the airline industry: the community, the airports, the carriers and the government. The airlines, of course, enjoy the leading role, but the supporting cast is indispensable as they provide the passengers, the physical infrastructure, the oversight and the money. These difficult times have brought recognition of the partnerships and the opportunity to work better together.

So we have passed into a new phase. Before deregulation, the Civil Aeronautics Board told the airlines, 'you fly where we say and charge this amount.' After deregulation, the airlines said, 'we'll fly where we want and stop taxing us to death.' And now, there is grudging recognition that the whole cast has to work together or the system fails.

In many ways, the Tier 2 Air Service Study was about process as much as analysis. In the technical report, there is the dense recitation of traffic and service trends, runway lengths, future possibilities based on industry dynamics and local potential. But after the last page is written and read, the real value of the Tier 2 Initiative was the regular

meetings where Rochester, Duluth, Eau Claire, St. Cloud, the Wisconsin and Minnesota Departments of Transportation, and the MAC sat in the same room and discussed how to better cooperate, strengthen their respective business centers, and how to jointly market their airport resources.

It was here in these meetings that the Tier 2 Incubator emerged as a vehicle to move forward on common issues with the recognition and respect for individual airport initiatives.

So despite and because of the trouble, the system of airports has become strengthened through the process. This is the value of the Tier 2 Air Service Initiative. The report that follows is a long and detailed snapshot in time. But the real conversations are continuing.

The framework for the study is shown in Figure 1- 1.

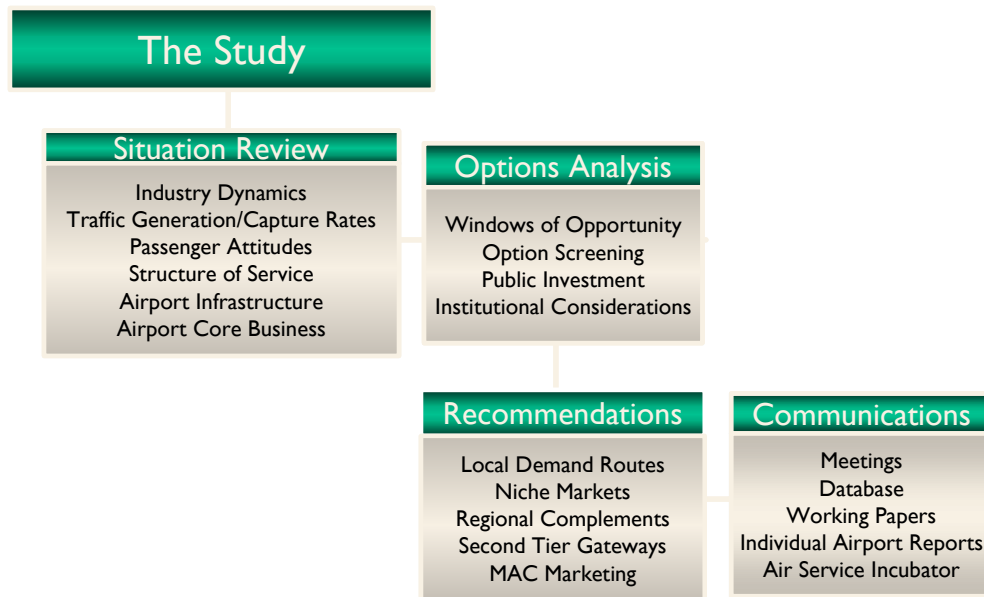


Figure 1- 1. Study Framework

1.2 Findings

Exciting New Roles for Tier 2 Airports

Tier 2 Airports can participate in the Minnesota and Wisconsin system of airports as:

- Gateways to mainline carrier networks
- Reliever airports for Minneapolis-St. Paul International Airport.
- Business centers for aviation-related and commercial enterprises
- Regional triage centers
- Aircraft maintenance centers
- Cargo and cargo distribution facilities
- Recipients of MSP airport divestiture
- Multi-modal transportation hubs

- National guard headquarters and military training and deployment centers
- Incubator or test sites for new solutions for community air service.

Building Enplanements & Network Access

Individual airport proprietors will have much to do to attract additional network carriers. It is not enough these days to provide airlines with the opportunity to serve a potentially profitable market. Other incentives such as revenue guarantees and travel banks are becoming the norm rather than the exception for most new service. Hard times will require committed, community response. Even the mainline carriers are expecting communities to share the risk of new service.

Low cost, low frequency carriers are likely to continue operating from MSP where the passenger density is high. A Southwest entry is unlikely near term unless there is a major change in hub operations at Denver or MSP.

Time of Opportunity

The convergence of one time events, a cyclical downturn and structural problems has forced the airline industry to question basic operating assumptions. Because airline survival requires adaptation, this is one of the most open periods in airline history. Small and medium airports should view this as a time of opportunity.

Airports as Economic Engines

Those airports that have fully developed business plans and diverse revenue generating capability are better positioned to handle severe downturns in demand for air service. A goal for Tier 2 airports is to revise and expand their business models (and business plans) to maintain relevance and revenues in the face of an uncertain airline industry.

Coordination & Cooperation Needed

For the next stage of air service development, Tier 2 airports can accommodate additional service with some modifications to parking, loading bridges, and terminal configurations. A more extensive build-out of Tier 2 airports will require proactive leadership of individual airport sponsors and the support and cooperation of state DOT's, the Metropolitan Airports Commission, and the Metropolitan Council. Efficient use of system capacity at MSP and perimeter airports quickly becomes a regional planning challenge that involves the resources of multiple airports and various governing groups. Highway access will be an issue at every Tier 2 airport as their role significantly expands.

Strong Arguments for Regional Planning

Each Tier 2 airport offers unique capabilities and there will be ample opportunity near term to pursue individual airport visions. Long term, however, if the goal becomes how to make good use of existing capacity and limited State and Federal dollars, an inter-regional plan for MSP and Tier 2 airports will be money well spent.

1.3 Recommendations

An emerging system of mutually supportive metropolitan airports will come about through (1) individual airport initiatives, (2) the use of the 'force multiplier' for joint marketing, (3) strong and continuing roles for MAC, MnDOT, and WisDOT, and (4) several Legislative initiatives.

Individual Airport Initiatives

Air Service

The initial goal should be to build an enplanement base through increased network service. Based on travel patterns, Tier 2 airports should pursue increased access to network hubs in the following order: a full complement of Northwest service to Minneapolis, service to Chicago, then service to Denver or Salt Lake.

Facilities

Most Tier 2 airports can accommodate near term developments. St. Cloud, as the newest airport, has some catch-up to do to reserve land for future airport expansion and to make initial concept plans for a second parallel runway.

Business Plans

As Tier 2 airports evolve into Economic Activity Centers, it will be important to prepare a detailed business plan to guide the development of each sector of the airport's activities. The Business Plan will cover the financial planning, revenue development, marketing, operations development, capital development, and competition management of the airport.

Property Management

Airports should have a formal property management program that consists of lease and concession policies, development and performance standards, policies for determining and re-determining rents-fees-charges, and a standardized lease program. The Property Management Plan should be completed in conjunction with the Business Plan.

Tier 2 Incubator

The Tier 2 Incubator is proposed to assist MnDOT, WisDOT, MAC and the four Tier 2 airports as a framework to pursue common air service goals. The Incubator makes it possible to pool and use the collective influence airports can have with the airlines and others. The Incubator will serve as the forum to spell out the inter-regional concept of Tier 2 airports and MSP. It could also be the place where innovative programs for revenue guarantees, Travel Banks, interline agreements (Midway Shuttle concept) are shared or developed for mutual benefit.

MnDOT and WisDOT Roles

MnDOT's Office of Aeronautics and WisDOT's Bureau of Aeronautics will continue to support the planning, development, and marketing of Tier 2 airports in their respective states. New Tier 2 functions will require interagency coordination to solve ground access issues, emergency triage efforts, multi-modal transportation issues, etc. While demand for interagency efforts is apparent, institutional boundaries make execution challenging. As individual airports take on new roles and functions, interagency coordination is extremely important and an appropriate role for MnDOT and WisDOT.

Legislative Initiatives

Two principles of the Tier 2 Initiative are (1) to encourage efficient use of existing airport capability and (2) to improve the quality and convenience of air service at perimeter airports. In the past, appropriations for the Minnesota Air Service Program have not allowed funds for revenue guarantees or subsidies. Many small communities are pursuing airline recruitment programs that include some form of risk sharing with the

airlines. The Legislature should reconsider its position on direct subsidies. At the Federal level, the FAA should become more involved in the inter-regional concept of airports and allow individual airport sponsors of airports to participate in coordinated planning and investment decisions.

1.4 Industry Dynamics

The airline industry has always had its ups and downs, but since the end of 2000, the downs are particularly severe. A worldwide recession, war in the Middle East, the reality of terrorism and disease combined to amplify airline operating costs and diminish demand. The resulting financial crisis has forced airlines to scrutinize every aspect of their business.

Revenue pressures continue to exist on many fronts

- Low cost carriers have established a toehold in most markets, including Minneapolis-St. Paul.
- Airfares remain at historic lows.
- Business travelers are more price-sensitive and able to purchase competitive fares over the Internet.
- Increased costs for security have taken a larger bite out of airline revenues.

Airlines have responded aggressively

- Every route is scrutinized for profitability. Carriers will abandon a station when alternate routes can yield higher returns.
- Airlines are retiring turboprop aircraft quickly because seat mile costs are high (fewer seats to sell; higher overhead per seat to cover).
- Regional jets are replacing larger aircraft on mainline routes.
- High density or high yield markets are maintained; thin, low density markets are in danger of extinction.

Communities and airlines have forged new relationships

- In the current revenue environment, it is insufficient for small communities to simply demonstrate market potential. Communities must bring real dollars and committed passengers to the table as well.
- Federal and State governments are also participating in innovative programs to enhance small community air service.
- Financial partnering may be the ticket to Tier 2 service. The airlines have adopted a 'pay-as-you-go' approach to small community service. Community revenue guarantees and travel banks are now commonly employed to reduce airline risk of financial losses.

1.5 Local Trends

The Minneapolis-St. Paul International Airport (MSP) is the center of a regional air travel network that extends through Minnesota, western Wisconsin and across the eastern part of North and South Dakota. Last year, over 32 million passengers began a trip or connected at MSP. The dominance of Northwest Airlines and the concentration of traffic

flows into the hub have made MSP the de facto airport in Minnesota, save service offered to Chicago out of Rochester.

Historically all of the smaller airports in Minnesota and on the western border of Wisconsin combined represent less than 3 percent of MSP traffic. High diversion rates to MSP, sometimes in excess of 80 percent, hide the real demographic changes taking place at the perimeter of the Metro area. According to the 2000 census, the largest growth in Minnesota occurred northwest of the Twin Cities, along I-94 toward St. Cloud. In fact, Sherburne County where St. Cloud Regional Airport is located is the second fastest growing county in the State. Olmsted County (Rochester) also experienced higher than average growth.

Positive growth trends in the Metro area and the current financial crisis in the airline industry suggest opposing futures for Minnesota's smaller airports.

Conditions favoring the loss of service to Greater Minnesota airports:

- A prolonged and difficult recovery for mainline network carriers (Northwest, American, United, Delta, Continental, US Airways).
- Continued retirement of turboprop aircraft and deployment of regional jets on mainline routes.
- A willingness of Minnesota and Wisconsin air passengers to drive to MSP.
- Absence of competition for incremental passengers at perimeter airports.

Conditions favoring a significant role for Greater Minnesota airports:

- Increased highway congestion.
- Time savings to drive, park, and clear security at the local airport.
- Community interest in sharing the financial risk of added service.
- A Tier 2 strategy to serve as competitive gateways to the national network of air transportation.

This is an important decision time for airlines and the Greater Minnesota system of airports. The future of local air service will turn on network decisions made by the airlines and the degree to which communities can partner with the airlines to sustain profitable air service.

1.6 Tier 2 Demand Profile

In 2002, Tier 2 airports enplaned 343,465 passengers. This is down 2.2 percent from a high in 1999 of 351,158. Minneapolis-St. Paul International Airport has experienced a greater decline and was down 6 percent from 1999 highs.

At Tier 2 airports a wide variance occurs between the number of airline passengers associated with local communities and the number of passengers that actually use the local airport. St. Cloud, the closest airport to MSP captures about 19% of local traffic. Eau Claire captures approximately 18%; Rochester, 43%; and Duluth, 51%. These capture rates are based on past ticket lift samples and telephone surveys of 1,330 households with frequent business travel conducted for this study.

Figure 1- 2 shows the average capture rate for Tier 2 airports. However, because Duluth and Rochester dominate, capture rates for Eau Claire and St. Cloud are considerable smaller.

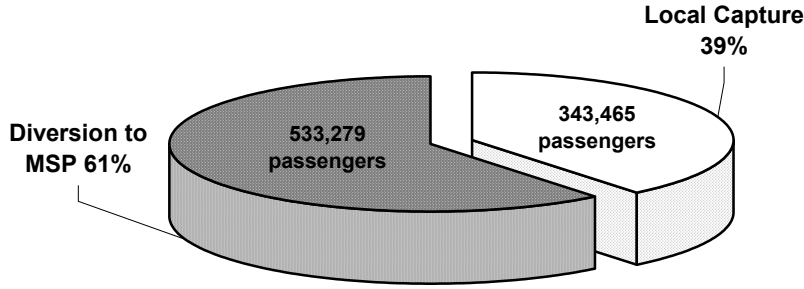


Figure 1- 2. Local Capture and Diversion at Tier 2 Airports

If MSP did not exist, Tier 2 airports would serve a population base of 1.5 million people. Estimated air travel that is locally generated is approximately 877,000 enplanements. All of these passengers represent unconstrained demand. There are reasons to believe that 877,000 enplanements is a conservative number. The St. Cloud area continues to grow. Rochester, as a destination for Mayo Clinic patients, adds a small percentage of additional passengers.

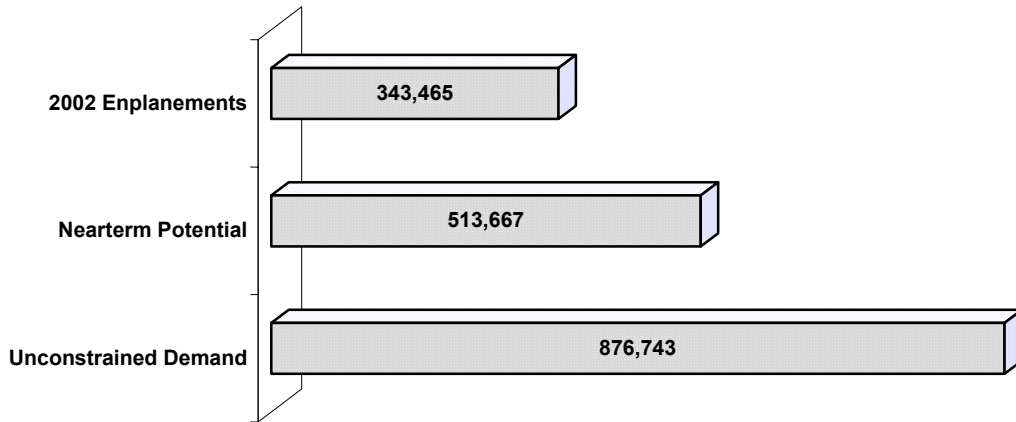


Figure 1- 3. Estimate of Tier 2's Contribution of Passengers

The factors most often identified as important in determining airport choice are: (1) the price of the ticket; (2) schedule and frequency of flights; and (3) the drive time to a larger alternate airport. Capture rates at Tier 2 airports directly correspond to these factors. Duluth and Rochester have more service and higher capture rates than Eau Claire and St. Cloud.

It is not possible to change all of these factors. However, there is potential to recapture additional passengers with added service. Based on assumptions of improved service, Duluth and Rochester can recapture an additional 15% of their market; Eau Claire and St. Cloud with the introduction of a second carrier will achieve a higher recapture rate. Near-term potential for Tier 2 airports is approximately 514,000 enplanements with enhancements to service.

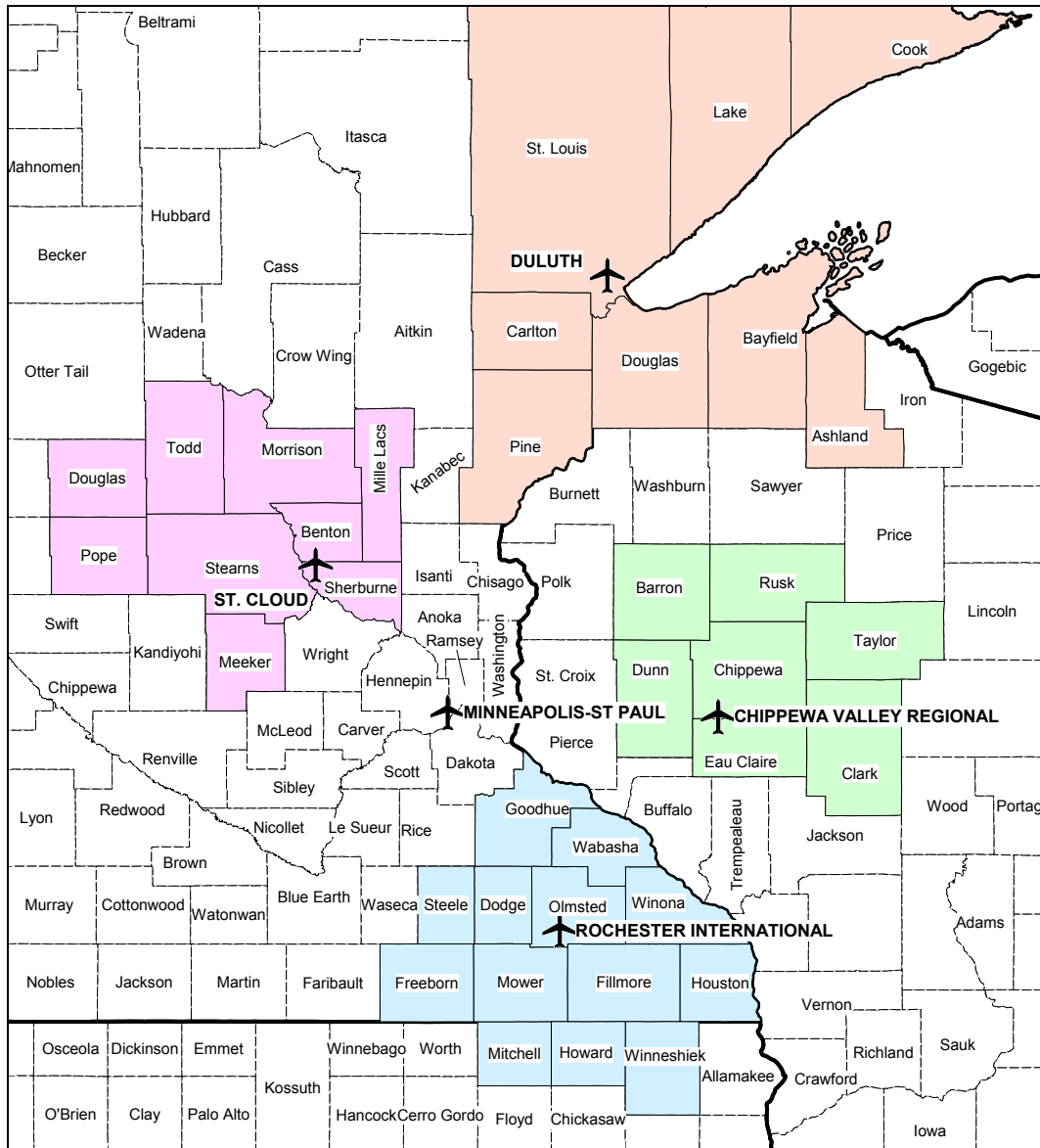


Figure 1- 4. Airport Service Areas - Working Definition

1.7 Individual Airport Markets

Each Tier 2 airport serves distinctive markets. Figure 1- 4 presents a working definition of service areas. Table 1- 1 summarizes demand information about each Tier 2 Airport.

Duluth

Duluth International Airport has a service area that includes Superior and extends into northern Wisconsin. Of all the Tier 2 airports, Duluth is the most self-contained. The 157 mile drive to MSP is a deterrent to would-be drivers if competitive service and fares are available at Duluth.

Duluth's service area population is estimated at 351,000, with a 2002 capture rate of 51%, the largest of all out-state airports. Diversion of passengers to MSP is probably higher in 2003 because American Airlines ended its Chicago service in December, 2002 as part of a network reduction in capacity. A top priority of Duluth's is to restore Chicago service. Duluth has a full schedule of service to MSP. Northwest's maintenance base at the airport keeps a steady rotation of jet aircraft coming in and out.

Of Tier 2 airports, Duluth has the most airport infrastructure in place to serve as a commercial reliever to MSP for passenger, cargo or military operations.

Rochester

Rochester International Airport is located 94 miles southeast of MSP on Highway 52 and serves a population base of approximately 449,000. The airport is owned by the City of Rochester and operated by the Rochester Airport Company, a wholly owned subsidiary of the Mayo Foundation. This unique structure has effectively developed the airport's air service and air cargo. Rochester flights to MSP meet all of Northwest connecting banks. American offers four daily flights to Chicago. FedEx, Airborne Express and DHL also operate at the airport. The Mayo Clinic and IBM, the region's two largest employers, are large users of air service.

Capture rate at Rochester is estimated at 43%. This airport because of the Mayo Clinic has the largest destination traffic base of the Tier 2 airports. Geographically, Rochester is well situated to capture air cargo traffic that is heading south to Chicago. However, improving access to the airport through roadway and interchange upgrades will enhance the appeal of Rochester. The airport has supported additional TWA service in the past and could effectively support a westbound service on a network carrier.

Eau Claire

Chippewa Valley Regional Airport is an urban airport located four miles north of Eau Claire's central business district. The facility occupies nearly 1,000 acres of land and is surrounded by residential and light industrial activity. Several airfield improvements are underway that will result in a primary runway of 7,300 feet with 8,121 feet of pavement available in the event of an aircraft overrun. In addition, a new air traffic control tower will be on-line in 2005 and a passenger terminal study is underway. Airport management has effectively utilized the terminal as a revenue-producing business center.

The airport supports a service area of approximately 304,000. Northwest turboprop service is available to MSP, 90 miles away. There is a large component of business travel that uses the local service, but the number of enplanements suggests that passenger activity is largely service driven rather than demand driven. A very low ratio of enplanements to population (7%) indicates high diversion rates and/or use of private aircraft. Menard's operates a substantial private operation out of the airport, transporting employees back and forth to its headquarters in Chippewa Valley.

Table 1- 1. Summary of Individual Airport Potential

	2002 Enplanements	Capture Rate	Unconstrained Enplaned Demand	Service Area Population	Enplanements/ Population	Unconstrained Demand/ Population	Road Distance to MSP
Duluth	152,528	51%	299,075	351,000	43%	85%	162
Eau Claire	20,692	18%	114,953	304,000	7%	38%	93
Rochester	147,506	43%	343,037	449,000	33%	76%	78
St. Cloud	22,739	19%	119,679	383,000	6%	31%	77
Total Tier 2	343,465	39%	876,743	1,487,000	23%	59%	

Attraction of a second carrier to Chicago will improve access and create a competitive environment to discipline schedule stability and fares. However, given the financial difficulties of the mainline carriers, the community will need to demonstrate solidarity and financial support to offset the risk of entry.

St. Cloud

St. Cloud Regional Airport is the newest Tier 2 airport and the closest to MSP at 72 miles. Commercial air service began in 1994 and supports a population base of 383,000 people. Like Chippewa Valley Regional, use of St. Cloud Regional to MSP is largely schedule and frequency driven. The population to enplanement ratio is a very low 6%. Air service competes heavily with the automobile.

Despite its proximity to the Metro area, St. Cloud has the highest potential future as a Tier 2 airport. The airport is located in the second fastest growing corridor in the metropolitan area. As a new airport, St. Cloud Regional has some catching up to do. The City is taking effective action to acquire or reserve land for expansion. Recently, the airport extended its runway and taxiway to 7,000 feet. In 2003, construction began of an air traffic control tower. Because the airport is actually located in Sherburne County, there may come a time when multi-county governance will make sense to fulfill long range expansion plans.

St. Cloud is very active in its air service development activities. With its partner, Brainerd, the two cities were awarded one of the largest grants offered by the USDOT Small Community Air Service Pilot Program. The grant will fund development of a Flight Bank and efforts to improve existing service and attract a second carrier to Central Minnesota.

1.8 Air Service Options

The Tier 2 Air Service Study examined four paradigms of air service development:

1. Improved Network Access
2. Shuttle to Chicago's Midway Airport
3. Satellite Airports
4. Alternate Airport

Improved Network Access

Today, airlines operate from within two basic models:

- The network model used by mainline carriers in their hub and spoke systems; and,
- A mass market model used by low cost carriers to provide point-to-point service on the highest density routes.

Based on the size of Tier 2 communities, network carriers offer the best access to the national transportation system. The major network carriers are: American, Continental, Delta, Northwest, United, and US Airways. Note that each of these carriers is experiencing financial difficulties and continue to pursue aggressive measures to cut costs. Under current conditions, service retention as well as service expansion are the highest priority for all Tier 2 airports.

Travel patterns at Tier 2 airports are similar. Table 1- 2 summarizes the top 15 origin and destination markets for Tier 2 airports. These cities correspond closely to the top markets

for Minneapolis-St. Paul as well. Chicago is the largest destination market. Phoenix and Denver are the second and third most important.

For the Tier 2 airports, network service to a different hub airport is a good strategy to recapture local passengers otherwise driving to MSP. Given the large rates of diversion, especially at Eau Claire and St. Cloud, building the passenger base at the Tier 2 airports with additional network service is the strongest argument to prove the local market.

Each of the Tier 2 airports is on a different stage of service development. Roughly speaking each airport should build its network connection in the following order: Minneapolis-St. Paul, Chicago O’Hare, Denver or Salt Lake City.

Under this paradigm, Rochester, since it has a full schedule to MSP and four flights to ORD, would begin immediately to recruit two or three regional jet frequencies to Denver or Salt Lake City. Duluth’s highest priority is restoration of Chicago service followed by recruitment for Denver service. Eau Claire and St. Cloud would focus on Chicago service first, beginning with three regional jet frequencies.

Table 1- 2. Top 15 Domestic Total O&D Passengers, Tier 2 Airports

	Market	YE 2002
1	O’Hare Intl, IL (ORD)	37,910
2	Sky Harbor Intl, AZ (PHX)	23,770
3	Denver Intl, CO (DEN)	18,590
4	Orlando Intl, FL (MCO)	17,620
5	McCarran Intl, NV (LAS)	15,830
6	Ronald Regan Natl, DC (DCA)	15,260
7	La Guardia, NY (LGA)	14,890
8	Dallas/Ft Wor Int, TX (DFW)	13,890
9	Los Angeles Intl, CA (LAX)	13,520
10	Seattle/Tacoma In, WA (SEA)	13,440
11	Wm B Hartsfield, GA (ATL)	13,420
12	San Francisco In, CA (SFO)	12,550
13	Logan Intl, MA (BOS)	12,470
14	Wayne County, MI (DTW)	11,210
15	Lindberg Field, CA (SAN)	9,850
	<i>Subtotal</i>	244,220
	<i>Other Cities</i>	353,430
	Total	597,650

Sources: USDOT O&D Survey and 298C Data. Includes air carriers and commuters

Shuttle to Chicago’s Midway Airport

Just over 300 miles away, Chicago’s Midway Airport enjoys one of the highest concentrations of low cost carriers in the country. Here low cost carriers have a 75 percent market share. Some of these carriers operate regional jets, but Southwest does not provide feed or interline with other carriers. In this paradigm, Tier 2 airports would work together with Chicago Midway Airport and Southwest to resolve issues of security and baggage transfer. Once these issues are solved, Tier 2 airports would recruit an airline or wet lease an aircraft to provide service to Midway Airport.

This model is outside the present structure of airline service. However, given the low fares offered out of Midway, a regional jet service from Tier 2 airports to Midway plus low fare tickets for the connecting segment could price competitively with a network carrier fare. This approach may result in connecting times similar to American’s de-peaked hub at Chicago O’Hare where an average wait time between flights can be up to 90 minutes.

Because this service model does not exist, a joint effort by Tier 2 airports makes sense, first to examine feasibility and then to work out agreements with the airlines and airports.

Satellite Airports

Southwest Airlines is famous for entry into a metropolitan market through the doorway of a second tier airport. For example, Providence, RI and Manchester, NH were used as entry into the Boston metropolitan market. There are various rules-of-thumb that identify the market fundamentals needed to support a Southwest-type service. They include:

- A population of at least one million within 90 minutes of the airport; and
- An ability to profitably support at least 8 daily flights or approximately 265,000 enplaned passengers each year.

Currently, Southwest Airlines is concentrating on other markets in the United States. However, the Upper Midwest and Mountain states are the last regions in the U.S. without significant low cost carrier presence. Both Denver and Minneapolis must be very attractive, tempting and inevitable markets. Two futures are possible. In the normal course of events, entry of Southwest into this region may be 5 to 15 years away. However, major changes in United or Northwest hub operations at MSP or Denver could accelerate low cost carrier entry into the region.

Development of a high volume, low cost operation would either go into MSP or a Tier 2 airport. Duluth is not a likely candidate given its distance from MSP. However, Rochester, St. Cloud and Eau Claire are potential satellite sites provided that the airports can solve highway access, parking, terminal and runway capacity issues.

Alternate Airport

According to a recently published report¹, 10 to 12 million originating passengers appear to be the threshold value where a second airport can be viable in a metropolitan area. Minneapolis-St. Paul International Airport enplanes more than 16 million passengers. However, less than half originate from the region. The majority of passengers are connecting from other Northwest flights.

The use of a Tier 2 airport as an alternate metropolitan airport will happen when:

- Originating local passengers increase substantially by 4 to 5 million;
- A carrier uses Tier 2 airports as a low-cost satellite airport and diverts metro area passengers; or,
- Significant capacity and delay issues develop at MSP because of Northwest connecting activity. Such delays might warrant use of Tier 2 airports as gateways to the national network.

In all cases, the synergy between MSP and Tier 2 airports is very important, from a planning, timing, and investment standpoint. Typically alternate airports are located within 75 miles of the major airport. This would indicate St. Cloud as an attractive candidate should the right conditions develop. However, given the resources required to build out this airport, it will be important to reserve the option for development, but not over invest until the need becomes more apparent. An alternate airport will require major capital investment and cooperation amongst airport sponsors, the Metropolitan Airport Commission and all levels of government.

¹ Alternate Airports Study, USDOT, Office of the Assistant Secretary for Transportation Policy, April, 2003

Chapter 2 - Next Steps

2.1 Introduction

It is customary to position the ‘Next Steps’ chapter at the end of the report. However, so important is the “*way forward*”, that we decided to place this discussion in a prominent position in the front.

The intent of this chapter is to identify how individual airports, State agencies, the Mac and Met Council can productively advance the level of air service and aviation activity at Tier 2 airports.

The initial objectives of the Tier 2 project were to:

- increase the commercial use of the Tier 2 airports (passenger, air cargo, military, support, and other aviation industry uses);
- anticipate infrastructure investment required at the airports;
- provide marketing suggestions to Tier 2 airports to facilitate air service and economic development activities; and
- develop roles for MnDOT, WisDOT and the Metropolitan Airports Commission (MAC) to help Tier 2 airports achieve a richer palette of air service and aviation activity.

One important finding of the study is that basic airline decision-making parameters have changed dramatically over the past few years. The factors that previously drove airline decisions to provide air service at smaller airports have been replaced by near term profit motives.

Historically, if an airport could demonstrate that it had the passengers, some airline would provide the air service. Therefore, the task of the airport sponsor was to prove that it had un-served demand—it had the numbers. Today money drives all airline air service decisions.

At present, the airlines focus on the types of passengers (i.e. business versus leisure) and how much passengers in any given market are willing to pay for air service. On the one hand, markets with high concentrations of business travelers (paying higher average airfares) are sought after by the airlines. On the other hand, markets with high concentrations of leisure travelers (paying lower average airfares) are not as sought after (except in the case of mass market, low cost carriers that have established business models enabling them to profitably operate in leisure markets.)

Currently, airlines prefer consolidation of passengers at key airports rather than serving many smaller airports. This reduces airline operating costs and increases airline operating efficiency. Also, the airlines argue that by consolidating the passengers from a series of smaller airports at a single airport, they are able to offer greater schedule and airfare choices.

To counter this trend, the airport sponsors of smaller airports have developed incentive strategies to attract and maintain air service. The incentives have included: financial subsidies, guarantees, subsidized airport rents and fees, travel banks (prepaid airline revenues), and subsidized airline advertising. From the experiences of airport sponsors, it can be concluded that incentives can be effective in the near term. It remains to be

seen whether incentive programs can be sufficient enough to retain air service over a long period of time.

In the current national air service environment, old approaches to air service recruitment and development will not yield results that will benefit the Tier 2 airports and Minnesota. To realize their potential, the Tier 2 airports will require the assistance of MnDOT, WisDOT, and MAC. It is clear that a program is needed to formally bring together MnDOT, WisDOT, MAC and the Tier 2 airports in a mutually supportive, collaborative environment.

A program is needed that synchronizes the air service goals of the Tier 2 airports, MAC and state aeronautics agencies and creates a mechanism for MAC and the Tier 2 airports to mutually advocate for air service for one another. Using the clout and leverage of MAC will provide the Tier 2 airports a much stronger platform to recruit air service from the airlines.

The development of Tier 2 airports will spread the economic benefits of aviation to perimeter airports and their service areas. Providing more lift at perimeter airports could also concentrate connecting activity (and larger aircraft) at MSP during peak hours. Mutual support and integration of certain air service development activities will also meet elements of the “*competition plan*” required by the U. S. Department of Transportation.

Therefore, we recommend that MnDOT, the Tier 2 airports, WisDOT and MAC initiate a formal collaborative program as described below to strengthen the effectiveness of air service recruitment and airport-related economic development; henceforth, to be known as the Tier 2 Incubator.

2.2 Tier 2 Incubator

We recommend that MnDOT, WisDOT and MAC jointly sponsor the Tier 2 Incubator to develop an effective air service development strategy for Tier 2 airports and MSP. The activities of the Tier 2 Incubator could include:

- Each year, having at least six facilitated calendar driven meetings to develop goals, plans, actions and provide members assistance in dealing with air service and economic development issues.
- Developing and executing action plans to further the goals and objectives of member airports
 - Identifying opportunities and resources necessary to capitalize on opportunities
 - Creating a forum to assist the Tier 2 airports to resolve issues—mutual assistance
 - Establishing a support group for the proper development of each of the member airports
 - Supplementing individual airport air service programs with working group initiatives
 - Providing support and services to energize individual airport air service programs
 - Identifying and taking action on common legislative and congressional initiatives

2.3 Action Plan for 2003-2004

As a result of the downturn in the economy, the lingering effects of September 11th and the effects of the Internet, airlines are redeveloping their business models. Both network

and point-to-point airlines are reexamining and revalidating their route systems. This is a particularly important time for MAC and the Tier 2 airports to get their messages to the airlines. We strongly suggest an action plan.

The Tier 2 Incubator should be convened and an action plan formulated as soon as possible. We believe that the action plan could consist of the following:

- Integrate the air service plans of each of the airport
- Identify air service improvements (initiatives) at each airport that all members can support
- Identify leverage and “friendly persuasion” that MnDOT, WisDOT, and MAC can employ to assist the Tier 2 airports in air service and recruiting facility economic development
- Identify legislative and congressional initiatives
- Develop information sets of local data that airlines want
- Develop initial 2003-2004 milestones such as:
 - Plan and execute a ‘Minnesota Air Service Summit Meeting’ that includes key airlines and prospect airlines. The Summit will include a forum on current issues and a window to roll out the “consolidated air service plan”
 - Schedule a “Minnesota Day” at Southwest Airlines with the idea that these meetings give Southwest a long-range view of local air service trends in the State.

2.4 Role of the Tier 2 Incubator Participants

The following are the suggested roles of the Tier 2 Incubator participants.

State Aeronautics’ Role

We recommend that MnDOT and WisDOT continue their support of air service development and marketing of Tier 2 airports. Because three of the Tier 2 airports are in Minnesota, MnDOT could serve as the overall organizational umbrella for the Incubator and furnish a venue for the activities to occur. Both MnDOT and WisDOT could make available staff and consulting support necessary to see that Tier 2 Incubator produces results.

With regard to the direct activities of the Tier 2 Incubator, both State agencies could provide support in the form of facilitators, airport and airline industry expertise, and resources. These activities could include:

- Developing a Tier 2 Incubator operating plan and goals for the Working Group (in collaboration with the airports)
- Helping the group work together on common air service strategies objectives to produce a consolidated air service initiative for the Tier 2 Airports and MAC.
- Identifying recruitment leverages and strategies
- Funding the preparation of market data for airlines
- Facilitating Working Group workshops
- Scheduling and preparing meeting agendas
- Also, MnDOT and WisDOT can assist their respective Tier 2 airports in planning and developing the facilities necessary to accommodate the air service that is being recruited.

MAC Role

MAC has voiced support for the Tier 2 Incubator concept and has said that they will participate and support this initiative. To assist the launch of the Incubator, the MAC has

offered the assistance of several of their staff for assembling information, providing market, air traffic and demographic data, and preparing materials.

In addition, MAC could assist in gaining access to key airlines officials that would otherwise not be available to hear the message of the Tier 2 airports. Also, where appropriate, MAC could advocate for select air service initiatives and proposals on behalf of the Tier 2 Airports.

Tier 2 Airport Roles

The assumption behind the Incubator is that Tier 2 airports do not always compete directly or indirectly for airline resources. When appropriate, Tier 2 airports will share the results of their independent air service research and programs. They should participate in the Incubator's working group and offer advice, direction, and guidance in the development of initiatives. Representatives of the Tier 2 airports should participate in the execution of initiatives. The Tier 2 airports could support MnDOT's initiatives to develop funding to support air service development and marketing. They could also support MAC initiatives that hold direct benefit for Tier 2.

2.5 Conclusion

Behind the Tier 2 Incubator is the idea of an effective force multiplier. MnDOT, WisDOT, MAC and Tier 2 airports can work together to develop the potential of MSP and the Tier 2 airports. It is with perpetual optimism that we recommend in this tough airline environment that common goals and initiatives pursued together will weigh in more strongly with the airlines than the individual efforts of smaller airport.

Chapter 3 - Trends at Tier 2 Airports

3.1 INTRODUCTION

This chapter presents background information on airport activity, travel patterns, passenger air service, and socio-economic trends in the areas surrounding Duluth International Airport, St. Cloud Regional Airport, Rochester International Airport and Chippewa Valley Regional Airport. These airports constitute the Tier 2 airports located between 78 and 162 miles from Minneapolis-St. Paul International Airport (MSP).

Traffic. Over the past ten years, passenger activity growth at the Tier 2 airports has been positive, but because of high diversion rates to Minneapolis-St. Paul Airport, MSP has experienced much faster growth than perimeter airports. This is consistent with national trends when comparing primary hubs with close-in airports. Enplanements and O&D passengers at MSP increased about three times as fast as the Tier 2 airports. In addition, the pattern of growth at Greater Minnesota airports has been somewhat unpredictable and sensitive to small changes in service. This is especially true at St. Cloud and Eau Claire where frequent changes in the number of daily flights has frustrated local travelers and eroded the traffic base. Increased price competition at MSP has also favored growth at that airport. Cargo activity at the Tier 2 airports is moderate and is concentrated at Duluth and Rochester.

Destinations. Passengers in the Tier 2 service areas travel to a variety of popular destinations across the country. Tier 2 passengers pay approximately \$40 more roundtrip to fly from their local airports instead of MSP. For business travel, this add-on is reasonable however for families traveling on vacation it may reduce use of perimeter airports by 50 percent or more. Eastbound and westbound travel from the Tier 2 service areas occurs with approximately equal frequency. Fares to eastern destinations tend to be significantly higher than those to westbound destinations, particularly for St. Cloud and Eau Claire who do not have service to Chicago.

Service. Service levels at the Tier 2 airports have fluctuated in recent years, reflecting seasonal variation, Mesaba maintenance schedules and Northwest reductions in the Saab 340 fleet. The impacts and after-effects of September 11th resulted in some service reductions, but preliminary data suggests that, despite these changes, local travel demand remains relatively stable, and that these reductions are likely more of a short term reaction than the start of a long-term trend.

Growth. The population and economic activity typically provide the underlying force that creates travel demand. Increases in either population and/or employment in a region will boost travel demand. Among Tier 2 airports, growth prospects vary. St. Cloud is expected to experience brisk growth, while Rochester and Eau Claire are expected to have average or slightly above average growth. Duluth's service area is likely to experience slightly below average growth, based on projections derived from trends over last decade.

3.2 PASSENGER ENPLANEMENTS

Total passenger enplanements at Tier 2 airports have increased on average 1.7 percent per year. Most of this increase was due to growth at Duluth and the initiation of service at St. Cloud.

The Tier 2 airports, particularly Eau Claire and St. Cloud, have experienced variation in annual enplanements due to changes in the number of flights offered by Mesaba and the use of multiple-stop itineraries that tend to limit the total number of seats available at many out-state airports.

Table 3-1. Enplanements at Tier 2 Airports and MSP (1991-2002)

Year	Duluth	Eau Claire	Rochester	St. Cloud	Tier 2 Total	MSP
1991	117,654	25,903	141,068	-	284,625	10,296,027
1992	135,514	31,334	150,622	-	317,470	11,377,873
1993	128,570	25,997	150,588	-	305,155	11,697,985
1994	127,479	24,887	148,818	10,156	311,340	12,229,620
1995	119,228	24,061	156,504	8,853	308,646	13,390,424
1996	120,657	21,570	142,196	9,942	294,365	14,412,646
1997	120,008	19,591	157,390	16,471	313,460	15,056,447
1998	121,117	19,660	161,021	21,522	323,320	15,310,345
1999	148,655	19,833	156,206	26,464	351,158	17,246,657
2000	148,163	20,124	155,031	23,711	347,029	18,370,165
2001	144,356	21,399	148,833	23,113	337,701	16,799,334
2002	152,528	20,692	147,506	22,739	343,465	16,311,458

Source: FAA ACAIS Database and airport records

Table 3-2. Annual Growth in Enplanements

Year	Duluth	Eau Claire	Rochester	St. Cloud	Tier 2 Total	MSP
1991-1992	15.2%	21.0%	6.8%	-	11.5%	10.5%
1992-1993	-5.1%	-17.0%	0.0%	-	-3.9%	2.8%
1993-1994	-0.8%	-4.3%	-1.2%	-	2.0%	4.5%
1994-1995	-6.5%	-3.3%	5.2%	-	-0.9%	9.5%
1995-1996	1.2%	-10.4%	-9.1%	12.3%	-4.6%	7.6%
1996-1997	-0.5%	-9.2%	10.7%	65.7%	6.5%	4.5%
1997-1998	0.9%	0.4%	2.3%	30.7%	3.1%	1.7%
1998-1999	22.7%	0.9%	-3.0%	23.0%	8.6%	12.6%
1999-2000	-0.3%	1.5%	-0.8%	-10.4%	-1.2%	6.5%
2000-2001	-2.6%	6.3%	-4.0%	-2.5%	-2.7%	-8.6%
2001-2002	5.7%	-3.3%	-0.9%	-1.6%	1.7%	-2.9%
1991-1996	0.5%	-3.6%	0.2%	-	0.7%	7.0%
1996-2002	4.0%	-0.7%	0.6%	14.8%	2.6%	2.1%

Source: FAA ACAIS Database and airport records

During the first half of the 1990's, passenger growth at Tier 2 airports languished in comparison to enplanement growth at Minneapolis-St. Paul.¹ From 1996-2002, growth rates at the Tier 2 airports, particularly at Duluth and St. Cloud, surpassed MSP by a wide

¹ Commercial service at St. Cloud did not begin until 1994.

margin. Rochester has held steady and Eau Claire has remained at somewhat lower passenger levels than the early 1990's.

Some of the difference in growth between the Tier 2 airports and MSP can be understood by comparing the economy of the Tier 2 airport service areas with that of MSP. Figure 3-1 compares the population, employment, and income of the Tier 2 service areas with the Minneapolis-St. Paul area². Over the past ten years, the economy of Minneapolis-St. Paul has, in general, outpaced the economies of the Tier 2 airport service areas with the exception of St. Cloud, which now forms the outer northwest edge of the Minneapolis metro area. Of note is the fact that growth in employment at the Tier 2 airports has been as strong as in Minneapolis. This comports with a national trend toward the decentralization of employment centers.

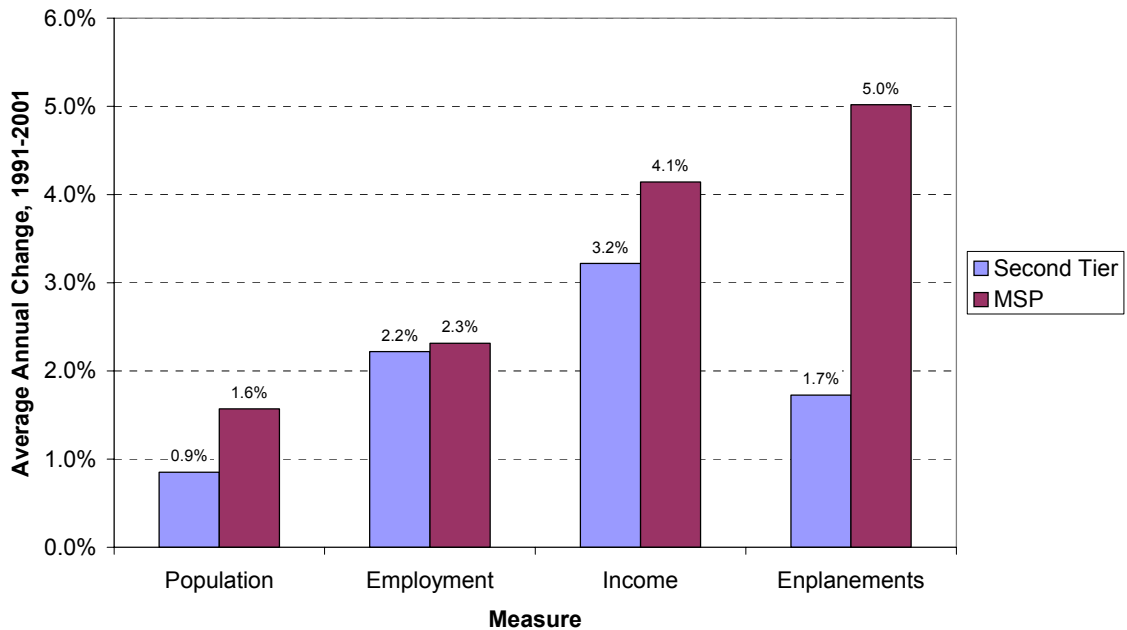


Figure 3-1. Economic Comparison of Tier 2 Airports and MSP

Similar patterns of economic growth are expected to continue over the next ten years. Because population, income and employment are associated with demand for air service, somewhat lower growth rates around Tier 2 airports help to explain some of the differences in enplanement growth.

While socio-economic conditions are reliable predictors of demand for air travel, they are of limited value as proxies for airport use, especially when an economic region is within driving range of a large hub airport like Minneapolis. For the Tier 2 airports, lower fares, non-stop service and choice of schedule, have resulted in very high diversion rates, estimated at as much as 80% for St. Cloud and as low as 50% for Rochester and Duluth.

Given reasonably good growth around the Tier 2 airports, there is a growing pool of potential passengers that could use these airports. The discrepancy in enplanement

² The Minneapolis-St. Paul metropolitan statistical area (MSA) was used for this comparison. Within the MSA there is a small amount of double-counting because Sherburne County (where St. Cloud Regional Airport is located) was just added to the metro area.

growth is much larger than can be explained by the difference in economic factors³. The result is that the Tier 2 airports have been relatively flat in enplanement growth, while their service areas have grown and developed over the years. This suggests that, in some areas, there may be a greater potential for enplanement generation now than there was in the past, but that this hasn't been taken advantage of by the carriers.

3.3 CARGO TRAFFIC

The tables below show the air cargo activity at each of the Tier 2 airports as reported by air carriers⁴. This data includes only cargo reported by air carriers and not other types of air cargo such as that carried by smaller commuter airlines, charter, and air taxi services.

Duluth

Duluth handles a moderate amount of air cargo. According to DOT records, FedEx handled 728 tons of cargo at the airport in 2000 and 317 tons in 2001. Northwest handles a small amount of belly cargo at Duluth. Two all-cargo carriers, USA Jet and the now defunct Reliant, were also present at the airport but only reported a single trip in the DOT records.

Table 3-3. Reported Air Carrier Cargo Activity (tons) – Duluth

Carrier	Departures		Freight		Mail	
	2000	2001	2000	2001	2000	2001
Federal Express	242	126	728	317	-	-
Northwest Airlines	1,025	884	21	12	3	-
USA Jet Airlines	-	1	-	3	-	-
Reliant/Ultrair	1	1	<1	1	-	-
Total	1,268	1,012	749	333	3	-

Source: USDOT T3 Air Carrier Data

Eau Claire

Mesaba handles a small amount of cargo at Chippewa Valley Regional Airport as belly cargo. The quantity of air carrier cargo at the airport has remained constant at about 10 tons per year over the past two years.

³ A part of the remaining difference is due to changes in hubbing patterns at MSP and increases in connecting passengers. However, MSP's O&D passengers have also increased substantially during this period (about 4.5% per year on average).

⁴ The data is based on reports filed with USDOT by air carriers (including Mesaba) and most all-cargo carriers. Commuter airlines and air taxi services are not subject to these reporting requirements and, consequently, there is little data available on the air cargo activities of these other entities.

Table 3-4. Reported Air Carrier Cargo Activity (tons) – Eau Claire

Carrier	Departures		Freight		Mail	
	2000	2001	2000	2001	2000	2001
Mesaba	2,493	2,386	10	9	-	1

Source: USDOT T3 Air Carrier Data

Rochester

Rochester has a significant amount of air cargo activity due to the presence of FedEx. However, the amount of cargo reported by FedEx has declined somewhat over the past year, from 5,806 tons in 2000 to 3,892 tons in 2001. IBM and other manufacturers in the area have used Rochester International Airport for all cargo chartered aircraft to transport and distribute inventory. This charter activity is only minimally reported in the DOT data. A small amount of belly cargo is carried by Northwest at Rochester.

Table 3-5. Reported Air Carrier Cargo Activity – (tons) Rochester

Carrier	Departures		Freight		Mail	
	2000	2001	2000	2001	2000	2001
Federal Express	612	654	5,806	3,892	-	-
Express One	4	2	413	219	-	-
Northwest Airlines	785	743	24	27	-	-
Gemini Air Cargo	-	1	-	24	-	-
DHL Airways	326	-	9	-	-	-
Sun Country Airlines	3	2	1	<1	-	-
USA Jet Airlines	2	1	1	<1	-	-
<i>Other Charter and Misc.</i>	<i>n/a</i>	<i>n/a</i>	1,339	2,592	-	-
Total	1,732	1,403	7,593	6,754	-	-

Source: USDOT T3 Air Carrier Data and Airport Data

St. Cloud

Only a minimal amount of air carrier cargo is reported at St. Cloud. The reported cargo consists of a small amount of belly cargo by Mesaba along with an occasional trip by an all-cargo carrier.

Table 3-6. Reported Air Carrier Cargo Activity (tons) – St. Cloud

Carrier	Departures		Freight		Mail	
	2000	2001	2000	2001	2000	2001
Mesaba Aviation	2,497	2,402	3	2	-	-
USA Jet Airlines	-	1	-	2	-	-
Express.net/Transcon.	-	2	-	1	-	-
Total	2,497	2,405	3	5	-	-

Source: USDOT T3 Air Carrier Data

3.4 TRAVEL PATTERNS

Fares

Fares at the Tier 2 airports continue to be higher than average and somewhat higher than those at MSP. Northwest Airlines has a policy of offering a low add-on fare to base Minneapolis fares. The Northwest yield management system prices ‘buckets of seats’ available for a given flight. Because there are limited seats available to and from out-state airports and because out-state passengers are competing for discounts with all ‘downstream’ passengers, the availability of lower fares can be limited. In 2000, round-trip fares at the Tier 2 airports were about \$50 higher than at MSP.⁵ This is an important issue, since Tier 2 passengers have demonstrated a significant sensitivity towards higher fares. In 2002, fares declined across the board and the fare gap narrowed to less than \$20 for all cities except St. Cloud. Still, phone surveys completed for this project suggest that even these fare differentials result in significantly reducing the effective passenger base at the Tier 2 airports, as passengers are quite unwilling to pay even a small amount more to fly locally. The reduction in local airport demand due to the higher fares appears to be on the order of 50 to 75 percent. Figure 3-2 shows the average one way fares for all fares at the study airports.

⁵ A \$40-\$50 add-on to Minneapolis air fares is consistent with Northwest’s modified “Fly-Local” Program.

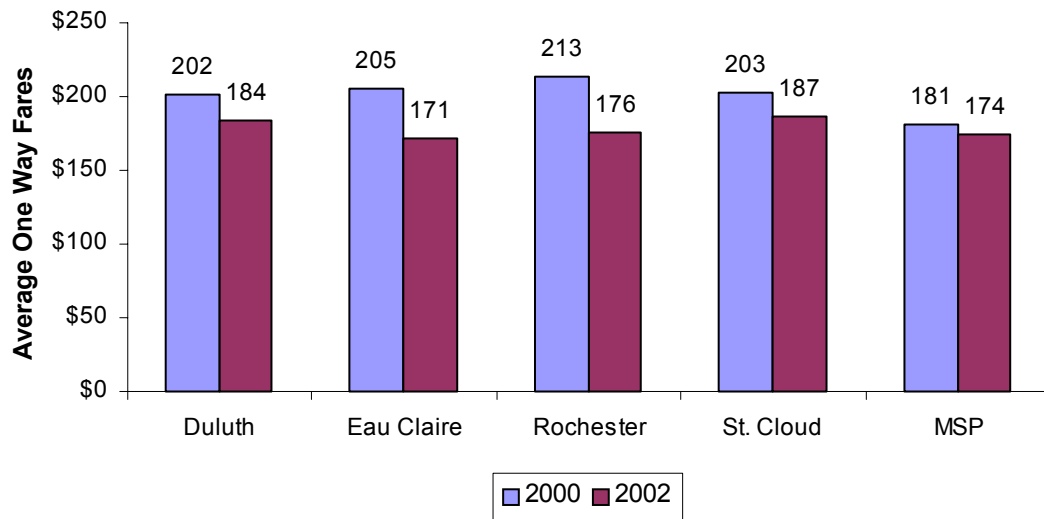


Figure 3-2. Average One-way Fares by Airport, 2000 and 2002

Destinations

The origin and destination patterns are fairly consistent across the different airports. Top destinations in 2002 include:

1. O'Hare Intl, IL (ORD)
2. Phoenix, AZ (PHX)
3. Denver, CO (DEN)
4. Orlando, FL (MCO)
5. Las Vegas, NV (LAS)
6. Washington, DC (DCA)
7. New York, NY (LGA)
8. Dallas/Ft. Worth (DFW)
9. Los Angeles (LAX)
10. Seattle, WA (SEA)

Passengers in the study service area travel to eastbound and westbound destinations with approximately equal frequency. Eastbound travel accounts for slightly over 50 percent of the trips at Duluth, Rochester, and St. Cloud. In Eau Claire, westbound travel is slightly more common. This balanced pattern suggests that there are a reasonable number of Tier 2 passengers that could be served by both eastbound hubs, such as Chicago, and westbound hubs, such as Denver, without creating circuitous routes.

Table 3-7. O&D Passenger Distribution by Direction (2001)

Direction ⁶	Duluth	Eau Claire	Rochester	St. Cloud	MSP
East	52%	48%	58%	51%	54%
West	48%	52%	42%	49%	46%

Table 3-8 shows how Tier 2 passengers traveling to eastern destinations face higher fares than those traveling to western destinations. At Duluth and Rochester, where there are connections to Chicago, eastbound fares are about 7 percent higher than westbound fares. The differential at these airports is even lower than the 8 percent differential at MSP, and is due primarily to the higher fares associated with congested airports on the east coast and elsewhere.

At Eau Claire and St. Cloud, where there are only links to MSP, eastbound fares are significantly higher than westbound fares. Eastbound fares are 21 percent higher than westbound fares at St. Cloud and 34 percent higher at Eau Claire.

Table 3-8. Average One-way Fares by Direction (2001)

Direction ⁶	Duluth	Eau Claire	Rochester	St. Cloud	MSP
East	198	214	204	216	182
West	187	159	190	178	169

The tables that follow show the top O&D destinations (both directions) and average one way fares for each of the study airports. The data was taken from the USDOT O&D Survey and 298C series and includes both air carriers and commuters.

⁶ The Mississippi River was used as the geographic divider between East and West. Destinations in Minnesota and states west of the Mississippi are considered "West" destinations. Destinations east of the Mississippi are considered "East" destinations.

Table 3-9. Top 30 O&D Markets and Average One-Way Fares - Duluth

Rank	Market	Passengers				Average One Way Fare			
		1999	2000	2001	2002	1999	2000	2001	2002
1	O 'Hare Intl, IL (ORD)	18,980	15,940	15,290	15,640	180	218	192	183
2	Sky Harbor Intl, AZ (PHX)	8,630	8,900	8,990	10,170	151	168	168	142
3	McCarran Intl, NV (LAS)	7,680	8,060	8,780	9,520	160	165	153	142
4	Orlando Intl, FL (MCO)	7,640	9,070	9,540	9,030	160	164	158	153
5	Denver Intl, CO (DEN)	8,090	8,750	8,990	8,870	138	142	139	145
6	Ronald Regan Natl, DC (DCA)	6,100	5,010	5,530	6,700	212	220	179	194
7	Seattle/Tacoma In, WA (SEA)	7,100	6,610	6,820	6,320	180	195	180	186
8	Los Angeles Intl, CA (LAX)	6,210	5,900	5,650	6,280	173	176	163	153
9	Dallas/Ft Worth Int, TX (DFW)	5,170	5,220	4,890	5,820	190	201	198	184
10	Wm B Hartsfield, GA (ATL)	6,290	6,470	6,320	5,570	190	170	158	137
11	Logan Intl, MA (BOS)	5,430	5,520	4,910	5,250	189	174	174	237
12	San Francisco In, CA (SFO)	5,460	5,900	5,340	5,200	168	180	191	173
13	La Guardia, NY (LGA)	4,820	4,960	5,040	5,160	198	203	205	189
14	St Paul Intl, MN (MSP)	6,920	6,430	6,230	5,050	123	129	129	113
15	Tampa Intl, FL (TPA)	3,400	3,670	3,820	4,680	161	164	174	143
16	Portland, OR (PDX)	3,650	4,070	4,230	4,610	218	206	185	175
17	Lindberg Field, CA (SAN)	3,120	4,070	3,450	4,260	200	184	171	185
18	Wayne County, MI (DTW)	8,550	7,260	5,330	4,190	197	213	216	223
19	Lambert-St Louis, MO (STL)	3,310	2,530	2,750	3,810	204	217	218	181
20	SW Florida Reg, FL (RSW)	2,930	3,260	3,590	3,730	137	136	138	130
21	George Bush Intc, TX (IAH)	1,870	2,650	3,460	3,580	249	283	258	238
22	Philadelphia Intl, PA (PHL)	3,340	3,710	3,130	3,480	240	239	224	204
23	Newark Intl, NY (EWR)	3,470	3,830	3,740	3,290	247	228	189	191
24	Kansas City Intl, MO (MCI)	4,710	4,150	2,920	3,260	130	137	235	197
25	Hopkins Intl, OH (CLE)	4,340	3,920	2,900	3,160	287	323	305	274
26	Milwaukee, WI (MKE)	3,270	3,990	3,440	3,070	194	164	185	197
27	Miami Intl, FL (MIA)	2,470	2,210	2,470	2,940	175	163	173	143
28	Baltimore/Wash Intl, MD (BWI)	2,220	2,250	2,160	2,910	212	244	222	174
29	Pittsburgh Intl, PA (PIT)	3,230	2,680	1,910	2,760	216	249	258	239
30	Salt Lake Intl, UT (SLC)	2,160	1,990	1,730	2,550	168	219	199	184
	<i>Other</i>	<i>94,050</i>	<i>96,090</i>	<i>92,320</i>	<i>100,630</i>	<i>220</i>	<i>221</i>	<i>211</i>	<i>200</i>
	Total	254,610	255,070	245,670	261,490	196	202	193	184

Table 3-10. Top 30 O&D Markets and Average One-Way Fares – Eau Claire

Rank	Market	Passengers				Average Fare			
		1999	2000	2001	2002	1999	2000	2001	2002
1	Sky Harbor Intl, AZ (PHX)	1,090	1,060	1,470	1,460	177	144	127	134
2	Elko, NV (EKO)	1,560	2,340	740	1,360	58	58	63	56
3	Orlando Intl, FL (MCO)	980	800	1,610	1,290	191	120	151	169
4	Seattle/Tacoma In, WA (SEA)	1,030	1,510	990	1,250	173	189	139	174
5	Denver Intl, CO (DEN)	790	1,000	1,560	1,150	138	130	126	153
6	McCarran Intl, NV (LAS)	340	660	850	1,110	190	120	146	173
7	St Paul Intl, MN (MSP)	1,570	1,420	1,400	1,070	72	64	53	66
8	Wayne County, MI (DTW)	840	1,350	850	990	308	249	238	231
9	Dallas/Ft Wor Int, TX (DFW)	700	900	840	960	212	248	182	191
10	San Francisco In, CA (SFO)	1,190	1,150	1,130	920	211	274	157	154
11	Wm B Hartsfield, GA (ATL)	880	1,130	1,170	880	235	171	144	156
12	Ronald Regan Natl, DC (DCA)	1,110	830	750	830	187	245	223	168
13	Logan Intl, MA (BOS)	770	880	960	810	292	200	169	235
14	Los Angeles Intl, CA (LAX)	830	640	770	740	227	224	144	175
15	Lambert-St Louis, MO (STL)	840	710	680	720	221	227	202	174
16	La Guardia, NY (LGA)	700	560	780	700	228	162	169	142
17	Baltimore/Wash Intl, MD (BWI)	610	530	400	670	203	210	165	168
18	Newark Intl, NY (EWR)	650	500	550	650	250	270	280	237
19	Portland, OR (PDX)	730	460	740	650	258	175	194	149
20	O'Hare Intl, IL (ORD)	1,240	1,120	830	630	252	259	243	239
21	Tampa Intl, FL (TPA)	660	590	560	620	157	180	146	132
22	SW Florida Reg, FL (RSW)	490	300	420	600	150	151	152	149
23	Lindberg Field, CA (SAN)	750	630	730	560	219	300	210	161
24	John Wayne Intl, CA (SNA)	310	410	400	530	166	172	167	137
25	San Jose Mun, CA (SJC)	620	530	310	510	248	282	232	268
26	George Bush Intc, TX (IAH)	90	320	450	500	246	244	254	206
27	Philadelphia Intl, PA (PHL)	840	760	670	430	263	313	256	187
28	Pittsburgh Intl, PA (PIT)	150	190	400	430	347	255	247	131
29	Salt Lake Intl, UT (SLC)	180	410	300	400	189	207	165	146
30	Memphis Intl, TN (MEM)	310	450	220	390	229	313	359	176
	<i>Other</i>	16,120	15,850	15,930	15,010	210	228	213	183
	Total	38,970	39,990	39,460	38,820	202	205	186	171

Table 3-11. Top 30 O&D Markets and Average One-Way Fares - Rochester

Rank	Market	Passengers				Average Fare			
		1999	2000	2001	2002	1999	2000	2001	2002
1	O'Hare Intl, IL (ORD)	27,630	23,510	20,130	20,460	202	213	186	177
2	Sky Harbor Intl, AZ (PHX)	9,880	8,540	8,450	10,550	213	216	211	155
3	La Guardia, NY (LGA)	8,700	7,890	6,930	8,390	218	234	226	182
4	Denver Intl, CO (DEN)	7,740	7,370	7,400	7,250	121	135	122	121
5	Ronald Regan Natl, DC (DCA)	8,360	7,060	6,640	6,860	219	246	217	164
6	Orlando Intl, FL (MCO)	6,330	5,860	7,700	6,220	178	189	152	168
7	Dallas/Ft Wor Int, TX (DFW)	7,620	6,620	4,970	6,080	209	195	194	190
8	Wm B Hartsfield, GA (ATL)	6,790	6,180	7,320	6,060	223	149	142	122
9	Logan Intl, MA (BOS)	7,990	7,720	5,970	5,780	264	211	249	196
10	San Francisco In, CA (SFO)	6,460	7,140	5,720	5,710	251	232	196	178
11	Los Angeles Intl, CA (LAX)	5,590	5,620	5,730	5,630	210	216	201	176
12	Philadelphia Intl, PA (PHL)	4,490	4,320	4,570	5,230	226	220	219	165
13	Wayne County, MI (DTW)	5,740	6,200	6,700	5,120	184	168	181	170
14	Seattle/Tacoma In, WA (SEA)	5,270	4,720	4,430	4,850	190	209	203	183
15	Lindberg Field, CA (SAN)	4,630	5,160	3,840	4,330	230	193	200	193
16	McCarran Intl, NV (LAS)	2,570	3,060	3,350	4,120	184	198	164	142
17	Raleigh/Durham, NC (RDU)	4,740	5,380	4,420	4,120	246	239	207	204
18	Newark Intl, NY (EWR)	4,810	4,630	3,840	4,090	223	276	224	205
19	Robert B Mueller, TX (AUS)	5,120	5,190	4,100	4,060	244	262	236	177
20	Tampa Intl, FL (TPA)	2,350	2,630	2,800	3,590	174	201	204	174
21	Miami Intl, FL (MIA)	3,380	3,100	3,700	3,430	235	223	226	202
22	Baltimore/Wash Intl, MD (BWI)	1,960	2,390	3,040	3,160	283	239	252	217
23	George Bush Intc, TX (IAH)	2,260	2,410	3,600	3,070	288	275	218	198
24	Lambert-St Louis, MO (STL)	3,070	2,650	6,080	2,990	206	212	176	164
25	San Jose Mun, CA (SJC)	4,040	3,530	2,940	2,940	395	338	281	266
26	Jacksonville Intl, FL (JAX)	2,160	2,080	3,110	2,790	332	316	269	203
27	Portland, OR (PDX)	2,910	3,010	2,670	2,690	232	260	207	162
28	Indianapolis, IN (IND)	2,700	3,070	2,660	2,670	232	254	212	189
29	St Paul Intl, MN (MSP)	4,290	3,980	2,910	2,600	60	58	79	74
30	San Antonio Intl, TX (SAT)	2,290	2,220	2,440	2,470	202	192	162	207
	<i>Other</i>	103,110	99,600	102,420	99,370	210	212	202	179
	Total	274,980	262,840	260,580	256,680	213	213	198	176

Table 3-12. Top 30 O&D Markets and Average One-Way Fares – St. Cloud

Rank	Market	Passengers				Average Fare			
		1999	2000	2001	2002	1999	2000	2001	2002
1	Sky Harbor Intl, AZ (PHX)	2,100	1,670	1,390	1,590	141	156	157	125
2	Denver Intl, CO (DEN)	1,640	1,530	1,430	1,320	109	139	157	148
3	O'Hare Intl, IL (ORD)	1,240	1,370	1,070	1,180	246	241	225	174
4	St Paul Intl, MN (MSP)	1,800	1,520	1,500	1,130	47	48	64	73
5	McCarran Intl, NV (LAS)	650	740	740	1,080	200	148	142	155
6	Orlando Intl, FL (MCO)	1,380	1,200	1,050	1,080	159	182	150	147
7	Dallas/Ft Wor Int, TX (DFW)	1,570	1,110	1,230	1,030	156	206	199	271
8	Seattle/Tacoma In, WA (SEA)	1,230	840	960	1,020	183	161	159	173
9	Wayne County, MI (DTW)	1,160	890	820	910	247	204	294	241
10	Wm B Hartsfield, GA (ATL)	1,090	1,050	1,250	910	215	160	147	146
11	Los Angeles Intl, CA (LAX)	1,070	710	620	870	154	202	205	150
12	Ronald Regan Natl, DC (DCA)	1,180	970	820	870	194	231	187	152
13	San Francisco In, CA (SFO)	1,340	990	930	720	190	173	174	162
14	Chicago Midway, IL (MDW)	1,590	750	540	710	124	187	189	163
15	Lindberg Field, CA (SAN)	760	780	750	700	191	155	155	188
16	Kansas City Intl, MO (MCI)	1,170	1,010	800	680	92	125	167	224
17	Portland, OR (PDX)	930	540	520	660	214	200	195	145
18	La Guardia, NY (LGA)	1,130	1,030	500	640	226	308	261	202
19	Logan Intl, MA (BOS)	840	1,150	780	630	182	201	181	197
20	Lambert-St Louis, MO (STL)	790	860	600	620	218	206	232	209
21	Indianapolis, IN (IND)	730	420	740	600	233	256	299	256
22	Baltimore/Wash Intl, MD (BWI)	560	420	220	590	194	303	247	182
23	Jm Cox Dayton In, OH (DAY)	500	530	420	560	198	302	290	267
24	SW Florida Reg, FL (RSW)	720	510	560	550	125	151	158	108
25	Memphis Intl, TN (MEM)	390	360	450	540	179	279	213	238
26	Philadelphia Intl, PA (PHL)	1,060	620	540	540	283	194	274	183
27	Anchorage Intl, AK (ANC)	280	380	300	490	179	191	119	179
28	Reno, NV (RNO)	600	310	490	490	196	185	252	165
29	San Antonio Intl, TX (SAT)	230	330	260	490	195	139	181	167
30	Tucson Intl, AZ (TUS)	270	160	160	490	145	141	110	161
	<i>Other</i>	19,210	18,810	18,740	16,970	218	228	214	207
	Total	49,210	43,560	41,180	40,660	190	203	197	187

3.5 SERVICE

Duluth

Duluth had air service to both MSP and Chicago. Effective December, 2002, American announced that it was canceling its Chicago service. This left Duluth with Northwest as its single carrier. In the past, Duluth also had service to Detroit. This ended in August of 2000. And, from time to time, Duluth has also served as a stopping point for routes from other smaller communities, though this service has been relatively insignificant.

Over the last two years, the number of trips, passengers, and seats traveling on segments from Duluth has declined. Much of this decline can be attributed to the effects of September 11 as well as the loss of service to Detroit. However, load factors increased measurably during this same time. This suggests that the reduction in service has been disproportionately greater than the changes in passengers' demand for air travel. It's also interesting to note that Duluth's Chicago service – the service that is facing cancellation – made significant gains over the past year in both number of trips, passengers served and, most importantly, load factors.

Table 3-13. Passenger Service Segment Activity - Duluth

	Carrier	Trips		Passengers		Seats	
		2000	2001	2000	2001	2000	2001
MSP	Mesaba	1,974	1,786	55,934	64,760	98,091	105,244
	Northwest	1,021	880	48,671	46,020	117,702	101,321
O'Hare	American	923	971	18,989	24,639	38,101	42,375
Detroit	Mesaba	596	-	17,731	-	41,054	-
Hibbing	Mesaba	89	15	248	135	3,026	510
Intl. Falls	Mesaba	-	72	-	556	-	2,448
Hancock, MI	Mesaba	18	-	139	-	612	-
Total		4,621	3,724	141,712	136,110	298,586	251,898

Source: USDOT T100 Air Carrier Data

Table 3-14. Passenger Service Segment Statistics - Duluth

Destination	Carrier	Load Factor		Average Seats		Avg. Daily Trips	
		2000	2001	2000	2001	2000	2001
MSP	Mesaba	57%	62%	50	59	5.4	4.9
	Northwest	41%	45%	115	115	2.8	2.4
O'Hare	American	50%	58%	41	44	2.5	2.7
Detroit	Mesaba	43%	-	69	-	1.6	-
Hibbing	Mesaba	8%	26%	34	34	0.2	0.0
Intl. Falls	Mesaba	-	23%	-	34	-	0.2
Hancock, MI	Mesaba	23%	-	34	-	0.0	-

Source: USDOT T100 Air Carrier Data

Northwest and Mesaba provide service to MSP, with Northwest using DC-9 and A320 aircraft and Mesaba using Avro regional jets with Saab 340's on some flights. American uses Embraer RJ140/145 regional jets.

Table 3-15. Daily Passenger Service Schedule - Duluth

		Typical Daily Departures and Aircraft Types		
Destination	Carrier	2000	2001	2002
MSP	Mesaba/NW	10	8	10
		ARJ, DC9, SF3	ARJ, DC9, SF3	ARJ, DC9, SF3
O'Hare	American	3	4	3
		ERJ	ERJ	ERD, ER4
Detroit	Mesaba	2-3	-	-
		ARJ		

Source: Official Airline Guide (June) and other sources.

Eau Claire

Mesaba provides service from Eau Claire to MSP using Saab 340 aircraft. This service has eroded slightly over the past few years, most likely due to the low load factors experienced in 2000 and some consolidation of service after September 11, 2001. Eau Claire also now serves as a stopping point on routes to and from Rhinelander, WI. These schedule changes between 2000 and 2001, along with an increase in enplanements, appear to have significantly helped Mesaba's load factor at Eau Claire, increasing it from 40% in 2000 to 57% in 2001.

Table 3-16. Passenger Service Segment Activity – Eau Claire

Destination	Carrier	Trips		Passengers		Seats	
		2000	2001	2000	2001	2000	2001
MSP	Mesaba	1,886	1,606	25,674	31,158	64,124	54,604
Rhinelander, WI	Mesaba	360	779	3,905	9,799	12,240	26,486
Escanaba, MI	Mesaba	245	-	1,919	-	8,330	-
Total		2,491	2,385	31,498	40,957	84,694	81,090

Source: USDOT T100 Air Carrier Data

Table 3-17. Passenger Service Segment Statistics – Eau Claire

Destination	Carrier	Load Factor		Average Seats		Avg. Daily Trips	
		2000	2001	2000	2001	2000	2001
MSP	Mesaba	40%	57%	34	34	5.2	4.4
Rhinelander, WI	Mesaba	32%	37%	34	34	1.0	2.1
Escanaba, MI	Mesaba	23%	-	34	-	0.7	-

Source: USDOT T100 Air Carrier Data

Table 3-18. Daily Passenger Service Schedule – Eau Claire

Typical Daily Departures and Aircraft Types				
Destination	Carrier	2000	2001	2002
MSP	Mesaba	6	5	4
		SF3	SF3	SF3
Rhineland, WI	Mesaba	-	2	2
			SF3	SF3

Source: Official Airline Guide (June) and other sources.

Rochester

Rochester currently has service to MSP and Chicago. Prior to the 2001 merger of TWA and American and the events of September 11, TWA also provided service between Rochester and St. Louis. This service was discontinued in the third quarter of 2001. Northwest and Mesaba provide service to MSP with DC9's, Avro regional jets, and Saab 340 aircraft. Historically, the smaller aircraft used by Mesaba have experienced notably greater load factors than Northwest's larger aircraft.

Service has been relatively stable over recent years. Load factors have been moderate, with a slight decline in 2001 due mostly to an understandably poor performance in September. However, by the last few months of 2001, load factors at Rochester had returned to about 90 percent of their typical levels, and it appears reasonable to expect that this recent decline will not be a prolonged trend.

Table 3-19. Passenger Service Segment Activity – Rochester

Destination	Carrier	Trips		Passengers		Seats	
		2000	2001	2000	2001	2000	2001
MSP	Mesaba	2,169	1,878	64,499	54,257	115,186	102,597
	Northwest	782	741	27,574	26,964	77,950	72,545
O'Hare	American	1,337	1,367	58,575	55,523	122,495	118,898
St. Louis	TWA Exp.	n/a	n/a	-	8,785	n/a	n/a
La Crosse, WI	Mesaba	18	-	80	-	647	-
Total		4,306	3,986	150,728	145,529	316,278	294,040

Source: USDOT T100 Air Carrier Data. Full data for commuters (TWA express) is unavailable.

Table 3-20. Passenger Service Segment Statistics – Rochester

Destination	Carrier	Load Factor		Average Seats		Avg. Daily Trips	
		2000	2001	2000	2001	2000	2001
MSP	Mesaba	56%	53%	53	55	5.9	5.1
	Northwest	35%	37%	100	98	2.1	2.0
O'Hare	American	48%	47%	92	87	3.7	3.7
St. Louis	TWA Exp.	n/a	n/a	n/a	n/a	n/a	n/a
La Crosse, WI	Mesaba	12%	-	36	-	0.0	-

Source: USDOT T100 Air Carrier Data. Data for commuters (TWA express) is unavailable.

Table 3-21. Daily Passenger Service Schedule – Rochester

Typical Daily Departures and Aircraft Types				
Destination	Carrier	2000	2001	2002
MSP	Mesaba/NW	9	8	9
		ARJ, DC9, SF3	ARJ, SF3, DC9	ARJ, DC9, SF3
O'Hare	American	4	4	4
		F100	F100	F100
St. Louis	TWA Exp.	-	3	-
			ERJ	

Source: Official Airline Guide (June) and other sources.

St. Cloud

Mesaba serves St. Cloud with 6 daily departures to MSP using Saab 340 turboprop aircraft. However, seasonal changes in schedules, aircraft maintenance and retirement of Mesaba's Saab 340's have resulted in reduced service and actual daily departures typically ranging from 4 to 6. Over the course of the last two years, actual departures have averaged about 4.5 per day.

St. Cloud also currently serves as a stop for some flights from Grand Rapids and has been a part of routes to Brainerd and other cities in the past. Over the past two years, load factors between St. Cloud and MSP have averaged slightly over 50 percent, although the additional passengers brought in on the Grand Rapids flights have increased load factors on these flights to about 66 percent on average⁷

⁷ Data from airport for November 2001 flights.

Table 3-22. Passenger Service Segment Activity – St. Cloud

Destination	Carrier	Trips		Passengers		Seats	
		2000	2001	2000	2001	2000	2001
MSP	Mesaba	1,627	1,599	29,160	28,277	55,318	54,366
Grand Rapids, MN	Mesaba	346	729	2,866	6,506	11,764	24,786
Brainerd, MN	Mesaba	455	73	3,274	547	15,470	2,482
Watertown, SD	Mesaba	25	-	85	-	850	-
Aberdeen, SD	Mesaba	24	-	151	-	816	-
Thief River Falls, MN	Mesaba	18	-	154	-	612	-
Total		2,495	2,401	35,690	35,330	84,830	81,634

Source: USDOT T100 Air Carrier Data

Table 3-23. Passenger Service Segment Statistics – St. Cloud

Destination	Carrier	Load Factor		Average Seats		Avg. Daily Trips	
		2000	2001	2000	2001	2000	2001
MSP	Mesaba	53%	52%	34	34	4.5	4.4
Grand Rapids, MN	Mesaba	24%	26%	34	34	0.9	2.0
Brainerd, MN	Mesaba	21%	22%	34	34	1.2	0.2
Watertown, SD	Mesaba	10%	-	34	-	0.1	-
Aberdeen, SD	Mesaba	19%	-	34	-	0.1	-
Thief River Falls, MN	Mesaba	25%	-	34	-	0.0	-

Source: USDOT T100 Air Carrier Data

Table 3-24. Daily Passenger Service Schedule – St. Cloud

Destination	Carrier	Typical Daily Departures and Aircraft Types		
		2000	2001	2002
MSP	Mesaba	6 SF3	6 SF3	6 SF3
Brainerd	Mesaba	3 SF3	-	-

Source: Official Airline Guide (June) and other sources.

3.6 CURRENT CATCHMENT AREAS AND POTENTIAL SERVICE AREAS

There are many different ways to define an airport's "service area". Traditionally, service areas have been used to define the location of both who *could* use a particular airport, as well as who *does* use a particular airport. However, in most cases, these two areas are not the same.

Potential Service Areas

In the past, the State of Minnesota has used 60- and 90- minute drive times as criteria to define commercial airport service areas. This is a reasonable approach - it's easy to understand and straightforward to calculate. It also facilitates making an estimate of the amount of travel demand that an airport might receive from the local community. Obviously, airports with large populations and strong growth within a reasonable driving distance of the airport provide a better base for supporting air service than airports surrounded by smaller populations or a slower economy. Service areas defined by drive times provide one possible tool for measuring an airport's *potential* for air service development and a measure of who could use the airport.

On the other hand, many factors other than drive time affect passengers' choice of airport. At the Tier 2 airports, issues such as relative service levels and competition from MSP have a significant effect on airport choice. For this reason, drive times alone are an inadequate tool for understanding the reality of an airport's potential service area.

Given the above, the question remains as to how to define the airport service areas in a useful manner. For the purposes of this study, a practical working definition is the most appropriate:

The airport service areas are the general areas in which the airport can be reasonably expected to draw a meaningful amount of passengers given the current conditions and the range of expected future conditions. They are the areas in which the local economy and other passenger characteristics are the most important to the local airport. The service areas aren't intended to represent the entire area from which passengers might choose to use an airport, but simply the most important and most likely areas.

The service areas were defined on a county basis. They consider the following characteristics:

- The relative influence of MSP and other nearby airports
- Driving distances
- The general level of service offered at the airports
- The results of the phone survey
- Input from airport staff based on real-world experience and local knowledge.

Figure 3-3 shows the airport service areas for the study airports.

Current Catchment Areas

To understand who is actually using an airport at the present time, a different approach is needed. The phone survey conducted as part of this study is a practical tool for this purpose. By surveying business travelers in the area surrounding each study airport, then mapping the results, it's possible to identify the areas from which passengers are most likely to use their local airport.

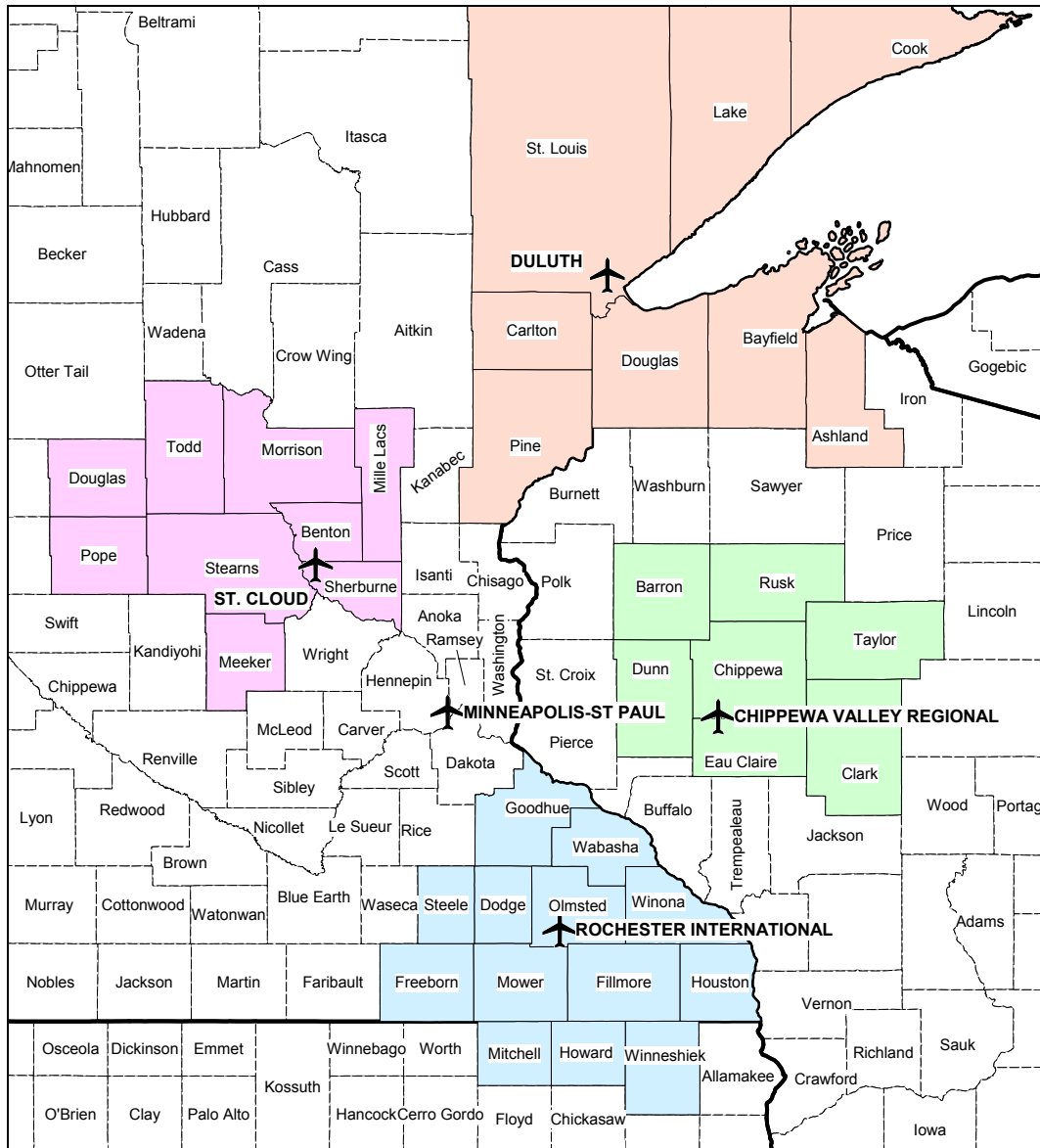


Figure 3-3. Airport Service Areas - Working Definition

Figure 3-4 illustrates the differences between these current catchment areas and the airports' potential service areas. In the figure, the shaded areas represent the 60- and 90-minute driving distances from each airport while the thick line illustrates the area from which the airport is drawing a significant share of the passenger trips⁸. The dashed lines represent the airports' potential service areas as defined for this study. The figure clearly shows the influence of MSP. In Duluth, the airport draws passengers from an area much larger than the 90-minute drive time. This is understandable, given the relatively high level of service offered at the airport and the Duluth's distance from MSP. On the other hand, at St. Cloud, the airport's catchment area is somewhat smaller than the 90-minute drive area and is actually closer to the 60-minute drive area. At Eau Claire and

⁸ The line represents the area from which, on average, 25 percent or more of passenger's air trips are made using the local airport. It is important to note that the airports *do* draw passengers from outside of these areas but at an average rate of less than 25 percent. These areas were developed based on data obtained during the phone survey.

Rochester, the size of the airports' catchment areas is reasonably close to that of the 90-minute drive areas. However, at all of the airports, the catchment areas are shifted away from MSP, since passengers closer to MSP are somewhat more likely to use MSP than those who must drive past their local airport to get to MSP.

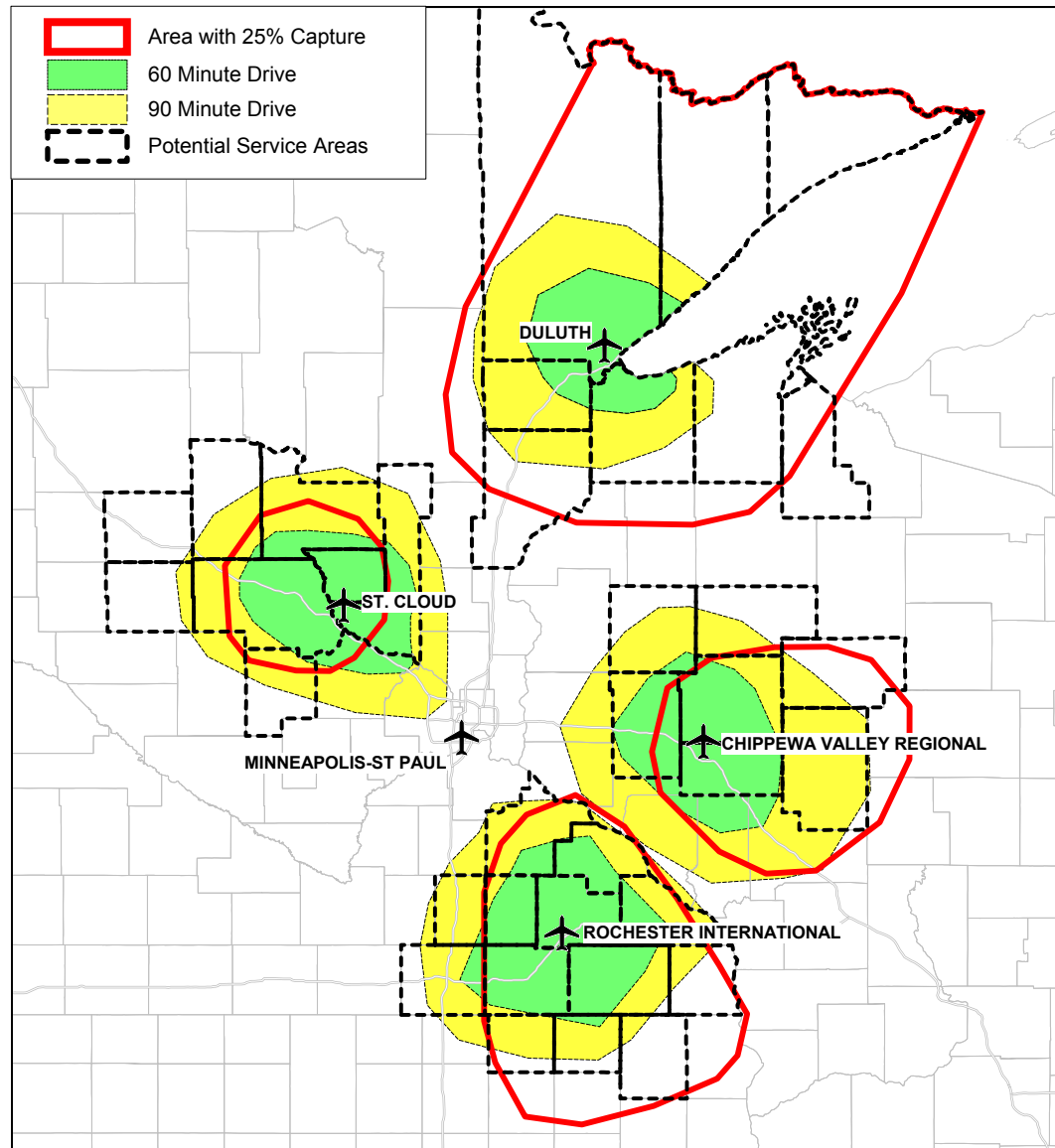


Figure 3-4. Comparison of Current Catchment Areas and Driving Distances

3.7 ECONOMIC TRENDS IN THE POTENTIAL SERVICE AREAS

Over the past ten years, economic growth in the Tier 2 service areas has been moderate. Although population growth has lagged behind U.S. averages, employment has kept pace with state averages, outpaced the U.S. as a whole. Income growth in the Tier 2 service areas lagged a bit behind the relatively brisk growth that has occurred recently in

Minnesota (particularly in the Minneapolis-St. Paul metro area), but has kept pace with national averages.

Overall, these factors suggest that the underlying air travel demand in the Tier 2 service areas has likely grown at a rate just slightly slower than that of the U.S. as a whole. These economic patterns are expected to continue in much the same way into the future. Short-term economic growth over the next several years, in both the Tier 2 airports and the U.S. as a whole, can be expected to be notably reduced, given the recent economic downturn.

Table 3-25 presents the historical and forecast projects for the Tier 2 airports, Minnesota and the United States. For the important generators of air travel demand – income and employment, the Tier 2 regions equal or exceed projected growth in the United States.

Table 3-25. Historical and Forecast Economic Trends – Minnesota and U.S.

Area	County	Historical		Forecast		Avg. Annual Growth		
		1991	2001	2006	2011	'91-'01	'01-'06	'06-'11
Population (000)	Minnesota	4,437	4,984	5,258	5,540	1.2%	1.1%	1.1%
	United States	252,743	284,844	298,933	313,457	1.2%	1.0%	1.0%
	Tier 2	1,367	1,488	1,547	1,608	0.9%	0.8%	0.8%
Employment (000)	Minnesota	2,737	3,390	3,628	3,861	2.2%	1.3%	1.3%
	United States	138,664	168,348	178,694	189,578	2.0%	1.2%	1.2%
	Tier 2	745	927	983	1,040	2.2%	1.2%	1.1%
Income (000)	Minnesota	102,030	147,462	165,299	184,459	3.8%	2.3%	2.2%
	United States	5,697,304	7,782,812	8,640,959	9,581,942	3.2%	2.1%	2.1%
	Tier 2	25,325	34,767	38,538	42,562	3.2%	2.1%	2.0%

Source: Woods and Poole Economics, Washington D.C.

Among Tier 2 service areas, there are important differences in economic activity. Although the populations of the Tier 2 service areas are similar in magnitude, the patterns of anticipated economic growth vary from airport to airport and even within individual service areas. Within each service area, populations are concentrated within a relatively small core area near the airports, as shown in Table 3-26. These core areas provide a significant portion of the travel demand for the airports. As a result, the outlook for future travel demand at the airports is somewhat more sensitive to changes in these core areas than in other, more distant and less populated portions of the airports' service areas. Figure 3-5 illustrates the population distribution throughout the service areas.

Table 3-26. Core Service Areas

Service Area	Core Area
Duluth	St. Louis County / Duluth metro area
Eau Claire	Eau Claire County
Rochester	Olmstead County
St. Cloud	Stearns, Benton, & Sherburne Counties

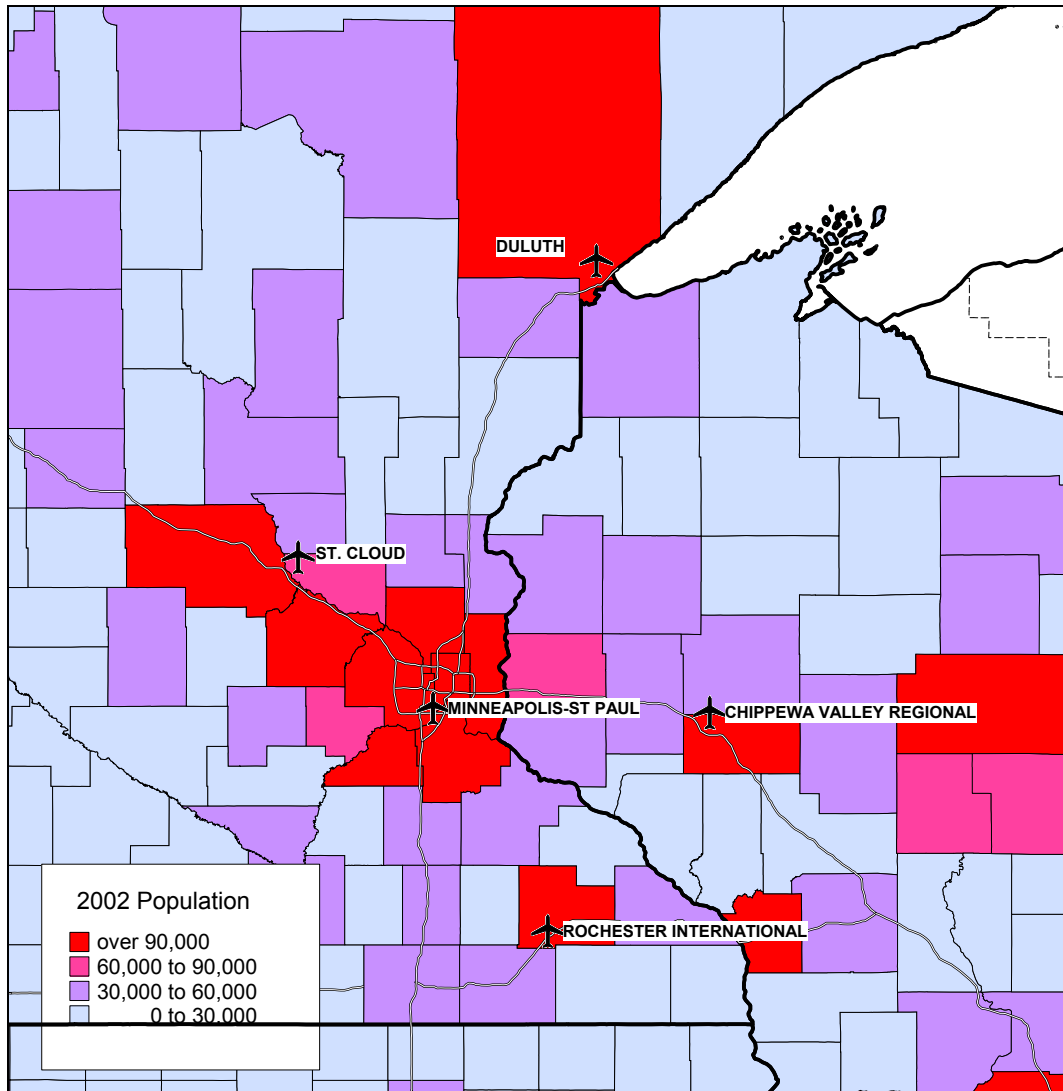


Figure 3-5. Estimated Population by County, 2002

Over the next 10 years, the Minneapolis-St. Paul metro counties are expected to be a fast growing area, as is the area north along interstate 35 and northwest toward St. Cloud. These key growth areas are in the region in which MSP competes most directly with the Tier 2 airports. This provides less support to service at the Tier 2 airports than if the growth were located more in the core of the airports' service areas or otherwise more distant from MSP.

The figures on the next pages illustrate the economic growth patterns throughout the Tier 2 service areas.

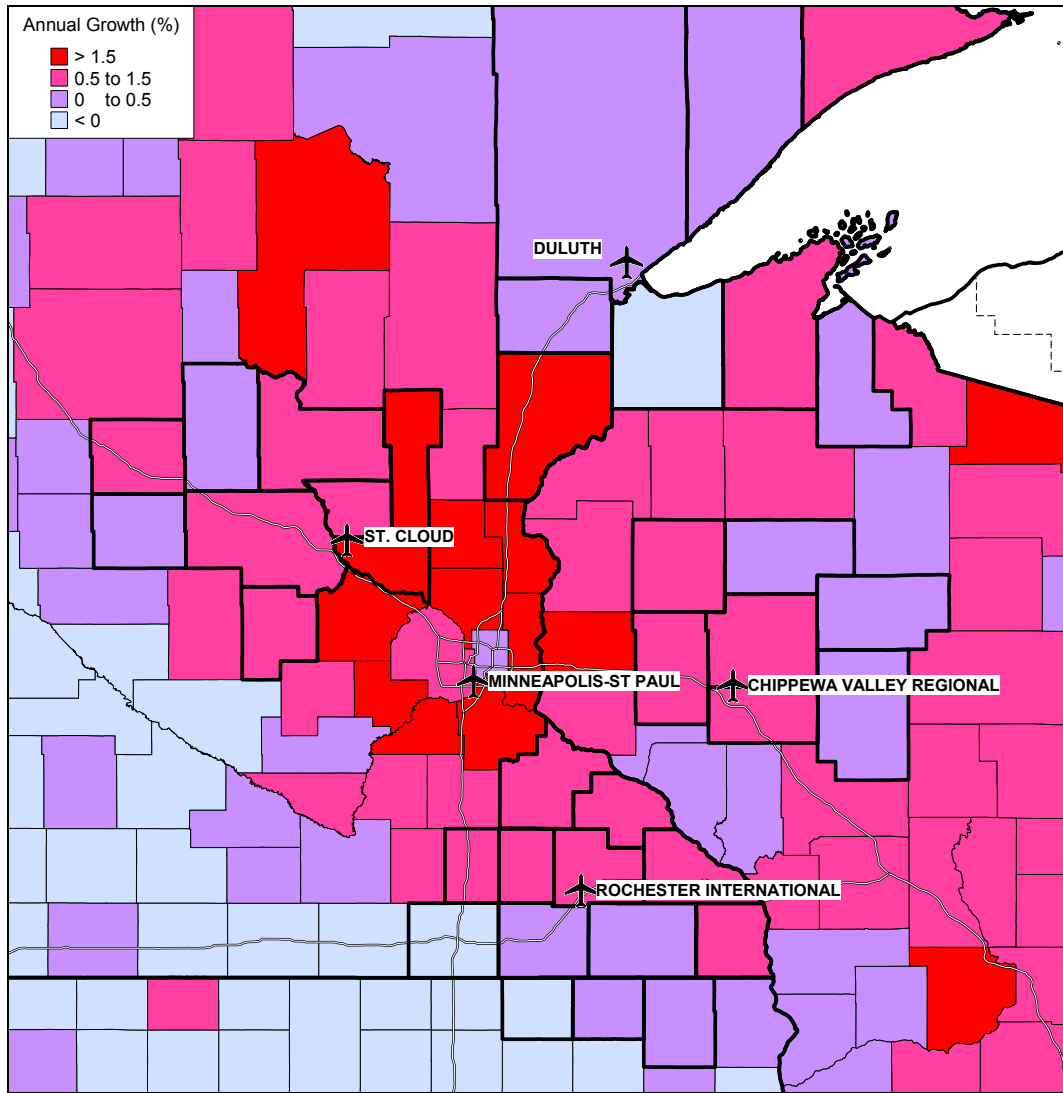


Figure 3-6. Forecast Population Growth, 2001-2011

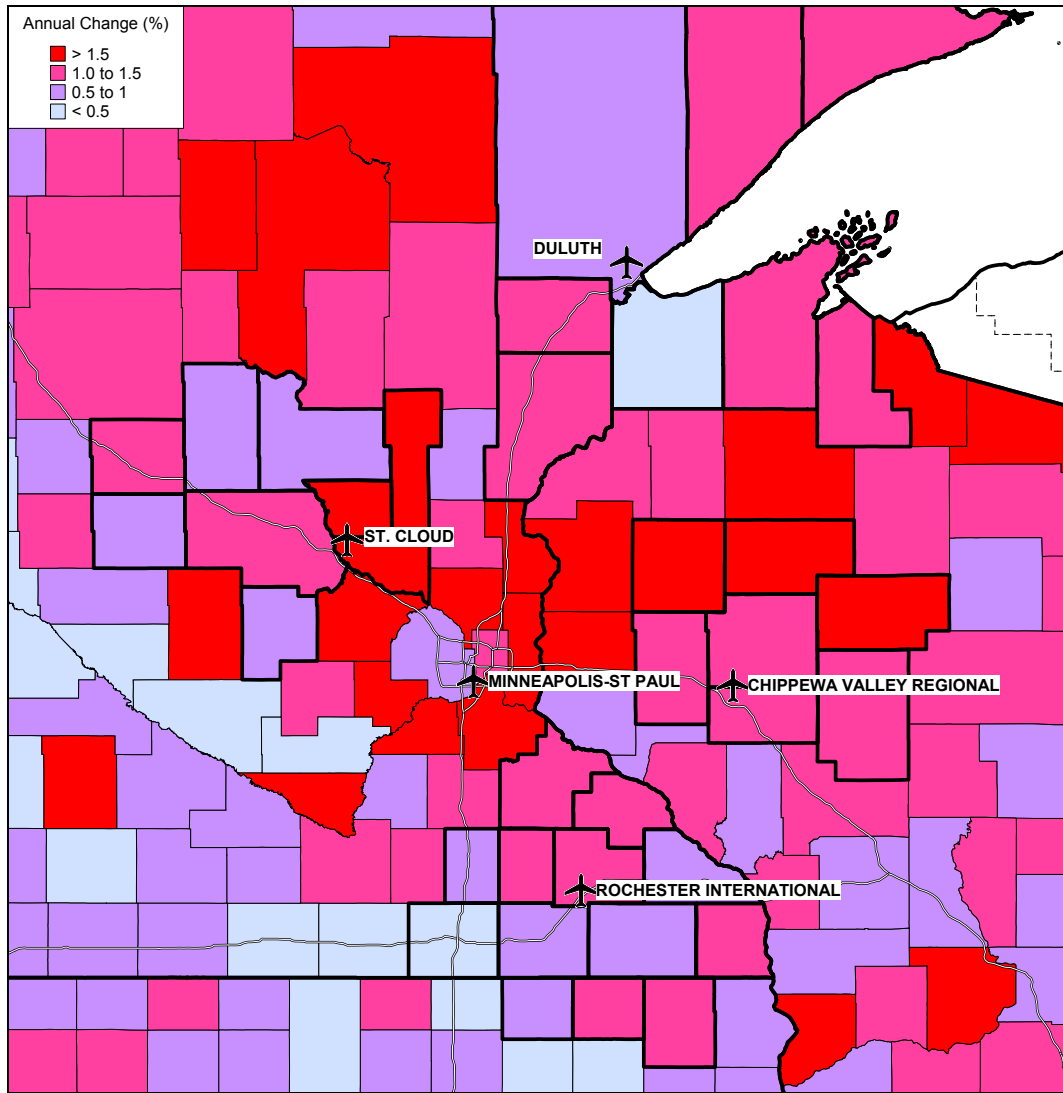


Figure 3-7. Forecast Employment Growth, 2001-2011

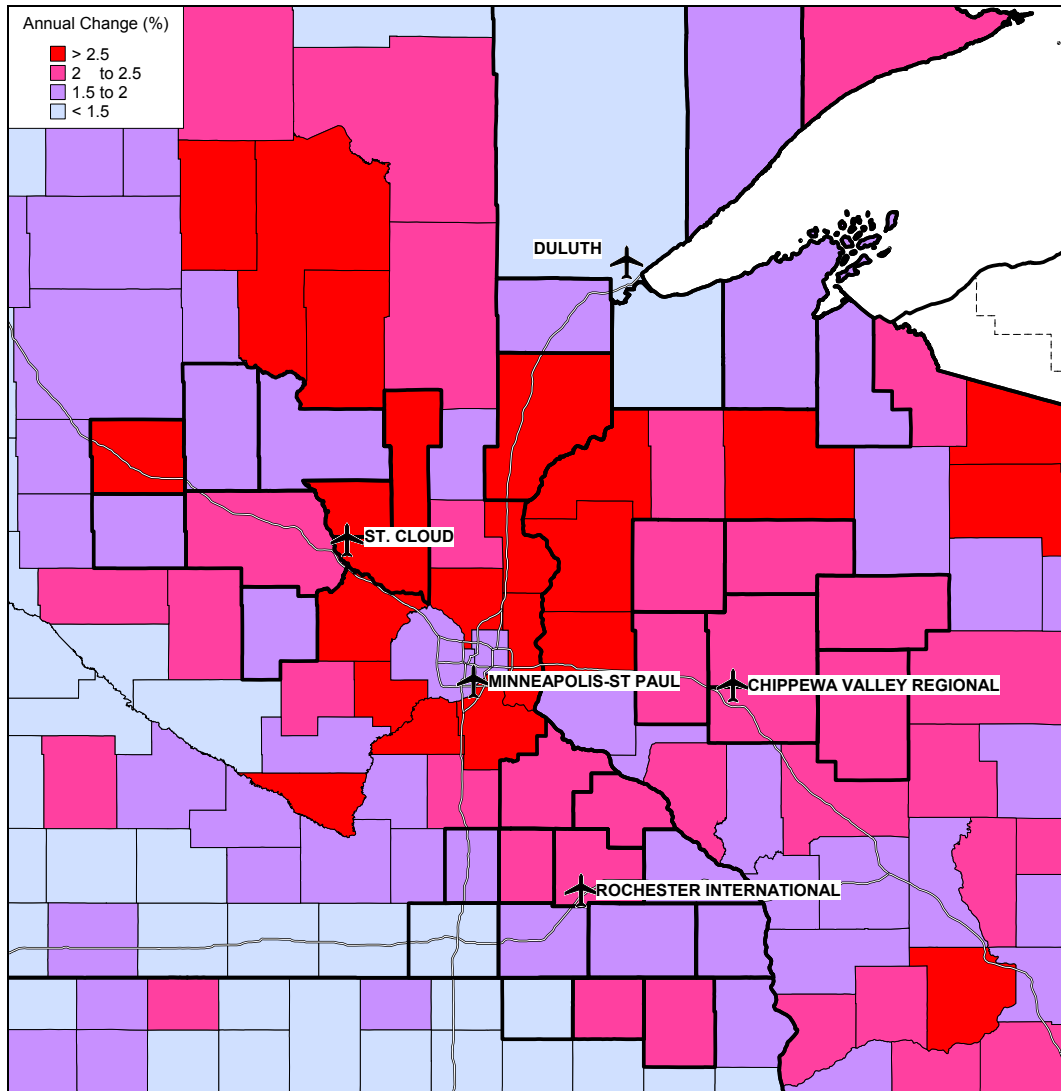


Figure 3-8. Forecast Income Growth, 2001-2011

Duluth

The population and economy of the Duluth service area is expected grow at a somewhat slower rate than that of the other Tier 2 service areas. Duluth's population is forecast to increase at just 0.3% per year over the next 10 years – less than half the rate of the other Tier 2 airports. Furthermore, the fastest growing areas, such as Pine and Cook counties, are located towards the outer edges of Duluth's service area. The distance of these growth areas will tend to temper the support that they provide to travel demand at Duluth. This is particularly true in the case of Pine County, where Duluth faces significant competition from nearly equidistant MSP. These patterns of growth may tend to limit travel demand and present a challenge for Duluth in the future. However, Duluth is also located relatively far from MSP and has the highest demand capture rate of the study airports.

Table 3-27. Historical and Forecast Economic Trends - Duluth

Statistic	County	Historical		Forecast		Avg. Annual Growth		
		1991	2001	2006	2011	'91-'01	'01-'06	'06-'11
Population (000)	Ashland, WI	16	17	17	17	0.4%	0.2%	0.2%
	Bayfield, WI	14	15	16	16	0.7%	0.7%	0.8%
	Carlton, MN	29	32	32	33	0.7%	0.4%	0.4%
	Cook, MN	4	5	5	6	2.6%	1.0%	0.9%
	Douglas, WI	42	43	43	43	0.2%	0.0%	0.0%
	Lake, MN	10	11	11	11	0.6%	0.3%	0.4%
	Pine, MN	22	27	29	32	2.3%	1.6%	1.5%
	St. Louis, MN	200	201	202	204	0.1%	0.2%	0.2%
Population Total		338	351	357	363	0.4%	0.3%	0.3%
Employment (000)	Ashland, WI	9.2	11.2	11.9	12.5	2.0%	1.2%	1.1%
	Bayfield, WI	5.5	6.6	7.0	7.5	1.8%	1.4%	1.3%
	Carlton, MN	13.7	17.9	19.0	20.2	2.7%	1.2%	1.2%
	Cook, MN	2.7	3.9	4.2	4.5	3.7%	1.4%	1.4%
	Douglas, WI	20.0	21.7	21.8	22.0	0.8%	0.1%	0.1%
	Lake, MN	5.0	5.6	5.9	6.3	1.2%	1.0%	1.2%
	Pine, MN	8.7	12.5	13.5	14.3	3.8%	1.4%	1.3%
	St. Louis, MN	104.5	121.2	125.9	131.6	1.5%	0.8%	0.9%
Employment Total		169.2	200.6	209.2	218.9	1.7%	0.8%	0.9%
Income (millions)	Ashland, WI	260	342	373	405	2.8%	1.7%	1.6%
	Bayfield, WI	224	300	332	366	3.0%	2.0%	1.9%
	Carlton, MN	504	679	744	816	3.0%	1.8%	1.8%
	Cook, MN	82	126	141	157	4.4%	2.2%	2.2%
	Douglas, WI	731	913	957	1,003	2.3%	0.9%	1.0%
	Lake, MN	180	236	257	280	2.7%	1.7%	1.7%
	Pine, MN	320	487	555	629	4.3%	2.6%	2.5%
	St. Louis, MN	3,972	5,021	5,368	5,746	2.4%	1.3%	1.4%
Income Total		6,273	8,106	8,727	9,402	2.6%	1.5%	1.5%

Source: Woods and Poole Economics, Washington D.C.

Eau Claire

The economic outlook for the Eau Claire area is positive. Although a certain amount of slowdown is expected across the U.S., Eau Claire's economy is expected to be impacted somewhat less than average. Eau Claire's growth should outpace national averages in the future, particularly in the areas north of the airport such as Barron, Rusk, and Taylor counties. This growth pattern should help Eau Claire maintain the travel demand that is required to support air service at Chippewa Valley Regional.

Table 3-28. Historical and Forecast Economic Trends – Eau Claire

Statistic	County	Historical		Forecast		Avg. Annual Growth		
		1991	2001	2006	2011	'91-'01	'01-'06	'06-'11
Population (000)	Barron, WI	41	45	47	49	1.0%	0.8%	0.8%
	Chippewa, WI	53	56	57	59	0.5%	0.5%	0.6%
	Clark, WI	32	34	34	35	0.5%	0.4%	0.4%
	Dunn, WI	36	40	43	45	1.1%	1.1%	1.0%
	Eau Claire, WI	86	94	99	104	0.9%	1.0%	1.0%
	Rusk, WI	15	15	15	16	0.1%	0.1%	0.1%
	Taylor, WI	19	20	20	20	0.4%	0.3%	0.3%
Eau Claire Total		283	304	316	328	0.7%	0.8%	0.8%
Employment (000)	Barron, WI	23.9	30.4	33.0	35.4	2.4%	1.7%	1.4%
	Chippewa, WI	25.9	31.8	33.9	35.8	2.1%	1.3%	1.1%
	Clark, WI	14.4	16.8	17.7	18.7	1.6%	1.1%	1.0%
	Dunn, WI	17.2	23.3	24.9	26.7	3.1%	1.4%	1.3%
	Eau Claire, WI	51.9	69.9	74.6	79.4	3.0%	1.3%	1.2%
	Rusk, WI	7.4	9.3	10.1	10.9	2.3%	1.6%	1.4%
	Taylor, WI	10.5	12.8	13.9	14.9	2.0%	1.6%	1.4%
Employment Total		151.2	194.4	208.2	221.6	2.5%	1.4%	1.2%
Income (millions)	Barron, WI	692	964	1,096	1,231	3.4%	2.6%	2.4%
	Chippewa, WI	926	1,307	1,460	1,614	3.5%	2.2%	2.0%
	Clark, WI	476	638	706	778	3.0%	2.1%	1.9%
	Dunn, WI	550	819	920	1,029	4.1%	2.4%	2.3%
	Eau Claire, WI	1,606	2,263	2,522	2,800	3.5%	2.2%	2.1%
	Rusk, WI	210	284	319	354	3.1%	2.3%	2.1%
	Taylor, WI	285	400	450	501	3.4%	2.4%	2.2%
Income Total		4,745	6,674	7,473	8,307	3.5%	2.3%	2.1%

Source: Woods and Poole Economics, Washington D.C.

Rochester

On the whole, growth in the Rochester area over the past 10 years has been about average. Population growth has concentrated in areas, previously undeveloped near the airport and north of the city. These areas are expected to continue to grow in the future.

Because Rochester Airport is located southwest of the city's center, growth to the north could result in greater diversion to MSP. Nevertheless, the outlook for the service area is still positive as the drive across town is substantially easier than the drive to MSP. Overall, the population and economy of the service area is expected to grow at a rate slightly below national averages. However, Olmstead County, the core of the Rochester service area, has experienced above average growth in the past, and this is expected to continue into the future. These patterns suggest that travel demand at Rochester will continue to grow and will keep pace with other areas across the country.

Table 3-29. Historical and Forecast Economic Trends – Rochester

Area	County	Historical		Forecast		Avg. Annual Growth		
		1991	2001	2006	2011	'91-'01	'01-'06	'06-'11
Population (000)	Dodge, MN	16	18	19	19	1.1%	0.9%	0.9%
	Fillmore, MN	21	21	21	21	0.2%	0.1%	0.2%
	Freeborn, MN	33	33	32	32	-0.1%	-0.1%	-0.1%
	Goodhue, MN	41	45	46	48	0.8%	0.8%	0.8%
	Houston, MN	19	20	20	21	0.7%	0.6%	0.6%
	Howard, IA	10	10	10	10	0.1%	0.3%	0.3%
	Mitchell, IA	11	11	11	10	-0.1%	-0.3%	-0.3%
	Mower, MN	38	39	39	40	0.3%	0.3%	0.3%
	Olmsted, MN	109	126	135	144	1.4%	1.4%	1.3%
	Steele, MN	31	34	35	37	0.9%	0.8%	0.8%
	Wabasha, MN	20	22	23	24	0.9%	1.0%	0.9%
	Winneshiek, IA	21	21	21	22	0.1%	0.1%	0.1%
	Winona, MN	48	50	52	53	0.4%	0.5%	0.5%
	Population Total		417	449	466	483	0.7%	0.7%
Employment (000)	Dodge, MN	6.2	7.9	8.4	8.8	2.5%	1.1%	1.1%
	Fillmore, MN	10.6	12.4	13.0	13.4	1.6%	0.8%	0.7%
	Freeborn, MN	17.3	19.3	19.6	20.0	1.1%	0.3%	0.3%
	Goodhue, MN	24.3	30.2	31.8	33.5	2.2%	1.0%	1.0%
	Houston, MN	7.3	9.6	10.2	10.7	2.8%	1.3%	1.0%
	Howard, IA	5.5	6.8	7.4	7.9	2.1%	1.6%	1.3%
	Mitchell, IA	5.5	6.3	6.5	6.6	1.4%	0.5%	0.5%
	Mower, MN	19.0	22.2	23.2	24.3	1.6%	0.9%	0.9%
	Olmsted, MN	81.9	100.7	107.4	114.5	2.1%	1.3%	1.3%
	Steele, MN	19.6	25.8	26.9	28.1	2.8%	0.9%	0.9%
	Wabasha, MN	9.2	12.3	13.0	13.7	2.9%	1.1%	1.1%
	Winneshiek, IA	13.2	16.1	17.4	18.6	2.0%	1.6%	1.4%
	Winona, MN	27.8	33.4	34.7	36.1	1.8%	0.8%	0.8%
	Employment Total		247.5	303.1	319.6	336.3	2.0%	1.1%
Income (millions)	Dodge, MN	303	420	470	521	3.3%	2.2%	2.1%
	Fillmore, MN	372	458	496	535	2.1%	1.6%	1.5%
	Freeborn, MN	589	723	770	819	2.1%	1.3%	1.2%
	Goodhue, MN	859	1,185	1,314	1,453	3.3%	2.1%	2.0%
	Houston, MN	352	500	551	604	3.6%	2.0%	1.8%
	Howard, IA	169	228	256	284	3.0%	2.4%	2.1%
	Mitchell, IA	218	252	269	286	1.4%	1.3%	1.3%
	Mower, MN	758	954	1,039	1,131	2.3%	1.7%	1.7%
	Olmsted, MN	2,708	3,854	4,325	4,841	3.6%	2.3%	2.3%
	Steele, MN	644	903	995	1,094	3.4%	2.0%	1.9%
	Wabasha, MN	384	530	588	651	3.3%	2.1%	2.1%
	Winneshiek, IA	374	491	550	609	2.8%	2.3%	2.1%
	Winona, MN	890	1,166	1,269	1,380	2.7%	1.7%	1.7%
	Income Total		8,619	11,664	12,891	14,208	3.1%	2.0%

Source: Woods and Poole Economics, Washington D.C.

St. Cloud

The population and economy of the St. Cloud service area have been the fastest growing of all of the Tier 2 airports. This trend is expected to continue into the future and should provide significant support for continued and expanded service at the airport.

Much of the growth in the St. Cloud area has been due to an expansion of the Minneapolis metro area northwest along the I-94 and Highway 10 corridors. Although this pattern puts some of the growth in the area between St. Cloud and MSP, it's likely that, over time, continued outward expansion of the metro area will tend to put progressively more passengers within reach of St. Cloud.

Table 3-30. Historical and Forecast Economic Trends – St. Cloud

Area	County	Historical		Forecast		Avg. Annual Growth		
		1991	2001	2006	2011	'91-'01	'01-'06	'06-'11
Population (000)	Benton, MN	31	35	38	40	1.2%	1.5%	1.5%
	Douglas, MN	29	33	36	38	1.3%	1.3%	1.2%
	Meeker, MN	21	23	23	24	0.8%	0.6%	0.6%
	Mille Lacs, MN	19	23	25	27	1.8%	1.6%	1.6%
	Morrison, MN	30	32	33	34	0.7%	0.6%	0.6%
	Pope, MN	11	11	11	11	0.4%	0.2%	0.2%
	Sherburne, MN	44	67	75	84	4.3%	2.5%	2.3%
	Stearns, MN	121	135	143	151	1.1%	1.1%	1.1%
	Todd, MN	23	24	25	25	0.5%	0.3%	0.3%
Population Total		329	383	408	434	1.5%	1.3%	1.2%
Employment (000)	Benton, MN	13.7	19.2	21.0	22.6	3.4%	1.8%	1.5%
	Douglas, MN	16.6	22.2	23.9	25.6	2.9%	1.5%	1.3%
	Meeker, MN	10.0	10.9	11.3	11.6	0.9%	0.7%	0.6%
	Mille Lacs, MN	9.7	13.7	14.9	16.2	3.5%	1.8%	1.6%
	Morrison, MN	14.2	17.1	17.8	18.5	1.9%	0.8%	0.8%
	Pope, MN	5.1	6.3	6.6	6.8	2.2%	0.8%	0.8%
	Sherburne, MN	16.2	27.0	30.7	34.4	5.3%	2.6%	2.3%
	Stearns, MN	80.5	101.3	108.2	115.4	2.3%	1.3%	1.3%
	Todd, MN	10.6	11.6	12.0	12.3	0.9%	0.6%	0.5%
Employment Total		176.6	229.2	246.4	263.5	2.6%	1.5%	1.3%
Income (millions)	Benton, MN	523	797	920	1,046	4.3%	2.9%	2.6%
	Douglas, MN	504	770	876	988	4.3%	2.6%	2.4%
	Meeker, MN	383	486	531	576	2.4%	1.8%	1.7%
	Mille Lacs, MN	310	434	503	577	3.4%	3.0%	2.8%
	Morrison, MN	446	607	668	734	3.1%	1.9%	1.9%
	Pope, MN	169	229	250	272	3.1%	1.8%	1.7%
	Sherburne, MN	813	1,533	1,831	2,146	6.5%	3.6%	3.2%
	Stearns, MN	2,201	3,041	3,408	3,805	3.3%	2.3%	2.2%
	Todd, MN	340	420	460	499	2.2%	1.8%	1.7%
Income Total		5,689	8,317	9,447	10,645	3.9%	2.6%	2.4%

Source: Woods and Poole Economics, Washington D.C.

3.8 AIRPORT ROLES

In January and February of 2002, a series of workshops were conducted at Tier 2 airports. Airport administration, local Chambers of Commerce, airline managers and other users and promoters of the airport were invited to participate in a structured discussion about the future roles of each airport. The purposes of the workshops were to:

- scan and explore the landscape of possible futures for each airport;
- assess the current and future forces that might create opportunities at each airport; and, to
- envision what the future could look like.

Published below are highlights from each workshop. An appendix follows with more detailed notes.

Duluth Opportunities

- The greatest asset of the airport is the airport itself.
 - Significant land development opportunities
 - Existing military and industrial activities basis for continued growth
 - Long-standing land use and leasing challenges present.
 - North side development influenced by military activity.
- Northwest maintenance facility establishes a critical mass of maintenance activity at Duluth, setting groundwork for additional maintenance business:
 - Fed Ex maintenance
 - A&P educational link for local school
 - Cirrus Design support
 - NW maintenance facility important/interesting example of MAC participation in the 2nd Tier.
- Development of aircraft supply industry
- Military opportunities rich
 - Excellent air space availability
 - Existing presence of Minnesota Air National Guard
 - Site of historical aircraft and restored hangars.
 - Many special research labs and test facilities
 - Disadvantage: revenue potential for airport lower
- Duluth's geographic location
 - Positions Duluth either as a spoke in a domestic service pattern or potentially a logistics center for trade with Canada.
 - Unknown opportunities as transshipment facility and distribution hub for Canadian market
- Air Service Objectives
 - Additional frequency to Chicago
 - Common-rated fares or consistent fares with MSP to reduce diversion.

Eau Claire Opportunities

- Airport has pursued an active air service development program.
 - Consistent, reliable air service to Minneapolis is an on-going objective
 - Eau Claire has one of the highest incidences of denied boarding compensation within the Mesaba system.
 - Shared flights in the AM are often filled with Rhinelander passengers.
 - Northwest has indicated additional frequencies will be added in June (to 6 daily flights).
 - Chicago is Eau Claire's number one market and desired service point.
 - Milwaukee is also desirable.
- Eau Claire's close-in location positions it well as an inter-modal transportation center.
- Residential development along the main access roads and newer homes built on the south side of the airfield has resulted in on-going controversies about airport activity and plans for expansion.
 - Adoption of a new zoning ordinance will hopefully moderate airport controversies.
 - Some preliminary discussion of a new green-field site to the west of Eau Claire.
- A large private user of the airport is Menard's, headquartered in Eau Claire. Menard's is planning to bring regional jets into the airport for transport of employees. Menard hangars occupy a large portion of the general aviation area and represent significant operations at the airport.
- Eau Claire makes very good use of its terminal space as a revenue generator.
 - Corporate advertising/displays
 - Cars
 - Restaurant
 - Conference Room rentals

Rochester Opportunities

- High priorities and interest in several air service opportunities
 - Restoration of service to St. Louis or another hub.
 - Low cost carrier service that could draw from MSP, southwestern Wisconsin, and northeast Iowa.
 - Charter activity
 - Possible additional Chicago frequency. (Route one of the highest yielding in AA system.)
- Air Cargo
 - Increased development of small package business through attraction of new industry to Rochester.
 - Use of airport as the 'cargo twin', provided that:
 - Logistics center is developed nearby
 - Highway 52 and 63 access is improved to handle a higher volume of truck traffic and to decrease travel time (perhaps by limiting access.)
 - Congestion at MSP key to RST's future in heavy lift cargo.
- Airport Development
 - Rochester Airport is now on the edge of urban development.

- Airport property will continue to increase in value with opportunities for the airport to reap the benefits of controlled, high quality, on-airport development, flexible leasing terms, and greater participation of the airport in land development projects and revenue streams.
- Timing of midfield terminal may influence expansion opportunities.

St. Cloud Opportunities

- Air Service
 - STC wants to pursue the 2nd Tier gateway concept aggressively.
 - Completion of the runway extension and taxiway improvements removes airport impediments to regional jet service.
 - Service to Chicago and Denver the highest priorities, respectively.
 - A stable schedule and 5-6 frequencies to MSP an on-going objective with Northwest.
- St. Cloud also interested actively pursuing cargo-twin and logistic center development project.
 - Highway, rail, & airport connection strong.
 - Multimodal center for North Star commuter rail project
 - 380 acre industrial park development going in nearby
- Airport needs water & sewer/funds to acquire additional land.
 - Future development of business centers at airport contingent on availability of basic services and build able sites.
 - Small but important projects needed to improve signage and airport identity.
- STC wants to develop maintenance capability for Mesaba and others, paired with Aviation University at airport.
- Bid for Air National Guard facility, currently at St. Paul.
- Important synergy building with Brainerd.
 - Brainerd continues to offer access to Twin Cities/charters for summer and winter junkets
 - Brainerd builds and supports private aircraft traffic, executive airport village concept.
 - Resorts want greater access to national golf market, willing to support either airport's efforts for additional air service.
 - Two communities willing to explore scheduled bus transport to facilitate use of both airports.

Appendix 3A

3A.1 ENVISIONING THE FUTURE OF DULUTH INTERNATIONAL AIRPORT

Workshop – March 14, 2002

Activity Area Small Group Discussion – Debrief Summary

The questions posed to each group included:

- Who are the customers of this service? What do they want?
- What has been tried in the past to enhance the activity area? What worked/did not and why?

Cargo Service

1. Current Situation:

- Service:
 - Wessin Transport – Daily MSP
 - Bemidji Air: sub to UPS
 - Fed Ex: limited (also Fed Ex plane in Grand Forks)
 - UPS: Truck operation (just doubled)
- Fixed price DLH - MSP add on (fly/drive pricing)... \$30-32 each way business NWA
- Strongest asset is the airport itself
- Ideal spoke
- Customer base is too far away
- Light industry now
- Hibbing – NW Reservation, Blue Cross, service oriented (\$10 hr jobs)
- Need logistics reason
- Duluth/KI Sawyer comparable
- North America. Asia – all weather

2. Possibilities:

- Maintenance for Fed Ex (they brought it up)
- A & P capability
- How do you get warehouses here?
- What do you back haul?
- International market?
- SATO – operation in Ely
- Physical plants – Manufacturing discourage...growth
- FTZ
- Strengthen local market
- Keep Fed Ex here & happy
- Consider international trans-shipment/competition structure
- Canadian opportunity

Air Service

- Fixed price DLH - MSP add on (fly/drive pricing)... \$30-32 each way business NWA
- Security – faster at DLH (5 min. average wait)
- Marketing challenged by perception
- Signage to DLH needs improvement
- Most business long haul traffic (connecting = 98%)
- Reliability – less with Mesaba SAAB 340
- AWAX minimums: Cat II
- Fare of \$49 (non-connecting) DLH to MSP only – did not work to attract passengers

Business Development (industry and business, aviation and non-aviation)

- Mostly focus on business at airport
- Land availability is an issue
- Utility infrastructure issue
- Could be an aircraft parts center
- Aviation industry could become “a major factor” in future
- Aviation Education is local initiative – could be expanded
 - specialized training
 - A & P – some issues
- International opportunities
- Aviation suppliers - recruitment
 - Build campus...smaller business specialist
 - Help manage growth
 - Facilitate support for INS/CIRRUS
 - Focus on businesses that CIRRUS wants to work with

Military

- Master plan development - \$50M
- Runway 3/21 enhance options
- Alert hangers
- New access road for airport
- Better signage
- PHRT 150 accepted by city
- Economic impact of Military is \$45M. includes coast guard, naval reserve & air
- Education coop with M/L & local schools
- Fire station
- Airspace lack of congestion is a good marketing tool – great for training
- Backup on environmental issues (spills, etc.) provide by military
- Inter-modal
- Airport overlay plan approval
- Security presence

Future Vision for Duluth Airport

Participants met in small groups to discuss what the airport look like and what services might be successful in five, ten and twenty years.

Group A

- Aviation cluster: aviation parts, suppliers
- Light industry & commercial clusters
- Strong military presence
- Expanded NWA maintenance facility
- DLH “reach” expanded
- Feeder mini-hub air service
- At least 2 major airlines
- Strengthened FBO services...GA same level of service as AC
- Modernize airline terminal
- Vehicle parking - quicker access
- Cargo facilities for cargo airlines & shippers
- Close working relationship between DAA & City of Duluth
- Property inventory – environmental...Land use plan...Property management program
- Net contributor to community – self-sustaining
- Gateway: Northwoods motif for terminal/airport

Group B

- Only jets (fewer turbo-props)
- Different parking near terminal
- More use of customs building (international arrivals or 3rd carrier)
- Major port of entry
- Update/modernize terminal & support
 - Central security point (biometrics, scanners)
 - upgrade décor
 - better concessions
 - ticket kiosk
- Tram & other (better) transport from downtown...
- Easy road access
- Build able sites (infrastructure ready)
- Maintenance activity robust – new facilities
 - 737 & 700's
 - 3rd party maintenance
 - Duluth “Cessna” type maintenance
- Increased charter (to Winnipeg) – outbound
- More Canadian connection
- Local trans-global ... new destination tourism (not huge)
- Replenishment station – customs
- Lake Superior established as aviation center
- Cruise passengers – 3 day trip to mega-malls

3A.2 ENVISIONING THE FUTURE OF CHIPPEWA VALLEY REGIONAL AIRPORT

Workshop – March 13, 2002

Activity Area Small Group Discussion – Debrief Summary

The questions posed to each group included:

- Who are the customers of this service? What do they want?
- What has been tried in the past to enhance the activity area? What worked/did not and why?

Cargo Service

1. Past History

- Fed Ex in 1980's had DC-3 Feeder
- UPS – ground sort between Eau Claire – MSP in Baldwin...Rice Lake 40 miles north ... 5000' runway
- Barron County – 3rd heaviest user of EAU airport

2. Challenges & Opportunities

- No data on air cargo
- EAU generating just less than 727 in small packages
- 17% of WI high technology business in this area.
- Area businesses: Menards home office, Honeywell, SGI, Hutcheson Tech.
- Diversions from MSP
- Much is not known – research/documentation needed. Need market study/market research!
- Airborne – small presence. However, airport can accommodate.
- Airport – 11 acres purchased. Considering Omaha/Sioux Falls model.
- Fed Ex early dispatch time now. ... 5:45 PM
- Truck capacity on I-94 an issue...Planning 3rd lane in next 5-6 years, St. Paul to Baldwin. 3rd lane segment to Eau Claire possibly in 2020.

Air Service

- Flights South – add
- Expand Terminal
- Better baggage handling
- Jet service
- Jet way
- Control tower
- Land use control/compatible land uses
- Expanded industrial development...Small electronics businesses/air travel related
- Corporate air travel increases. More business hangers.
- Corporate contraction @ MSP >> EAU?
- 53 on line in 6 years.
- 29; new entrances = improved EAU ground access

Business Development (industry and business, aviation and non-aviation)

1. Opportunities

- Consistent/reliable air service to appropriate locations (south/east for business – point-to-point, Milwaukee/Chicago)
- Significant business travel out of area – could be redirected to this airport
- How can we look *internally* for economic development?
- Security time element at larger departing/returning airports is reducing cost benefit of business travel
- Passengers convenience documentation can aid in attracting new/enhanced service
- Improve/link transportation – airport as a center for multi-modal transportation

2. Constraints/Challenges:

- Transportation service to/from airport
- Location in several government jurisdictions
- Issue of departing on a consistently timely basis to allow passengers to make connections (return flights from MSP frequently canceled/delayed)
- Current draw/use of MSP by area business
- Changing business/economic climate
- Economic realities of trucking vs. air cargo

Military

There is no military presence at EAU.

Future Vision for the Chippewa Valley Regional Airport

Participants met in small groups to discuss what the airport look like and what services might be successful in five, ten and twenty years.

Group A

- Strong cargo service...MSP/ORD...Major cargo facility
- Larger facility
- Three airlines in market
- Rezone area to be commercial/industrial
- Air traffic control tower
- Significant air cargo facility
- Perhaps a new location for airport on south side.
 - land
 - access
 - mall activity
 - development potential
 - adjacent to hotel and shopping (highway 94)
- Facility with long-term potential for separate development

Group B

- Need competition. Must have financial resources to compete with NWA
- Schedule – difficult to return at night...First arrival at EAU 12:30 PM
- Reliability...NWA frequently cancels flights – positioning aircraft... Not customer focused.
- Need consistent fares
- Seat availability inadequate...especially for business...overbooking...overweight due to baggage
- EAU only airport with one carrier
- MSP parking \$ high; difficult to access by ground.
- Failures of Chicago-based airlines...NWA always has undercut.
- Does yield management – experienced as differences in seat price on same flight – discourage passengers from attempting to fly in future on that airline/from that location?
- Regular meetings with travel agents can encourage local use – challenges of canceled flights makes travel agents leery of using EAU
- Learn more about carrier schedule recovery – evaluate – respond (approach operations section of carrier)
- Extended rail & bus to airport? Multi-modal concept?
- Self-sufficient airport? If so, EAU would have greater control over its destiny. (Airport authority?)
- Change in governmental structure? No true airport authorities in WI.
- NWA's attitude: "We will get the passengers at MSP anyway."
- Residual negative image from Express One Airlines.
- Accessibility to international flights – no code share with EAU.

Group C

- Have considered light industrial use of some adjacent (south) property – not carried forward
- Large industrial park does exist nearby.
- 2nd carrier with resources – East – Detroit or Chicago (UA or CO) AS or DC
- Low cost carrier – Air Tran/Southwest
- Infrastructure improvements
 - control tower
 - parking structure
 - road improvements
 - interstate access – good from west – poor from east – north access improve – south access (53 by-pass 2005)
- Revenue:
 - Chippewa County giving back sales tax? – a little more?
 - Restaurant 1/2M
 - Rental car 11M
- Web site improvements – ticket purchase link
- Travel agents support airports
- Signage improvements for land access
- 765 acres (northwest) develop to highest/best use
- Get off \$400,000 annual subsidy – self-sufficiency (for 3 yrs. Chippewa County – 350K; Dunn – 35K
- Adoption of land use ordinance

3A.3 ENVISIONING THE FUTURE OF ROCHESTER INTERNATIONAL AIRPORT

WORKSHOP – February 28, 2002

Cargo Service

Who's here in air cargo...

- FedEx, Airborne-Air UPS- Big terminal in town
- BHL may be back in
- Pemstar- Air cargo important- inventory control-250-125/day packages (contract manufacturer) contracts w/carriers
- Birdeye-FBO in RST-ground handler-special transport-unscheduled (IBM) (quarter end activity) packages of variable size-mostly international
- IBM- Tries not to charter, heavy weight, 10mil lbs-domestic, trucked to Chicago-international-or sent via AA, time definite, Emery is major carrier, (consolidates at MSP) (heavy weight only), some outsourcing to Dublin
- RST- Need higher volume to effectively consolidate or capture MSP traffic but will need air service Int'l-unlikely

Air Cargo Future.....

- More package business
- Why isn't UPS here via air?
- Extends day for shipment
- FedEx thinking of serving metro here (small operation in town)
- Airborne- whole operation at RST

What doesn't work in increasing cargo traffic? (Initiatives that have not been successful....)

- Initial FedEx discussion of local initiation and large medical market (lab work)
- Airborne flying about the same time
- New industrial development (IBM restructuring)
- Heavy weight not a good fit for RST/small package is the market
- Is a cargo airport compatible with passenger services?
- RST working proactively with zoning
- Industrial development key
- Impediment- we haven't limited access on 52 at intersection lights as a solution- has
- slowed trip time
- Need a vision for the future-airport willing to partner
- MSP congestion-key to RST future

Air Service

Who are the customers?

- Mayo Clinic patients
- Corporate-business (IBM travel-low price travel mandatory, American usually cheaper/ORD)
- Recreational-leisure travelers
- Regional draw from SE Minnesota and N Iowa

- Mankato-MSP and Albert Lea

What things can be/have been done to increase passenger service?

- AAA-not origin but destination focus
- Rates out of RST usually competitive with MSP
- Parking and security competitive to MSP
- Hotel packages with SLEEP Inn?
- NWA charters to LAS, etc. Like 7-8 years ago
- NWA corporate promotions
- Up fares (< 10 days first class @ coach \$)
- Mayo support
- TV, newspaper feature articles
- Review linkage study
- Competitive rates
- Great service
- RST >frequent flyer points than MSP

Positives

- Aircraft bridges
- International signing
- General services/greeters

Areas for Improvement

- Cab service and other ground transportation
- Service to supplement AA and NWA and additional hub
- Low cost service

What doesn't work to attract passenger service? Initiatives we have tried, unsuccessfully...

- Need to promote convenience and cost savings (parking)
- Educate re: on-time performance and compare to MSP
- Many Rochester residents might not know of the RST capabilities and services

Industry- Aviation/Non-Aviation

What are things that can be done to retain and increase industry?

- Recognizing when land ownership vs. leasing will work for a certain business/industry
- Specific businesses that work at airports
- Hotels
- Full service restaurant
- Office building for business that do not need to own property such as:
 - Pharmaceutical
 - Consulting
 - Sales
 - Fuel
 - Car/truck wash
 - Events center
 - Distribution center
- Create interdependence amongst businesses
- Minimum standards have been created for new enterprises
- Attract charter airlines from N Iowa/Central MN/ Western WI

- Encourage NW to offer new routes south
- Encourage low-cost carrier
- Guarantee seats
- Team with travel agency
- Attract businesses that will stay for 20 years- they need to make a business case for being here

Airport Scenarios

Group 1

- Flights to Orlando
- No more drives to MSP
- 9000 ft. runway: Planes can run fuller/further
- Zoning soon to be in place
- Improvements to County Road 16 between 63 and General Aviation area
- Service to Denver and St. Louis
- 6 gates completed
- Customs and Immigration
- Aircraft maintenance (air carrier) Army National Guard here
- Continue growth of air cargo
- 3rd carrier
- More business activity
- Solution to ground transportation and parking (taxi, bus and auto parking)
- Master Plan update (new terminal and plan reuse of existing structures)
- Federal funds for high-speed train
- "This is impressive."

Group 2

- Continuity in look and design
- Green space, landscaping, volleyball and sports fields
- Recreational walkways and bikeways
- Holiday lights
- Signage/stone/like Mayo
- Trees
- A dense forest that hides some sights and direct the eye to RST
- Compliment adjoining residential neighborhood
- Events that will bring people

Group 3

- Light rail from downtown Rochester to airport
- Rural to urban
- More hubs
- Parking ramp

Group 4

- Developed all around:
 - Restaurants
 - Gas
 - Services-retail
 - Offices
 - Industrial
- New control tower
- More short term-hub to bet people downtown

- Another carrier or 2
- 9000 ft. runway
- Additional gates
- More corporate-based aircraft
- Change in security measures
- Start of light rail

3A.4 ENVISIONING THE FUTURE OF ST. CLOUD REGIONAL AIRPORT

WORKSHOP - FEBRUARY 27, 2002

Our Purpose:

- To scan and explore the landscape of possibilities.
- To assess the current and future forces that may create potential for SCRA.
- To build a future scenario.

What does or could work for obtaining and maintaining Military Activity?

- War-Homeland security
- Political Influence
- Available space-facilities
- Proximity to training
- Proximity to population
- Existing infrastructure-utilities
- Community Partnership
- Good Access

What doesn't work?

- Noise
- Military operations vs. area attractions
- Weekend/nighttime operations and associated impacts
- Not a significant revenue generator
- Could cause a long-term loss in revenues

What does or could work for obtaining and maintaining Cargo Service?

- Now:

- Luggage
- People
- Mail
- Some overnight (very little)

- Future:

- Cargo "reliever" for MSP (maxed: alternative soon!)
- Airport industrial park "clients"
- Create demand for cargo businesses: FedEx, Speedy, UPS, others?

- Regional cargo twin w/related cargo facilities (traffic flow and capacity/types of cargo carriers)
- Hwy, rail airport connection is strong
- Need: infrastructure (sewer and water) and longer runway
- Land use and environmental impact issues to address (noise)
- Opportunity costs?? (of doing the regional cargo “Twin”)

- What we need/Barriers:

- Small-scale, specialized cargo (company that needs to ship A to B)
- Currently, “thin” cargo market in this area
- Haven’t been able to generate significant interest from FedEx, UPS, etc.

- What does or could work for obtaining and maintaining Air Service?

- Southwest Airlines
- Demographics
- Marketing the recreational opportunity Golf Central Minn., Top 50 golf destinations in USA, Cooler temps in the summer, “where do you go to get cool?” etc.)
- Marketing the National Hockey Center
- Joint marketing Chicago-Dallas
- Create as a national destination
- St Cloud + business convenience /Business here is cost competitive/Time savings to attract competition
- Need one add-on price for airline tickets; negotiate for fixed price add-on
- Need better flight completion percentage
- Need competitor to NWA
- Winter sports
- Strategic partnership with corporate interest
- Understand what the corporate customer wants
- Business traveler needed as the “base” traveler-less ridership “spikes”
- Educational users
- Seasonal homeowners
- Education:
 - Seminars/speakers
 - Furthering education
 - Students-seasonally
 - Athletic teams
 - Hockey camps
 - Summer camps
- Package airfares/golf packages
- Conventions of 500-1000 being pushed out of twin cities
- Need: Safety, reliability, schedule that meets desires of customers, seat availability, consistent price, regional jets, Chicago routes
- *****Need a hired Marketer** /Education and support of travel agents
- Look at business types: Billable hour consultants

- What doesn’t work?

- Single carrier
- Complaining to NWA
- Yield management
- Lack of seat availability
- STC: No airport food service

- What does or could work for obtaining and maintaining Industry-Aviation/Non-Aviation?

- 380 acre industrial park
- 1400 acres owned around airport
- Charter origin/destination potential
- Industrial park has infrastructure
- Location to Hwy 10
- Light rail (commuter) is close
- Close to RR cargo lines
- Expand air training program w/St. Cloud State-potential air maintenance training program
- Fly and meet scenario-Brainerd?

- Barriers

- Industrial park is within potential expansion of runway to 8000 feet
- High wire
- Airport has environmentally sensitive areas nearby
- No city water/sewer
- Is City of St. Cloud broad enough governance?

Airport Scenarios

In 5 years, when people drive to St. Cloud Regional Airport; they will see and observe what? What will they hear? And what will people say.....?

Group 1

- It is mobilized to help
- Business plan is in place
- Infrastructure is in place
- Environmental approvals in place
- Balanced gateway to St. Cloud
- Quality of life
- Dynamic community
- "Where it's happening"

Group 2

- Comfortable
- No traffic
- Innovative
- Free parking
- Good food
- Hotel next to airport
- Chartered flights
- Easy access
- Larger terminal
- Safe
- Punctual
- More flights
- Customs
- Quick/fast security
- Friendly service
- Some cargo facilities
- Purchase more land

- New entrance roads on both sides
- More car rental choices
- Extension of crossway runway
- Planning for 2nd parallel runway
- Compatible/happy neighbors
- Airline options
- Larger/world class training
- First class pilots lounge
- More twin cities passengers
- Southwest service

Group 3

- A Big Money Tree
- Expanded rental car facility
- Mesaba Saab 340 maintenance facility
- Army National Guard facility under construction
- 3200 acres
- sewer and water
- more parking
- more hangars
- travel agent on-site
- multi-model connection to North Star
- Control tower
- American Eagle and Frontier Jet Express
- Expanded terminal

Welcome to St. Cloud Regional Airport

Group 4

- People will say: "Boy, I wish I had done what Brainerd did."
- 4 lane to Brainerd
- Bridge to 94 from 10
- Light rail
- Direct flights to Chicago/Denver-attracted low cost carrier
- Better packaging of golf/winter-air/drive lodging
- Coordination of day recreation trips to Brainerd lakes for convention attendees in St. Cloud
- Bus transport/scheduled from Brainerd to SC
- More consultants/businesses located in central lakes
- Air traffic control tower
- NWA adds more Brainerd service to compete with new carrier in St Cloud
- More Brainerd area adv. At STRA
- "If you have a private jet/plane-go to Brainerd"
- "...we focus on our 3 airlines serving SC"
- St. Cloud is part of TC metro area

Chapter 4 - Market Analysis

4.1 OVERVIEW

The goal of the telephone survey was to provide insights into the opinions and activities of business travelers in the four study communities: Duluth, Eau Claire, Rochester, and St. Cloud. This chapter outlines the methodology, results, and conclusions of this effort.

The KRAMER aerotek team completed surveys for 333 business travelers in each of the four study communities. This sample size was needed to achieve a confidence level of 95 percent at a precision of +/- 5 percent. Appendix 4B presents additional details on the survey methodology and questions asked.

The study team used various criteria based on income, age, and location to develop a call list of likely business travelers in each of the study airports' service areas. The survey only includes respondents who have traveled for business two or more times in the past year. Figure 4-1 on page 4-4 shows the location of the survey respondents. The respondents were mostly male, with an average age of 43 and an average annual household income of \$104,000. Most of the respondents were homeowners who have lived in their current homes for a little over 5 years. However, the characteristics of the respondents did vary somewhat between the different study communities:

- The respondents in Rochester had average incomes higher than those in the other study communities.
- Respondents in St. Cloud had incomes lower than in the other study communities.
- The respondents in Rochester and St. Cloud were younger than those in Duluth and Eau Claire. Rochester and St. Cloud respondents have also lived in their current homes for a shorter time than those in Duluth and Eau Claire.

On average, the survey respondents fly for business approximately six times per year, but use their local airport only about a third of the time. Local airport usage varies between the communities:

- In Duluth, business travelers use the local airport for just over 50 percent of their trips. This is the highest capture rate out of all the study communities and can likely be attributed to the distance between Duluth and MSP and the relatively high levels of service at the local airport.
- In Eau Claire, business travelers use the local airport for about one-third their trips.
- The respondents in Rochester travel more frequently than in the other communities, averaging about 6.7 trips per year. They use the local airport for 41 percent of these trips.
- St. Cloud has the lowest capture rate of the study communities, with only 19 percent of the area's business air travel being done through the local airport.

The survey respondents indicated that their most frequent destinations were hub airports and other major destination cities such as Chicago, Denver, Atlanta, and Minneapolis. Chicago is the most important destination for all of the study communities. A large number of respondents in every community indicated that additional service to Chicago

would be important to them (even Rochester and Duluth where Chicago service is already offered).

The survey results show that passengers in the study communities are particularly sensitive to local fares that are greater than those at MSP. Only a handful of the survey respondents were willing to pay more than \$100 extra to fly locally – nearly half were unwilling to pay any additional fare at all.

A passenger’s overall airport experience is also an important factor that can have a meaningful impact on the ability of the airport to retain local passengers. On average, St. Cloud and Eau Claire passengers rated their local airport experience as somewhat worse than that of MSP, while passengers in Duluth and Rochester rated their local airport experience slightly better than MSP. The issue of reliability is also an important concern of many respondents, particularly at Duluth. Improvements in these areas would likely help the local airports retain more passengers.

Survey respondents considered other factors, such as jet service and easier security, somewhat important. However, these factors were not as important as the more fundamental issues of travel time, fares, reliability, service levels, and airport experience.

The survey results clearly indicated that several factors are especially important in determining the respondents’ airport choice, while other factors were not as important. Table 4- 1 summarizes the relative importance of the various airport choice factors.

Table 4- 1. Summary of Airport Choice Factors

Importance	Factor
Very Important	<ul style="list-style-type: none"> ▪ Total trip time ▪ Fares ▪ Non-stop service ▪ Additional service / presence of a low fare carrier ▪ Reliability
Moderately Important	<ul style="list-style-type: none"> ▪ Avoiding the drive to MSP ▪ Easier security ▪ Jet service ▪ Overall airport experience
Relatively Unimportant	<ul style="list-style-type: none"> ▪ Additional flights in the early morning or late evening ▪ Cheaper parking ▪ Business opportunities in MSP ▪ Employer policy

Future efforts to improve air service at the tier 2 airports should be directed towards those factors that are most important and also able to be efficiently influenced. Efforts to improve factors that are unimportant, such as cheaper parking and additional early or late flights, would be better directed elsewhere.

The following sections present a detailed description of the survey results and their interpretation. Issues particular to individual airports are discussed in the “4.5 Airport-specific Issues” section beginning on page 4-23.

4.2 PROFILE OF THE RESPONDENTS

The study team used a number of criteria to create a universe of potential contacts that were likely to be frequent fliers and provide useful information for this study. A variety of data sources were considered.

The team considered airlines' frequent flier programs as one possible source of data. Although these lists might provide a reasonable group of participants, there are several drawbacks to using them in the study. The primary problem is that using a particular airline's (or even several airlines') frequent flier list would bias the results (for better or worse) on an individual airline, rather than on the communities as a whole. A secondary concern is that the airline frequent flier data is difficult and expensive to obtain and would not be cost-effective in the context of this study.

Aside from the airlines' own frequent flier data, there is not a readily available list that directly identifies "frequent fliers". Thus, a number of other criteria were used as a proxy:

- **Location.** A geographic filter selected callers from within and slightly beyond the approximate service areas of each airport. Airport managers and others identified these service areas during a meeting prior to the start of the survey.
- **Income.** A minimum household income level of \$50,000 further filtered the data to better focus the call list on those who were likely to be business travelers.
- **Age.** A minimum age of 25 served as other criteria to further focus the call list on likely business travelers.

The following sections describe the characteristics of the study participants. Although the constraints described above influence these characteristics, the demographics of the study participants still provide insights into the nature of typical business travelers in each of the communities.

Location

Figure 4-1 shows the location of the survey respondents and the service areas (shaded areas) from which they were selected. These locations were plotted (to the extent possible) based on the addresses of each participant.

Age

Table 4-2 shows the age distribution of the survey respondents within each of the airport service areas. As noted above, a minimum age of 25 was used in establishing the list of potential survey participants. Otherwise, no artificial constraints were placed on the age of the participants.

Table 4- 2. Age Distribution of Survey Respondents

Age	Duluth	Eau Claire	Rochester	St. Cloud	Average
25 to 34	8%	11%	16%	20%	14%
35 to 44	38%	47%	47%	50%	46%
45 to 54	37%	41%	35%	29%	35%
55 to 64	16%	0%	1%	0%	4%
65 plus	1%	1%	1%	1%	1%

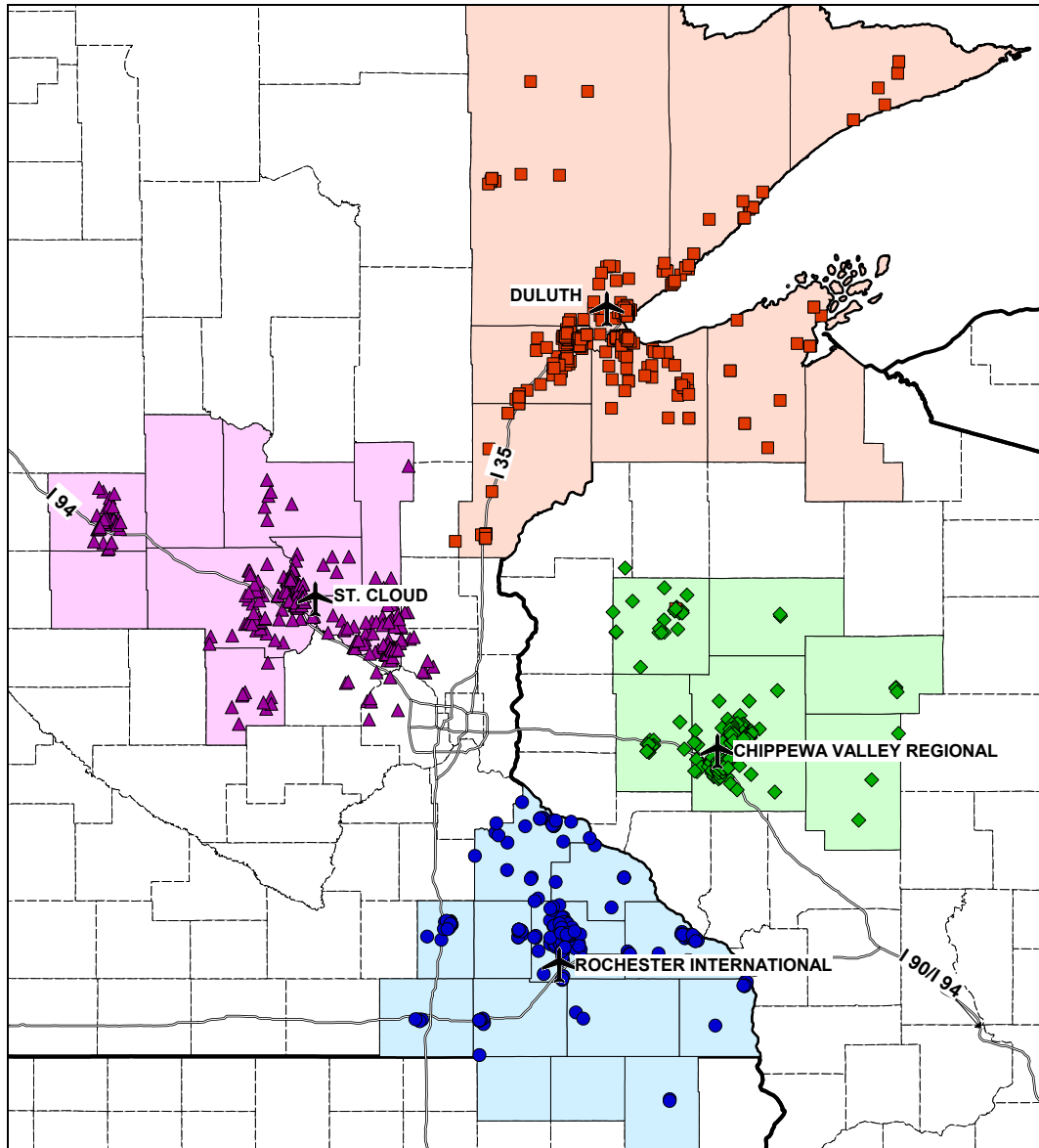


Figure 4-1. Location of Survey Respondents

Figure 4-2 illustrates the average age of the survey respondents in each community. Although the average age falls within a relatively small range, there are some differences between the communities. The participants in Duluth are somewhat older than those in the other communities, with a higher percentage of travelers in the 55 to 64 year range. The participants in Rochester and St. Cloud are somewhat younger, with a higher percentage in the 25 to 34 year range.

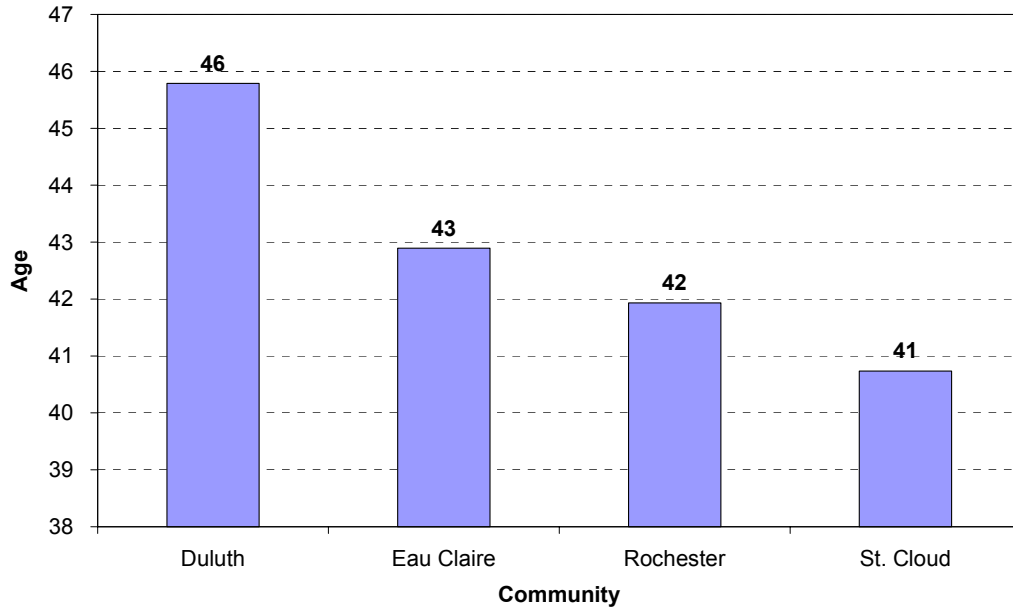


Figure 4-2. Average Age of Survey Respondents

Gender

Although gender was not a criteria used in establishing the call list, the vast majority of the survey respondents were male. Table 4- 3 shows the gender distribution of the survey respondents in each community.

Table 4- 3. Gender Distribution of Survey Respondents

Gender	Duluth	Eau Claire	Rochester	St. Cloud	Average
Female	18%	4%	16%	4%	10%
Male	82%	96%	84%	96%	90%

Income

Table 4- 4 shows the income distribution of the survey respondents. A minimum income of \$50,000 was used as a filter on the call list simply to focus calling efforts towards those would were most likely to be business travelers¹.

¹ Even though a minimum income of \$50,000 was used as a filtering criteria, the income distribution does include a small number of respondents with incomes that do not meet this criteria. This is because a small number of test calls were made to a less restricted list that did not have this filter applied.

Table 4- 4. Income Distribution of Survey Respondents

Income	Duluth	Eau Claire	Rochester	St. Cloud	Average
\$1 to \$20,000	0%	0%	0%	0%	0%
\$20,001 to \$35,000	0%	0%	1%	0%	0%
\$30,001 to \$35,000	0%	0%	0%	0%	0%
\$35,001 to \$50,000	1%	0%	2%	0%	1%
\$50,001 to \$65,000	10%	0%	0%	0%	10%
\$65,001 to \$85,000	19%	26%	1%	39%	19%
\$85,001 to \$100,000	21%	24%	30%	36%	21%
\$100,001 to \$125,000	25%	26%	32%	17%	25%
\$125,001 to \$145,000	8%	12%	15%	4%	8%
>\$145,000	16%	12%	19%	4%	16%

Figure 4-3 shows the estimated average household income of the survey respondents in each community. A notable pattern is the relatively higher income of the respondents in Rochester and the relatively lower income of the respondents in St. Cloud.

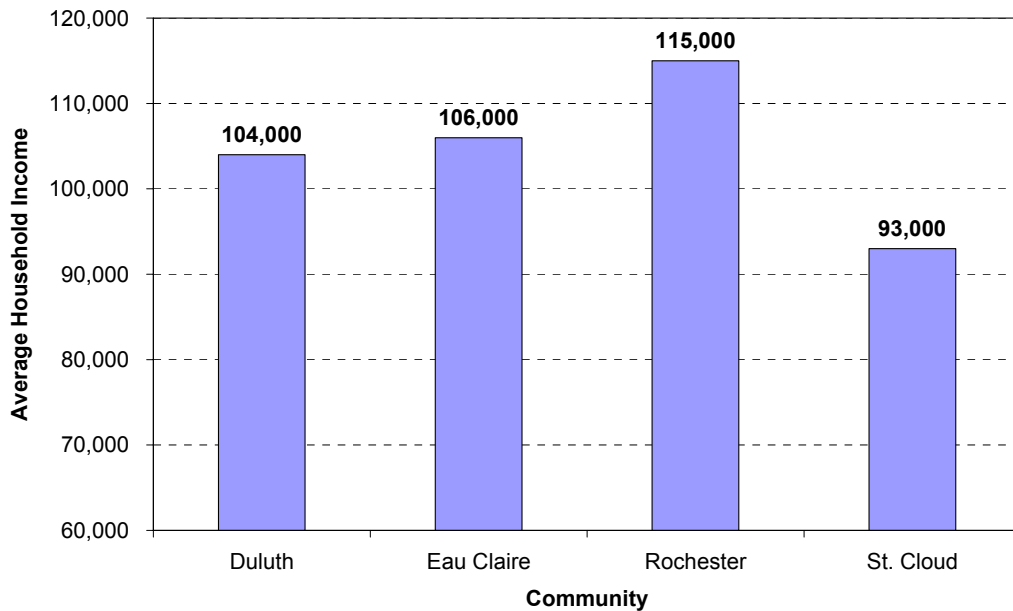


Figure 4-3. Average Household Income of Survey Respondents

Length of Residence

With only a few exceptions, all of the survey respondents were homeowners rather than renters. On average, the respondents have lived in their current homes for slightly more than 5 years. Table 4- 5 shows the distribution in the length of residence of the survey respondents.

Table 4- 5. Length of Residence of Survey Respondents

Length of Residence	Duluth	Eau Claire	Rochester	St. Cloud	Average
1 to 3 years	9%	9%	32%	30%	20%
4 to 5 years	21%	15%	62%	67%	42%
6 to 9 years	67%	75%	2%	2%	36%
10 to 14 years	1%	1%	2%	0%	1%
>15 years	2%	1%	2%	1%	2%

There is a notable difference in the length of residence between the communities. On average, Duluth and Eau Claire tend to have longer-term residents. This suggests that these communities are more established and likely to be slower growing than communities with newer residents such as Rochester and St. Cloud. Figure 4-4 illustrates these differences.

The patterns in Figure 4-4 generally match the age patterns shown in Figure 4-2. This provides additional support to the characterization of Rochester and St. Cloud as younger, growing, and changing communities. On the other hand, Duluth and Eau Claire tend to be somewhat more established, older, and undergoing less change.

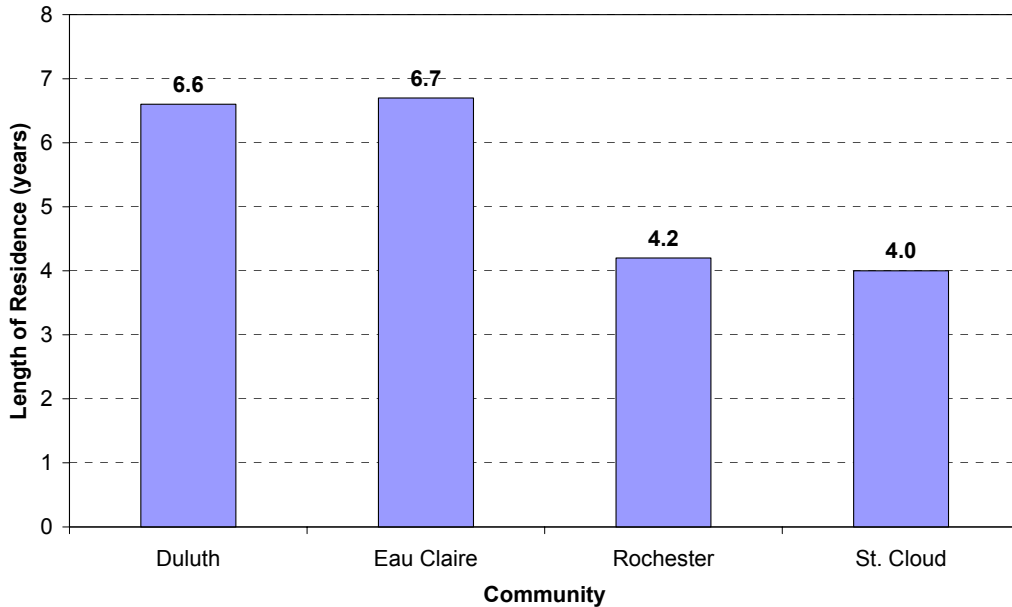


Figure 4-4. Average Length of Residence of Survey Respondents

4.3 SUMMARY OF RESULTS

Travel Frequency and Airport Choice

The results of Question 2 in the survey established the travel frequency and airport choice of the survey respondents (see “Survey Questions and Format” below). On average, the survey respondents fly for business approximately six times per year, but

use their local airport only about a third of the time. Table 4- 6 shows the average travel frequency and airport choice for each community

Table 4- 6. Travel Frequency and Airport Choice (Trips per Year)

	Duluth	Eau Claire	Rochester	St. Cloud	Average
From Local Airport	2.8	1.9	2.8	1.1	2.2
From MSP and Others	2.7	3.8	3.9	5.0	3.8
Total	5.5	5.7	6.7	6.1	6.0
Local Use Frequency	50%	33%	41%	19%	36%

As shown in Figure 4-5, there are significant variations in airport choice between the communities. In Duluth, there is a slightly lesser amount of business travel than in the other communities; however, Duluth still captures the greatest amount of business travel at the local airport, both in terms of percentages and in absolute numbers. This is to be expected, given the variety of service at Duluth and its distance from MSP. Duluth is the only community that is capturing more travel than it is losing to MSP.

St. Cloud is at the other extreme. With its proximity to MSP and relatively modest service options, the airport captures only a relatively small amount of business travel, despite the fact that St. Cloud area business travelers travel more than average.

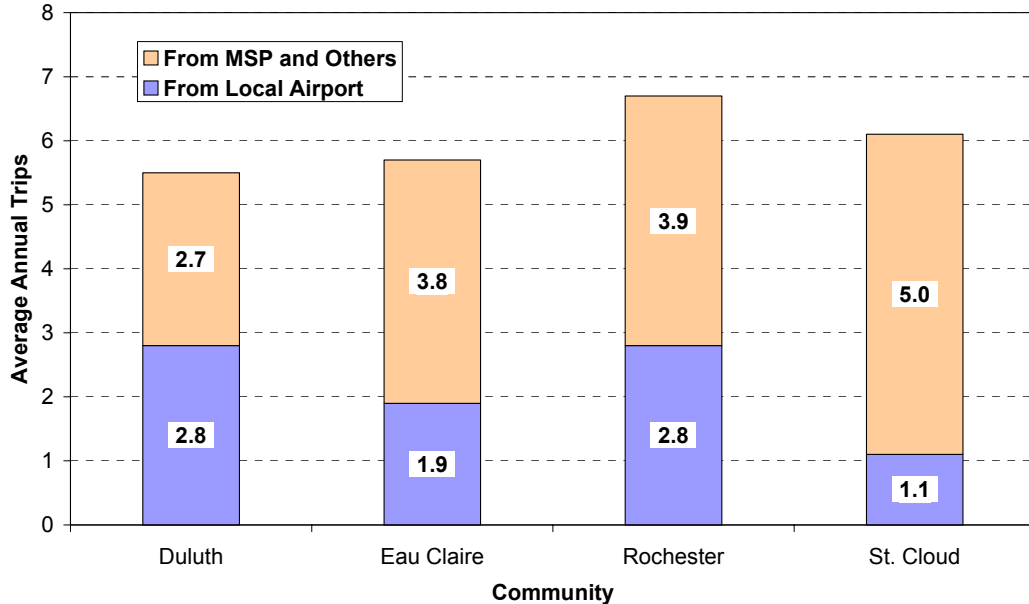


Figure 4-5. Travel Frequency and Airport Choice

Frequent Destinations

Question three in the survey asked participants to identify their most frequent travel destination. Over 50 percent of the respondents indicated that they traveled to various

destinations, with no single destination standing out as the most common. Other respondents were able to identify a particular “most frequent” destination.

By far, the most common business destination for the survey respondents was Chicago O’Hare, with anywhere from 6 to 26 percent of respondents naming Chicago as their most frequent destination. Other popular destinations included hub airports such as Atlanta, Denver, and Detroit, as well as destination cities such as Las Vegas and Orlando.

The tables on the next page show the top destinations for the survey respondents and the portion of the respondents that identified a particular destination as their most frequent. The top destinations are consistent with travel patterns reported in the U.S. Department of Transportation’s 10% sample of airline tickets²

Table 4- 7. Frequent Destinations for Duluth

Rank	Destination	Percent of Respondents
1	Chicago (O'Hare)	6.1%
2	Atlanta	3.6%
3	Las Vegas	2.9%
4	Minneapolis St. Paul	2.9%
5	Denver	2.6%
6	Orlando	2.6%
7	Baltimore	2.3%
8	Boston	2.3%
9	Detroit	2.3%
10	Washington DC	1.9%

Table 4- 8. Frequent Destinations for Eau Claire

Rank	Destination	Percent of Respondents
1	Minneapolis	14.5%
1	Chicago (O'Hare)	14.5%
3	Orlando	10.8%
4	Denver	9.6%
5	Atlanta	8.4%
6	Las Vegas	8.4%
7	Detroit	7.2%
8	Baltimore	6.0%
9	San Francisco	6.0%
10	Washington (National)	4.8%

² This is the Origin and Destination Survey that compiles itinerary and fare information from 10% of all electronic and paper airline tickets used.

Table 4- 9. Frequent Destinations for Rochester

Rank	Destination	Percent of Respondents
1	Chicago (O'Hare)	26.1%
2	Phoenix	13.0%
3	Minneapolis	7.6%
4	St Louis	7.6%
5	Austin	7.6%
6	Chicago Midway	7.6%
7	Las Vegas	7.6%
8	New York (LaGuardia)	6.5%
9	Philadelphia	5.4%
10	Washington (National)	5.4%

Table 4- 10. Frequent Destinations for St. Cloud

Rank	Destination	Percent of Respondents
1	Chicago (O'Hare)	22.4%
2	Denver	16.8%
3	Las Vegas	13.1%
4	Minneapolis	9.3%
5	New York (LaGuardia)	7.5%
6	Dallas	7.5%
7	Orlando	7.5%
8	Atlanta	6.5%
9	Boston	5.6%
10	Chicago Midway	3.7%

Important Factors in Airport Choice

Question four asked the survey respondents to indicate whether certain factors were "Important" or "Not Important" in their decision to fly from their local airport rather than MSP. Table 4- 11 shows the relative importance of the factors in each community.

Table 4- 11. Percent of Respondents Where Airport Choice Factor is “Important”

Factor	Duluth	Eau Claire	Rochester	St. Cloud	Average
Total Trip Time	85%	84%	87%	89%	86%
Cost of Ticket	86%	87%	85%	84%	85%
Non-stop Service	79%	77%	76%	79%	78%
Prefer Not to Drive to MSP	81%	72%	70%	64%	72%
Easier Security	59%	60%	72%	60%	63%
Jet Service	65%	55%	61%	55%	59%
Cheaper Parking	53%	59%	59%	55%	56%
Airport Experience is Better	64%	37%	65%	30%	49%
Business Opportunities in MSP	35%	24%	35%	29%	30%
Employer Policy	9%	5%	9%	6%	7%

As shown above, the opinions across the communities are generally similar with the exception of two factors. One difference is in the importance of avoiding the drive to MSP. This is not unexpected, given the differences in distance and drive time between the communities and MSP. The pattern in the survey results generally follows what would be expected, with the more distant communities placing a greater emphasis on avoiding the drive to MSP.

A second pattern in this data is the differences in airport experience between the communities. On this question, respondents indicated a much higher level of satisfaction with their experiences at Rochester and Duluth than with their experiences at Chippewa Valley Regional (Eau Claire) and St. Cloud.

Willingness to Pay More at Local Airport

The survey results indicate that there is a significant sensitivity to having local airport fares higher than those at MSP. Respondents in Duluth are willing to pay slightly more to fly locally than travelers in other communities, almost certainly because of the relatively large distance between Duluth’s service area and MSP. Of the other three communities, respondents in Rochester are somewhat more willing to pay more to fly locally. This could be attributed in part to the higher income of the Rochester respondents (Figure 4-3). Table 4- 12 shows the willingness of the respondents to pay more to fly locally.

Table 4- 12. Respondents Willing to Pay More to Fly Locally

Willing to Pay More?		Duluth	Eau Claire	Rochester	St. Cloud	Average
Yes	Less than \$50.00	23.5%	29.8%	32.1%	24.4%	27.4%
	\$50.00 - \$100.00	32.4%	16.9%	24.0%	19.5%	23.2%
	\$101.00-\$150.00	3.9%	1.2%	1.2%	0.3%	1.6%
	More than \$150.00	0.3%	0.6%	0.9%	0.3%	0.5%
Yes Total		60.1%	48.5%	58.3%	44.5%	52.8%
No Total		39.9%	51.5%	41.7%	55.5%	47.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%

Desired Service Improvements

Survey respondents were given an opportunity to identify service improvements that were important to them. This was done by asking them to state whether certain improvements were “Important” or “Not important” to them and also by allowing them to provide free-response suggestions about service improvements that they were interested in.

Table 4- 13 lists the service improvements and the portion of the respondents that felt a particular improvement was important. The most desired improvements were greater reliability of the local service and the addition of a low fare carrier. Jet aircraft were considered only moderately important. Service to additional airports and more early or late flights were relatively unimportant.

Table 4- 13. Percent of Respondents Where Service Improvement is “Important”

Factor	Duluth	Eau Claire	Rochester	St. Cloud	Average
Greater Reliability	82%	71%	78%	77%	77%
Low Fare Carrier	76%	77%	71%	73%	74%
Jet Aircraft	71%	58%	69%	61%	65%
More Early AM Flights	61%	61%	57%	58%	59%
Service to Another Airport	60%	50%	58%	47%	54%
More Evening Flights	55%	48%	53%	51%	52%

Approximately two-thirds of the respondents provided one or more free-response suggestions for service improvements. Appendix 4A provides a detailed listing of these suggestions. Although the responses varied in their details, the answers could be grouped into a limited number of categories:

- Additional service – Service to more destinations or more flight times. This category excludes requests for new carriers.
- Improved reliability – Interest in reduced cancellations and improved on-time performance
- Facility improvements – Airport facility improvements such as restaurants, parking, baggage, and airside facilities.
- Lower fares – Interest in lower fares, but not necessarily changes in service.
- Additional carriers – Desire for service from a new carrier, typically a low-fare carrier. Concerns about single-carrier monopoly.
- Jets / larger aircraft – Interest in jets or larger turboprop aircraft
- Better customer service – Complaints about various customer service issues including lost baggage, unpleasant interactions with airline or airport staff, and other customer service issues.
- Alternate transportation – Interest in various alternate transportation such as van shuttles or rail links
- Security improvements – Interest in faster or better security and other security complaints.
- More advertising – Unaware that the local airport has service or directly suggests that the airport needs to do more advertising.

- Time benefit is too small – Feels that there is little benefit or a loss of time in using the local airport
- Other - Other miscellaneous suggestions

Table 4- 14 shows the portion of respondents making each type of suggestion.

Table 4- 14. Respondents Suggesting Improvement in Free Response Question

Category	Duluth	Eau Claire	Rochester	St. Cloud	Average
Additional service	11%	21%	24%	25%	21%
Improved reliability	12%	9%	8%	5%	8%
Facility improvements	11%	5%	13%	5%	8%
Lower fares	10%	9%	3%	8%	8%
Additional carriers	7%	8%	9%	4%	7%
Jets / larger aircraft	2%	7%	0%	6%	4%
Better customer service	9%	3%	0%	1%	3%
Alternate transportation	1%	0%	6%	2%	2%
Security improvements	3%	1%	1%	3%	2%
More advertising	0%	2%	1%	2%	1%
Time benefit is too small	0%	1%	1%	2%	1%
Other	1%	2%	2%	1%	2%

These free responses also served as a quality control check on the structure of the survey questions. The free response answers did not identify any significant issues that were not already addressed in some way by the other survey questions. This suggests that the basic survey questions did not overlook any critical issues.

Requested Service

Part of question 6 (service improvements) asked survey respondents which destination they would like to see their local airport have additional service to. As expected, the responses to this question generally parallel those given as the “most frequent destinations” shown in Table 4- 7 through Table 4- 10. By far, the most requested new service was to Chicago. The tables below show the most requested service for each community.

Table 4- 15. Requested Service for Duluth

Rank	Destination	Percent of Respondents
1	Chicago	16.6%
2	Detroit	11.3%
3	Minneapolis	2.8%
4	Denver	1.6%
5	Madison	1.2%

Table 4- 16. Requested Service for Eau Claire

Rank	Destination	Percent of Respondents
1	Chicago	22.6%
2	Minneapolis	6.6%
3	Milwaukee	3.8%
4	Detroit	1.7%
5	Denver	1.7%

Table 4- 17. Requested Service for Rochester

Rank	Destination	Percent of Respondents
1	Chicago	13.0%
2	St Louis	6.7%
3	Minneapolis	2.8%
4	Detroit	2.0%
5	Las Vegas	1.6%

Table 4- 18. Requested Service for St. Cloud

Rank	Destination	Percent of Respondents
1	Chicago	11.7%
2	Minneapolis	4.7%
3	Denver	3.3%
4	Fargo	1.1%
5	Phoenix	1.1%

4.4 INTERPRETATION OF THE RESULTS

Based on the survey results presented above, it's possible to draw a number of different conclusions about the current state of air service in the study communities and how future efforts to improve service might be directed.

Capture Rates and Catchment Areas

In areas with higher populations, wealth, and economic activity, the amount of air travel generation tends to be higher than in communities with fewer people or less economic activity. In the end, each community creates a certain finite amount of air travel demand from which the local airport can draw passengers. The local airport may serve a large portion of this demand, or it may serve a smaller portion of the demand if passengers travel to another airport. The proportion of the total demand that is served by the local airport is called the *capture rate*. The capture rate can vary from zero (no air service) to 100 percent (local travelers use only the local airport)³.

³ It's unlikely that these extremes would be reached in a real-life situation unless an airport had no air service at all or was completely isolated from any competing airports.

Figure 4-6 illustrates how different factors affect the capture rate of a given airport as compared to another airport.

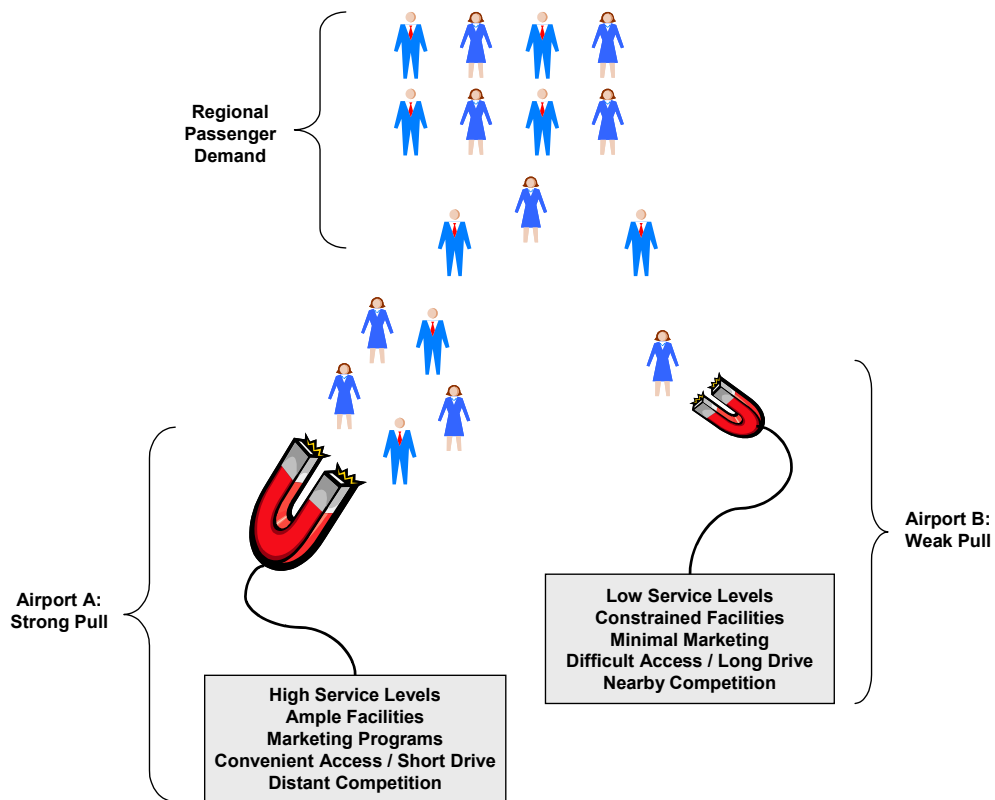


Figure 4-6. Capture of Regional Demand

The telephone survey data provides an objective measure of how much of the local community air service demand is being retained by the study airports. Table 4- 19 shows the capture rates for each of the study communities⁴.

⁴ The capture rates presented here for Rochester and Duluth are somewhat lower than indicated in the July 1999 *State of Minnesota Leakage Study* prepared by the Kiehl Hendrickson Group. That study indicated capture rates of 66% for Duluth and 55% for Rochester in based on a ticket sample conducted in February of 1999. It is possible that the capture rates for these communities have changed over time. However, another reason for the difference is that different methodologies were used in the *Leakage Study* than in this study. The *Leakage Study* was based on a ticket sample obtained from local travel agencies. This may have biased the results towards those passengers who are located close to the city of the local airport. These passengers would be more likely to use the local airport than passengers located throughout the more broadly defined service areas used in this study. Furthermore, the methodology of the *Leakage Study* did not account for ticket purchases made through the internet and other channels outside of travel agencies where access to competitive fare information may be more transparent. The internet has now become a significant source of travel purchases, and this can no longer be overlooked. The survey methodology used in this study accounts for ticket purchases through all sources.

Table 4- 19. Overall Capture Rates

	Duluth	Eau Claire	Rochester	St. Cloud	Average
Overall Capture Rate	51%	33%	43%	19%	36%

As the table shows, there is a wide variation in the capture rates between the different communities. There are a number of factors that affect these capture rates - these are discussed in more detail in the “Key Factors Affecting Capture Rates” and “4.5 Airport-specific Issues” sections below.

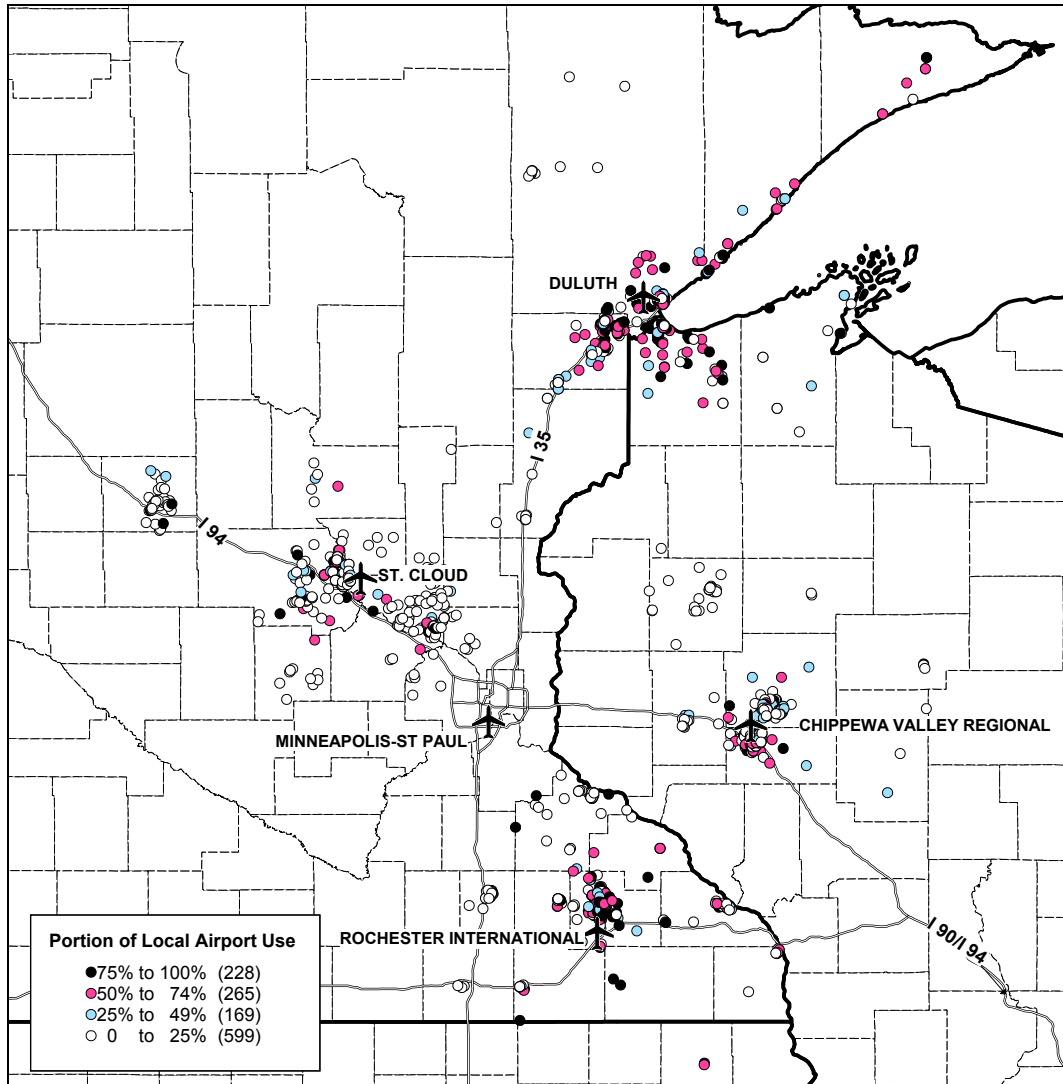


Figure 4-7. Local Airport Use by Individual Survey Respondents

Figure 4-7 shows the local airport usage of each individual survey respondent. These are the individual responses that, when combined, establish the overall capture rate for each airport. As expected, the map shows that the relative distance between the local airport and other competing airports plays an important role in determining airport choice. However, while this is important, the scatter in the data makes it clear that this isn't the only factor involved in an individual's decision.

The capture rate can also be used to establish the catchment areas of each airport. Although the survey data is limited, it can be used to estimate the catchment areas of the airport based on real-world data rather than just a simple estimate of drive time. This is important, because there many factors influence the catchment area of an airport in addition to drive time. These include things like service levels, proximity of other airports, fares, and other factors that influence the relative desirability of the airport.

The map in Figure 4-8 illustrates the estimated catchment areas of the study airports based on the capture rates of individual passengers in the survey data⁵. In reality, an airport's catchment area is really a continuum of capture rates that tend to decrease with the distance from the airport. The map presents this concept in a simplified form by summarizing the data into two zones: a 25 percent capture catchment area (the lightly shaded outer ring) and a 50 percent capture catchment area (the inner ring with darker shading). On average, travelers living within the 50 percent capture ring are likely to use their local airport 50 percent of the time or greater. Similarly, travelers living within the 25 percent capture ring are likely to use their local airport 25 percent of the time or greater. Travelers living outside of the 25 percent ring will tend to use the local airport less than 25 percent of the time.

The catchment areas shown in Figure 4-8 can be considered an airport's "area of influence". Changes in the economy and population within these zones are likely to have a greater impact on airport activity than changes outside of these zones. And, changes within the 50 percent zone are likely to have a more significant impact than those within the 25 percent zone.

The extents of these catchment areas may increase or decrease over time as service levels and other factors at the airports change. The following section discusses these issues in more detail.

Key Factors Affecting Capture Rates

Although there was some variation in responses between the study communities, the overall results of the survey suggest that the factors influencing airport choice in Minnesota and Wisconsin could be grouped into three categories:

- Factors that are very important in determining airport choice,
- Factors that are moderately important; and,
- Factors are relatively unimportant in determining airport choice.

A second way to consider these factors is to group them into two different types of categories:

- Factors that might be influenced by local airport efforts; and,
- Factors are relatively difficult to influence

⁵ The catchment areas shown in Figure 4-8 should be considered approximations only. The surveys conducted in this study are not sufficient in quantity or geographic dispersion to precisely determine the boundaries shown. The catchment areas shown represent a reasonable "best estimate" that is based on the available data combined with professional judgment.

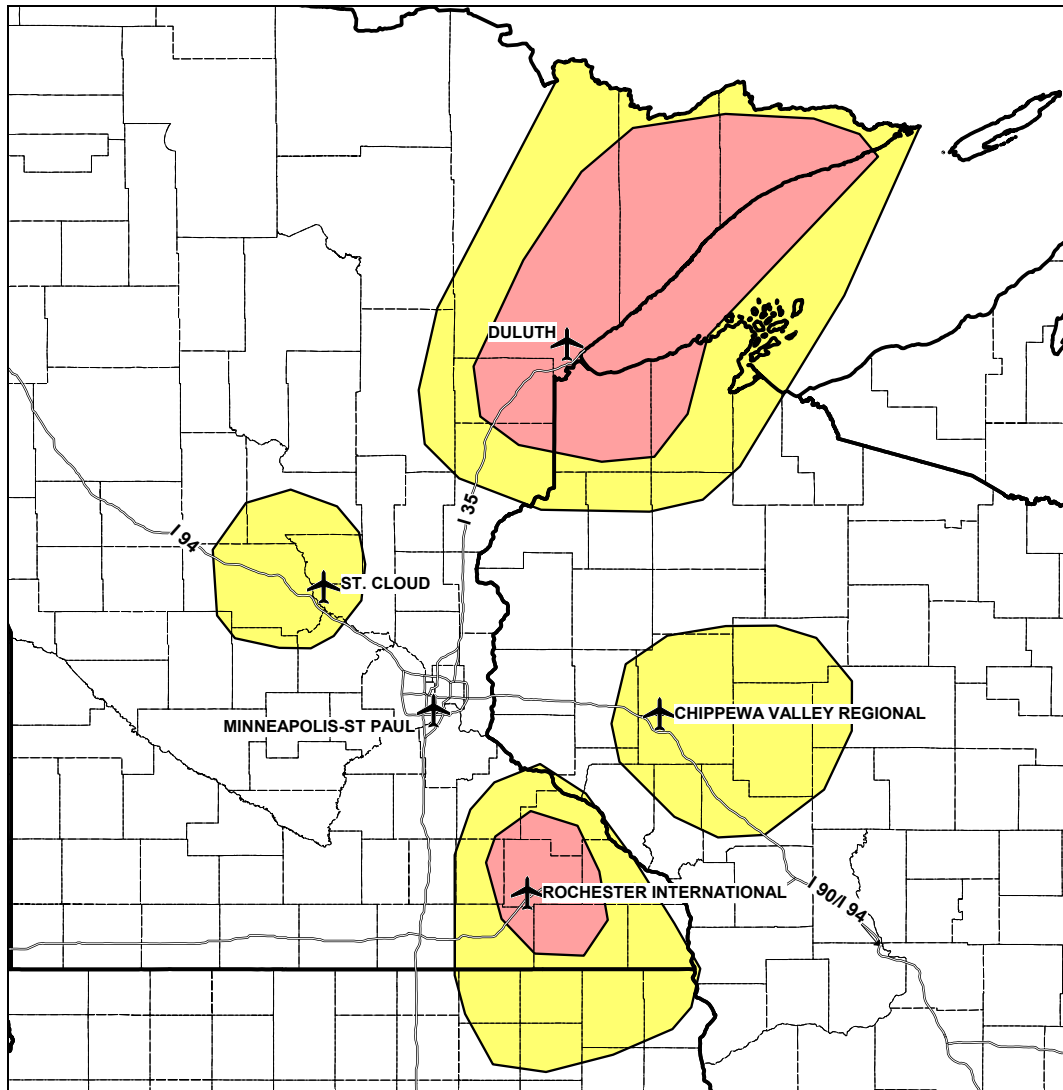


Figure 4-8. Estimated Catchment Areas - 25 and 50 Percent Capture Rates

Table 4- 20 shows how the airport choice factors can be classified⁶:

Table 4- 20. Classification of Airport Choice Factors

Importance	Might be Influenced	Difficult to Influence
Very Important	<ul style="list-style-type: none"> ▪ Fares ▪ Additional service / low fare carrier ▪ Reliability 	<ul style="list-style-type: none"> ▪ Total trip time ▪ Non-stop service
Moderately Important	<ul style="list-style-type: none"> ▪ Easier security ▪ Jet service ▪ Overall airport experience 	<ul style="list-style-type: none"> ▪ Avoiding the drive to MSP
Relatively Unimportant	<ul style="list-style-type: none"> ▪ Additional flights in the early morning or late evening ▪ Cheaper parking 	<ul style="list-style-type: none"> ▪ Business opportunities in MSP ▪ Employer policy

In a world of limited resources, it clearly makes sense to focus efforts on emphasizing and improving those factors that are both important to travelers in the community *and* able to be influenced. These are:

- Cost of ticket (fares)
- Additional service / presence of a low fare carrier
- Reliability
- Easier security
- Jet service
- Overall airport experience

Fares

The survey data makes it clear that ticket cost is a major factor (perhaps the most important factor) in influencing airport choice. In general, this factor is even more important to those who *do not* use the local airport⁷, suggesting that high fares are a significant reason why travelers who don't use the local airport are making that choice. Table 4- 21 shows the portion of airport users and non-users who feel that ticket cost is "important" in their decision-making.

⁶ Table 4- 11 and Table 4- 13 show the relative importance of these factors in each community.

⁷ For the purposes of this study, "local airport users" were defined as those respondents that used their local airport for 25 percent or more of their trips. "Non-users" were defined as those who used their local airport less frequently. This criteria split the respondents into approximately equal numbers of users and non-users.

Table 4- 21. Portion of Respondents Where Ticket Cost is “Important”

Category	Duluth	Eau Claire	Rochester	St. Cloud	Average
Local Airport Users	85%	88%	79%	82%	83%
Non-users	88%	87%	94%	84%	87%
Difference	3%	-1%	15%	2%	4%

The problem of high fares is even more important when the nature of the survey is considered. Business travelers tend to be somewhat less fare-sensitive than those traveling for personal reasons. Because the survey only includes business travelers, it is likely that the importance of ticket cost in the overall community is even higher than what is indicated by the survey results.

Some passengers are willing to pay a bit more to fly locally and save some time. However, the additional amount that is acceptable to them is relatively low. Table 4- 22 compares the average acceptable fare increase to the average amount of time saved⁸ by flying locally. As the table shows, passengers are willing to pay just \$20 to \$30 more (roundtrip) for a local ticket on average. In most communities, the business travelers surveyed value their time at about \$10 per hour of driving time saved. Rochester travelers value their time at a slightly higher rate, possibly due to the higher average income levels in that community. (This low rate per hour is less than the cost of driving to Minneapolis/St. Paul!)

Table 4- 22. Average Acceptable Fare Increment versus Time Saved

	Duluth	Eau Claire	Rochester	St. Cloud
Drive time to MSP (min)	240	130	100	120
Avg. Acceptable Fare Increment	36	23	29	22
Time Value (\$/hr)	\$8.89	\$10.46	\$17.48	\$10.81

Even though travelers, on average, are willing to pay a little more to fly locally, there may be a significant impact when these higher fares are charged. Figure 4-9 illustrates how higher fares can rapidly decrease the available pool of passengers that an airline can draw from. Nearly half of the passengers are unwilling to pay any additional amount to fly locally – thus, by charging more for the local fare, a carrier would have essentially reduced the effective size of the local market by about half. Charging over \$50 more reduces the available passengers by about 74%, and charging any higher than \$100 more essentially reduces the market size to zero.

⁸ This considers only drive time and not connection times or airport access times.

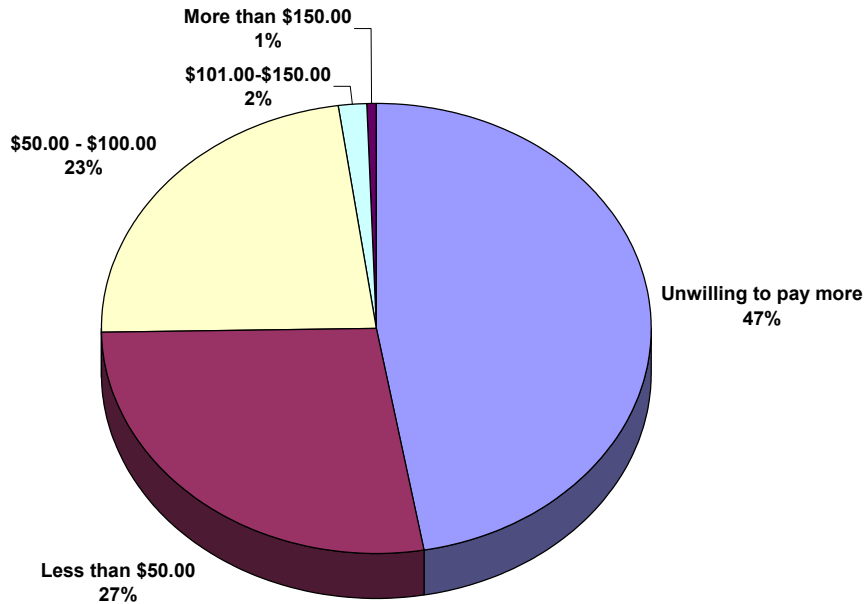


Figure 4-9. Passenger Willingness to Pay More to Fly Locally

Additional Service

Respondents frequently named service-related factors as “Important” in their decision-making process:

- The presence of an additional (possibly low-fare) carrier; and,
- Service to another airport.

By far, service to Chicago was the most requested service across the communities, with over 16 percent of the respondents specifically requesting Chicago service. Although respondents also requested service to other destinations (such as MSP, Detroit, St. Louis, and Denver), this was not nearly as common as Chicago. Respondents named Chicago as a frequent destination far more often than MSP. Overall, there seems to be a significant amount of support for new or additional Chicago service in all of the study communities and that this service may have the potential to be as popular or more popular than added Northwest frequencies to MSP.

Reliability

Poor reliability is a significant complaint at the study airports. Common issues include cancellations, delayed flights, and weather-related delays. It’s difficult to quantify the impact that these issues have on the level of support received by the local airport. However, it is clear that reliability is a common frustration among those using the local airport and that many travelers believe their problems are alleviated by avoiding the local airport and going directly to MSP.

These passengers represent a lost opportunity. They are people who were satisfied with the service offerings at the local airport and chose to use it. When they did this, however, they had bad experiences and are now prejudiced against the local airport.

Although it may be difficult to improve reliability, the survey results suggest that this may be a worthwhile place to direct some effort – through facility improvements, improved connecting schedules, or other possibilities. If the communities or airlines make reliability

improvements, it would also be important to advertise this fact to the local community so that these lost passengers might be persuaded to give the local airport another chance.

Faster Security

A moderate number of passengers cited easier security as an important factor in their decision making process. It is clearly something that people care about. However, while important, it appears that focusing on the easier security at the local airports will have less of an impact than the other, more important, factors described here.

Passengers have become somewhat accustomed to complicated and slow security procedures. Many people even have a vague sense of “patriotic duty” while waiting in a security line these days. So, while easier security is a benefit, slow security is not currently a strong negative. Security is still only a small part of the travel experience and is not as important as the more fundamental issues such as schedules, service, and reliability.

Of the 1,351 people surveyed, only 11 suggested that security was an area that needed improvement in the free-response section of the survey. And, those 11 were divided about evenly between concepts of “faster security” and “more security”. Although it will remain important to have effective and efficient security for other reasons, it seems unlikely that implementing or advertising faster or easier security will draw a significant amount of new passengers to the local airports.

Jet Service

It’s well known that passengers prefer jet aircraft to turboprops. The survey results confirm this and indicate that jet service is important to passengers in the study communities. However, it’s generally not as important as other issues. Reliability, additional service (of any type), and fares all appear to be more important to passengers than the presence or absence of jet service. Although jet service is important, it should not be the sole focus of air service efforts, nor should it’s absence be viewed as a roadblock to growth.

Overall Airport Experience

There is a significant difference in the airport experience at the different study airports (see Table 4- 11). At Duluth and Rochester, over 60 percent of the respondents viewed the local airport experience as better than MSP. At St. Cloud and Eau Claire, less than 40 percent viewed the local experience as better than MSP.

The importance of this becomes more apparent by looking at the behavior of passengers who view the local experience as better versus those who don’t. This is shown in Figure 4-10. The left column for each community shows the capture rate for those passengers who believe the local experience is better than that at MSP. Theoretically, this is what the capture rate would be if all of the travelers in the community believed that the local experience was better than MSP.

The right column for each community shows the capture rate for the respondents who believe that the local experience is worse than that of MSP. Theoretically, this is what the capture rate would be if all of the travelers in the community believed that the local experience was worse than MSP.

So, the difference between the two columns represents the range of capture rate that might be influenced simply by the overall airport experience. For all of the study airports, the range is quite large. For distant airports like Duluth with a more captive passenger base, the range is a bit smaller because other factors (such as drive time) play a bigger role than airport experience. For nearby airports, such as St. Cloud, the range is

somewhat larger because the airport experience is a much more significant issue when drive time and other factors are less important.

The dots in the figure represent the current overall capture rates for each airport. This is one measure of where each airport is currently lies in the range from “all good experiences” to “all bad experiences”. All of the airports, and especially those close to MSP, may be able to improve their capture rates by focusing on making the overall airport experience as pleasant as possible. Appendix 4A, particularly the sections on facility improvements and customer service, may provide insights on ways in which this might be done at each airport.

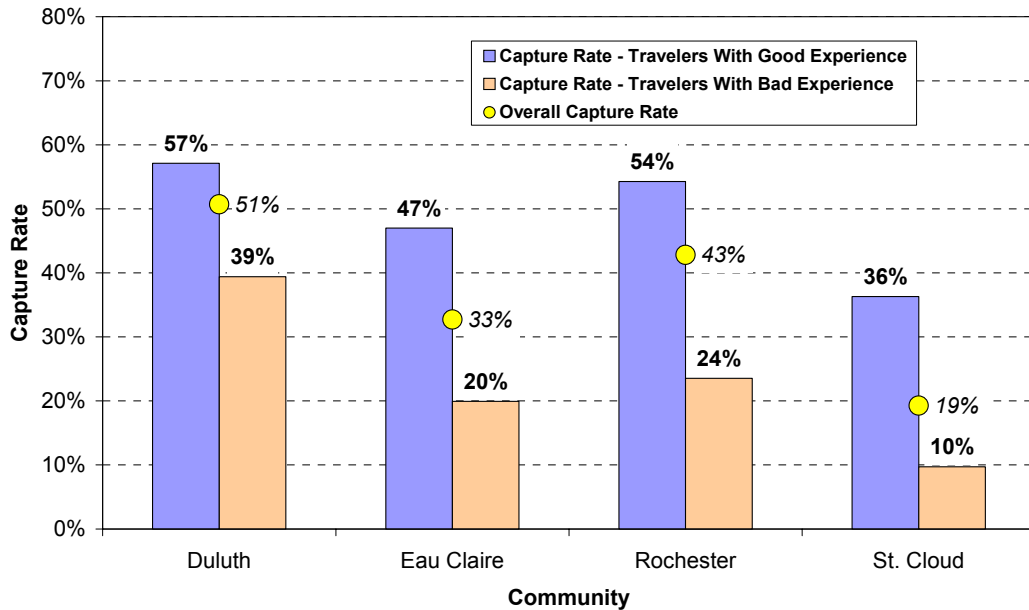


Figure 4-10. Capture Rate by Airport Experience

4.5 AIRPORT-SPECIFIC ISSUES

The issues discussed in previous sections apply to all of the study airports to some extent. In addition, the survey data identified several airport-specific issues.

Duluth

Duluth is somewhat unique because it is located significantly farther from MSP than the other study airports. This greatly reduces the level of competition between Duluth and MSP. Duluth has some “built-in” draw which results in several effects:

- Compared to the other study airports, Duluth is less sensitive to passenger perception of the overall travel experience.
- Passengers are less fare-sensitive at Duluth and, to a point, are more willing to tolerate higher fares than passengers in other communities
- The capture rate of Duluth is much higher than the other study airports
- The geographic scope of Duluth’s service area is much larger than the other study airports.

On the other hand, as a more captive passenger base, Duluth’s passengers have a high interest in improved reliability at the airport, more so than at the other study airports.

Future efforts should consider facility improvements and other options for alleviating these concerns.

In addition to improving reliability, passengers in Duluth have a somewhat higher than average interest in having a low-fare carrier and jet service at the airport. Respondents from Duluth also made a number of comments about inadequate restaurant service at the airport.

Chippewa Valley Regional

Overall, the survey results for the Eau Claire fell close to the average for all the study airports. Survey respondents in Eau Claire care about fares, reliability, and the presence of an additional carrier. Some patterns did emerge from the survey data:

- Reliability is slightly less of a concern in Eau Claire than in the other communities. Survey participants still cited “greater reliability of local service” as an important issue, but slightly less often than in the other communities.
- Passengers rated the overall experience of flying from Chippewa Valley Regional somewhat poorly. Only 37 percent of the respondents felt that the experience was better than that of MSP, compared to an average of 49 percent for all of the study airports.
- Airport awareness may be a small issue in the community. A small number of respondents suggested that the airport should do more advertising.
- Eau Claire residents have more ties to Chicago and fewer ties to MSP than in other communities. Of all of the communities, Eau Claire respondents cited “business in MSP” as an important issue less frequently than in other communities. The respondents also requested service to Chicago far more often than in other communities. Over 22 percent of the respondents requested this service.

Rochester

Rochester is unique in that it is the home of several organizations that make it a stronger destination airport than some of the other study airports. This, along with the service offerings at the airport, results in several patterns:

- The capture rate in Rochester is above average. Local passengers have a relatively high level of loyalty to the airport, particularly in areas close to the airport.
- Rochester passengers are slightly more tolerant of higher fares than in other areas. This is likely due to the above average income levels in the community. Passengers in Rochester are less interested in a low-fare carrier than in other communities.
- Passengers rated the airport experience at Rochester the highest out of all of the study communities. This appears to be an important factor in helping Rochester retain local passengers.
- Rochester area respondents travel more often than respondents from other communities.

While the above items are positive, there are several areas where respondents feel that Rochester could improve:

- Despite the fact that Rochester passengers seem willing to pay a little more to use the local airport, there still is some significant concern about fares, particularly among those who are not using the airport. Nearly 94 percent of those who are not using the airport cited fares as an important factor in their

decision-making – more than in any other community. The results suggest that, to some extent, there is a division in the community between those who can afford to fly locally and those who cannot.

- Respondents want additional service and greater reliability. However, in Rochester, respondents were interested in a somewhat wider variety of new service since the airport already has service to Chicago.
- Respondents are interested in a variety of facility improvements. They frequently cited better restaurants as a desired improvement.

St. Cloud

St. Cloud is in a unique situation because of its proximity to MSP and its limited service offerings. Several patterns related to St. Cloud have emerged from the survey data:

- St. Cloud area travelers tend to have a lower income than in the other study communities. This, combined with the proximity to MSP, results in a higher than average sensitivity to fares.
- St. Cloud is a younger, growing, and changing community.
- Several respondents indicated that they didn't even know that St. Cloud had air service. Airport awareness may be a small but meaningful issue in St. Cloud. Additional advertising may be helpful.
- Passengers rated the airport experience at St. Cloud as the worst out of all of the study communities, with just 30 percent of the respondents indicating that it was better than at MSP.

At less than 20 percent, St. Cloud currently has the lowest capture rate of all of the study communities. This could likely be improved most efficiently by:

- Adding additional service with reasonable fares. Chicago or Denver are popular destinations for St. Cloud and would likely draw more passengers than additional service to nearby MSP.
- Improving the overall airport experience. Some respondents suggested a general "expansion" as something that they'd like to see. However, it may be worth some additional research effort to understand how to best improve the travel experience at St. Cloud.
- Increasing awareness of the airport in the community through advertising or other means.

Appendix 4A - Free-Response Service Suggestions by Airport

This appendix lists the free-response suggestions provided by the survey respondents. These suggestions were obtained in response to question 6:

Which of the following improvements in service at _____ Airport are important to you?

The respondents were asked to specify “Important” or “Not important” for a variety of possible improvements and were then given the opportunity to provide other suggestions. The items listed here are the suggestions provided, as noted by the telephone representatives conducting the survey.

The suggestions are organized by airport and the following categories:

- Additional service
- Improved reliability
- Facility improvements
- Lower fares
- Additional carriers
- Jets / larger aircraft
- Better customer service
- Alternate transportation
- Security improvements
- More advertising
- Time benefit is too small
- Other

The individual suggestions listed in this appendix should be considered only as a general indication of travelers’ requests and as a source of ideas for possible future exploration. While reviewing this data, it is important to maintain focus on large-scale patterns and avoid becoming fixated on statistically insignificant individual responses from a single person or small group.

Duluth

Additional service

“better connecting flights”

“better selection of flights to and from Duluth”

“better timing of the flights”

“feels that flights from Minneapolis to Duluth are overbooked.”

“more destinations from Duluth”

“more direct flights”

“more direct flights to other cities”

“more flights”

“more flights (they do not have to be at any certain time of day)”

“more flights out of Duluth.”

“more flights that go different places not just MSP.”

“more variety of destinations”

“more weekend flights; long layovers from Minneapolis to Duluth on weekends.”

“would like more flights to other major cities, other than Minneapolis.”

“would like the Detroit flights to be brought back into place”

Improved reliability

“a bigger runway so that flights would be cancelled less frequently. more departure gates”

“better on-time flights to and from the airport”

“better reliability of the flight patterns with arrival and departure.”

“cut down on delays”

“eliminate mechanical problems”

“fewer weather-related cancellations.”

“for flights to be on time and not cancelled”

“frequent cancellations of flights incoming to Duluth during bad weather”

“has had many problems trying to fly back to Duluth and will not fly from there again. (to or from)”

“keep up with all of the departure and arrivals stop canceling flights be more reliable.”

“less cancellations”

“less cancellations from Minneapolis to Duluth.”

“less frequency of cancellations, supposedly due to weather.”

“northwest is a bad airline. they cancel flights all the time.”

“they need to be more dependable and they need to not cancel flights all the time”

“would like to be ensured of the fact that when a flight is canceled that he be able to make further connections.”

“would like to see better on time departures”

“would like to see fewer cancellations of the last flight from Duluth to Minneapolis.”

Facility improvements

“a TV so when people are waiting they can do sometime other than read.”

“automotive check-in, curb side luggage”

“better bookstores”

“bigger loading and drop off area.”

“cheaper parking”

“cheaper parking and easier access for baggage”

“complimentary drinks while waiting in the lobby”

“more restaurants”

“more restaurants with longer hours.”

"need to build an escalator or elevator from the parking level or from the tunnel"

"needs to clean up a little"

"open the coffee shop a little bit early"

"reopen the under ground parking"

"she would like for there to be a restaurant in the Duluth airport. (if she has a long wait, she would like to get something to eat.)"

"the airport needs a escalator that goes down so people don't have to carry their heavy baggage. also the airport needs to be built all over again; more people would use this airport more often. it's an ugly airport."

"when going there, it has not been bad but it could be better if the customers had something to do. the airport needs a lounge, bar or a coffee place."

"would like to see more restaurants"

Lower fares

"better competition for tickets prices to and from Duluth."

"better prices for departures"

"better rates"

"cheaper fares"

"cheaper flights"

"cheaper flights so people don't have to drive to the city."

"cost in the departures out of the airport."

"if the prices were similar would be better"

"less expensive flights"

"lower prices"

"lower prices. the cost is the main problem for people."

"more competition in price of tickets."

"more competitive prices."

"prefer it to be cheaper from Duluth."

"would like the ticket price to be reduced."

"would like to see competitive prices"

Additional carriers

"another carrier"

"more airline choices"

"more airlines"

"more competition in airlines."

"more competition so that the price of a ticket is not so expensive"

"needs to get another airline besides northwest. she wasn't very happy with their service."

"northwest is not a good airline and they need to improve their service"

"votes very strongly on bringing in a cheap airline. and to try to eliminate some mechanical problems. monopoly effect with the twin cites when they have something wrong everyone is affected in Duluth"

"wants to see more competition in northwest and more flights"

"would like connections from Duluth to another hub that carriers low fare carriers."

"would like to see Midwest express added; feels northwest has too much of a monopoly."

"Jets / Larger aircraft"

"larger planes"

"more leg room on the plane."

"newer planes"

Better customer service

"better baggage service"

"better baggage storage and not losing them"

"better customer service over the phone for car rentals and general airport information."

"don't lose the luggage"

"faster check-ins."

"friendlier customer service and gate attendants"

"less wait time"

"more courteous service at airport"

"poor baggage handling"

"poor baggage handling and customer relations."

"shorter check-in lines."

"they need to improve customer service."

"would like to see the luggage handled better."

"Alternate Transportation"

"feels that flying out of Duluth takes just as long as driving to Minneapolis."

"Security Improvements"

"feel that if the airport is going to check international student's bags, they should also check American student's bags as well when they fly out."

"more security"

"security"

"would be nice to have more security clearance lines."

Other

"better food on the airlines"

"wants a better meal when flying on longer flights"

Chippewa Valley Regional

Additional service

"a flight every morning as early as 6am. other flights going out elsewhere."

"availability"

"better coordinated connecting flights"

"he was upset about the timing of flights that do not connect at the St. Paul airport. he believes that it is unnecessary to have this airport"

"he would like to see more airline service to the east."

"just don't want to be laid over for a long time, more flights available in general"

"lay over is not good for customers. more frequent flights."

"more arrivals and departure flights."

"more early flights and more afternoon flights. a flight to Minneapolis to triple valley."

"more flight going out for destination."

"more flights"

"more flights and better frequency of flights. also, better convenience of time traveling."

"more flights in general, non-stop flights"

"more flights to more destinations."

"more flights and destination options."

"more jet service and also more destination flights."

"more mid-day flights"

"more service to our destination."

"mostly improvements in service"

"put in an airline that goes to Chicago."

"timing"

"wants better flight scheduling"

"would like more destinations from Chippewa to anywhere else other than St. Paul."

"would like to see accommodations for canceled flights and more flights to and from Chippewa valley."

"would like to see more access to other airports other than the one's already provided."

"would like to see more flights to other cities"

"would like to see more non-stop flights to other cities."

"more flights to twin cities"

Improved reliability

"if there is an airplane that does everything on time"

"important to not be bumped and be on time"

"Midwest express would be nice, reasons not from Chippewa is the service, being bumped from flights"

"more flights on schedule"

"more reliability flights going out. prefer southwest."

"more reliable flight schedule"

"no more cancellation of flights and more on time flights."

"shuttle delays their flights sometimes."

"the reliability of flight scheduling"

"they stop going there so much, because of so many cancellations of flights. when they dropped most of them."

"too unreliable; too many cancellations and delays. very emphatic about poor service."

"travels a lot and said that Chippewa needs to be a lot more reliable with their flights."

Facility improvements

“boarding area needs to be taken into consideration along with the weather (snow and rain)”

“expand the airport and make it bigger”

“expansion”

“restaurant”

“she did not appreciate the shuttles.”

“should let handicap have more leniency. other lines for handicap. more room on airplanes.”

Lower fares

“cost”

“doesn't often even check Chippewa, just as easy and cost effective to go to Minneapolis”

“if the prices compared, rarely even check Chippewa”

“mostly prices”

“prices are very important”

“prices dropped they are too high already”

“prices just need to be better”

“reasonable price for tickets.”

“ticket prices”

“when the cost of a flight is more expensive than driving they would rather drive. if prices would lower they would take that airport more often.”

“would like to see reasonable prices with more convenient connecting flights”

Additional carriers

“get Midwest express.”

“more air carriers”

“more airline carriers in general; not just frontier or southwest.”

“more carriers”

“wider variety of airlines.”

Jets / Larger aircraft

“bigger airplanes”

“bigger planes.”

“bigger planes. more direct flight.”

“more bigger planes and fix landing strip.”

“need bigger planes because of the cancellation and delays that are always happening.”

“need bigger planes.”

“new prop planes instead of the old planes”

“scared of small planes and tries to fly straight through”

“would like to see more space in the airplanes and non stop movies.”

Better customer service

"better customer service."

"have the plane come and go on time! employees need to work on their customer service."

"would like the line to go faster when checking in."

"would like to be able to contact them more easily. when calling, it is hard to reach anyone."

Security Improvements

"security clearance took a long time at Chippewa, could have done it just once at Minneapolis, that was just last week"

More advertising

"better advertising for what is available"

"more advertising for the airport"

"more advertising"

Time benefit too small

"time"

Other

"consistency of baggage policy and size"

"good job as it is!!!"

"government contract"

Rochester

Additional service

"better layover times and later arrivals and departures from Minneapolis to Rochester as well flights from Rochester to Minneapolis."

"connecting flights to and from St. Louis"

"doesn't like hubbub of going through Chicago, wish more choices than Chicago"

"few more flights from Rochester"

"frequency of flights, more flights"

"greater flexibility in flight times."

"he would like us air to come into Rochester more often"

"later arrival times from Chicago."

"less layover time in Minneapolis when traveling from Rochester in the morning or late at night."

"more destinations"

"more direct flight to other cities"

"more direct flights, doesn't like to go through Minneapolis, at least to Chicago, or major airports"

"more flight options"

“more flights”

“more flights and more airports being serviced and would like to southwest airlines fly to and from the airport.”

“more flights available and not canceling if the flight doesn't fill up”

“more flights originating from Rochester”

“more flights to different airports”

“more flights to different areas of the country”

“more mid day flights”

“more options”

“more places to make connecting flights”

“more straight through flights, not so many connections, missing connecting flights”

“needs more general flights, more to choose from”

“not so late flight from Chicago. wants an earlier flight to be scheduled”

“Rochester airport- every flight that connects out of Minneapolis is a hour layover.”

“shorter layover in Minneapolis”

“wider range of flights”

“would like additional flights from Chicago to Rochester in the time from 2:30 pm to 9:00 pm. also wishes the food service was better at Rochester international airport.”

“would like additional hub destinations.”

“would like more flights after 10:30pm”

“would like to have better connection flights time-wise to Minneapolis.”

“would like to see better flight schedules.”

“would like to see more arrival and departure flights all around.”

“would like to see more flights”

Improved reliability

“25% of the time he gets bumped from his flight”

“because of location of airport and frequency of cancellations due to wind, questions whether Rochester int'l airport should be proper place to expand.”

“better on time flights.”

“flight delays and there are always long layover times”

“less cancellations”

“prefer flying out of/returning to Minneapolis due to high number of cancellations at Rochester.”

“reliability”

“would be happy to fly out of Rochester if there were not so many weather-related cancellations. also feels that the cost of taxis from airport to downtown is much higher than in other cities.”

“would like see fewer cancellations due to the weather.”

“would like to see the links more reliable”

Facility improvements

“access to restaurant without going through security”

“additional eating options.”

"better layout of airport"
"better parking and access to the main gate."
"better parking; having gates close closer to take-off time (northwest)."
"better restaurant"
"cheaper parking"
"covered parking"
"free liquor"
"if there could be more restaurants opened in the later evening hours"
"like to see improvements to the general aviation ramps and FBO."
"more parking"
"no place to park big truck when picking up passengers"
"regular shuttle from the mayo clinic"
"restaurant opened into lobby, not past security"
"would like to have food service,"
"would like to see 24 hour restaurants and lounges."
"improved restaurant service"

Lower fares

"cost of fares' to decrease."
"he would prefer to use Rochester if the price to fly was not so high. (comparable price)"
"Rochester flights are way more expensive and when a company is budget conscious the airport will lose more business. they need to lower their prices."
"Rochester prices are outrageous and if they were cheaper he would fly out of there more. they need to lower their prices."

Additional carriers

"doesn't like that northwest cancels more flights than American."
"more air carriers"
"more airlines would be nice."
"more carriers"
"more carriers."
"more competition at Rochester"
"more hubs and airlines"
"other airlines"
"wants to bring another major airline to airport and wants more info sent to him if they can."
"would like to see more carriers"
"3rd carrier"

Alternate Transportation

"a fast commute line shuttle between airports. a rail line or something similar."
"he would like a shuttle to run from Rochester to Winona so that he doesn't have to drive 40 miles to the airport."

"high speed rail between airports"

"high speed rail to city"

"high-speed train connecting Rochester to Chicago and Minneapolis. thinks Rochester is great airport."

"transportation to Rochester int'l from downtown Minneapolis or from home."

"wondering and suggests that they should put in a train"

"would like to see a shuttle go to and from the airport."

Security Improvements

"would like to see some of the frequent flyers that pass through the airports to possibly receive a photo id to show they are a frequent flyer for business. he has had a major concern because he is constantly being pulled from the security lines."

More advertising

"more advertising about Rochester international airport."

"would like to see more advertising for the airport."

Time benefit too small

"flight time from Rochester to Minneapolis. St. Paul is the same as drive time to Minneapolis. St. Paul... (she would rather drive to save money.)she would also like to see less wait time at the Minneapolis. airport."

"would never fly out of Rochester because he has an airport closer to him."

Other

"he said stop flying over his house!!!"

"he would hate it if southwest was there."

"when flying into Rochester she hates driving late at night."

St. Cloud

Additional service

"a wider range of flight departures and arrivals"

"afternoon flights, more flights directly, not hassling with long layovers, mostly it's better though"

"airport not big enough to service where she needs to go, sometimes overseas"

"better layover connections when flying in and out of the airport."

"better timing for flights"

"direct flights, no long layovers"

"doesn't like the times of the layovers"

"fly to more to cities"

"for frequent flights, more choices"

"more arrivals into St. Cloud and more direct flights to other cities."

"more availability like St. Paul airport."

“more available flights and straight through flights also”

“more available flights”

“more choices in flights.”

“more convenient to go to Minneapolis, going to the east coast so need bigger airlines”

“more direct flights”

“more flight options”

“more flight selection”

“more flights”

“more flights lower cost”

“more flights and times for arrivals and departures.”

“more flights are necessary for better service.”

“more flights going out.”

“more flights in general”

“more flights in general would be great”

“more flights in general, because of weather if you miss a flight late at night you're out of luck”

“more flights in general, more times to pick from, especially coming home”

“more flights out from St. Cloud.”

“more flights with departures and arrivals.”

“more flights.”

“more international flights.”

“more major flights”

“more non stop service and lower costs”

“more non stop services”

“more non-stops from St. Cloud would be great”

“more of a selection of flights.”

“more scheduled flights”

“more timing of flights for the convenience of flight connections”

“more volume that would lead to more options or choices. flying into another major airport”

“mostly more flights, not enough with connections from Minneapolis, having to wait too long, might as well drive”

“non-stop service”

“quicker connections to Minneapolis”

“straight through flights or more choices to pick from, so have shorter layover, or less of them”

“they fly to Belgium so they need to go to Minneapolis”

“want more flights available, the layover times are too long to go to Minneapolis”

“would like to see more flights and more destination airports”

“would like to see more non-stop flights to Newark and have frequent flights with northwest and continental.”

“would like to see St. Cloud as a hub for freight carriers. would like to see more later night flights back to St. Cloud, (after 10:00p.m.)”

Improved reliability

"better flight abilities"

"better reliability would be good"

"better reliably"

"getting a seat assignment and having it be guaranteed, flights being canceled because of smaller planes and weather"

"greater reliability with in bound and outbound flights and more service to other major hubs"

"maintaining coordination with the incoming and outgoing flights."

"more consistency in scheduling flights"

"on time flights"

"would like to see better reliability in the shuttles and flights."

"would like to see better reliability of the arrivals and departures at the airport. he would fly from there if this were corrected."

Facility improvements

"bigger airport"

"just make bigger probably"

"just thought expanding would be a good idea"

"more handicap accessible transportation"

"more hanger space"

"St. Cloud doesn't have enough parking"

"would like to see restaurants open later"

"would like to see the airport expanded"

"would like to see the airport expanded."

Lower fares

"and the cost is too expensive for the time it really takes to fly from St. Cloud to Minneapolis."

"better cost as everything is too expensive"

"cheaper and bigger"

"cheaper flights"

"cheaper flights."

"competitive price"

"if it was cheaper to fly from St. Cloud, they would"

"more cheaper flight to the city."

"prices just need to be more reasonable, closer to Minneapolis prices"

"should offer more cheaper flights."

"the cost is too expensive for the time it really takes to fly from St. Cloud to Minneapolis."

"the flight to Minneapolis is too expensive"

"the key thing is cheaper flights."

"the price of the tickets are ridiculous. would like a straight flight destination."

"through military so the cost and availability is most important"

"would like to see non-stop flights at a competitive price and not so expensive."

Additional carriers

"a better selection of carriers"

"another carrier."

"different airlines and more flexibility of times of arrivals and departure and more planes."

"have more competition in the different types of service providers (airlines) at St. Cloud."

"if we could get lower fare carriers"

"low fare carriers, more convenient parking, airport location is important, out of town would be better"

"mostly low fare carrier with direct flights, like midway"

"sun country airline to be promoted"

Jets / Larger aircraft

"bigger aircraft"

"bigger jets"

"bigger planes"

"don't like the charter planes"

"he would like for them to have jet aircraft."

"larger airplanes"

"larger jets."

"larger planes because the little planes make him sick he flies every week and would not mind flying from the St. Cloud regional airport if large planes were available to fly on."

"more leg room"

"would like to see bigger jet airliners."

"needs bigger airlines"

Better customer service

"faster service."

"northwest are very rude, need to improve customer service."

Alternate Transportation

"a light rail would be more efficient than having an airport"

"would like to see a light rail going to the city."

"would like to see a shuttle or light rail going to and from the airport"

"would like to see a shuttle service or light rail service"

Security Improvements

"better security"

"even more security than they have now"

"good security"

"have faster security lines"

"higher security standards."

"security"

More advertising

“business usually goes through Minneapolis, didn't even know there was commercial through St. Cloud”

“did not know that St. Cloud had an airport”

“didn't even realize you could fly from St. Cloud”

“haven't really thought about going to St. Cloud, maybe more advertising and better deals would help”

Time benefit too small

“any big airports would help, too much of a pain to fly to Minneapolis then fly out, just as quick to drive there. cost gets too high”

“just too far for them to fly from St. Cloud”

“Minneapolis is more convenient, not to have to fly to Minneapolis anyway”

“they just as close to Minneapolis, so St. Cloud is not as convenient”

Other

“get transportation thing”

“more access”

Appendix 4B - Survey Methodology and Questions

Methodology

The survey was conducted via telephone using industry standard methods. The process involved the following steps:

- **Development of the survey questions and script.** The survey questions were developed by the KRAMER aerotek team, with significant input provided by the study committee. The survey questions are described in detail below (see “Survey Questions and Format”)
- **Establishing the list of potential contacts.** A list of potential contacts was developed by using a number of different criteria that focused on attributes typical of business travelers. (see “The following sections present a detailed description of the survey results and their interpretation. Issues particular to individual airports are discussed in the “4.5 Airport-specific Issues” section beginning on page 4-23.
- **4.2 Profile of the Respondents.** Contact information and demographic data of the participants was obtained from InfoUSA, a leading provider of marketing lists and demographic data.
- **Conducting the survey.** The survey was conducted using live telephone representatives over a period of time from May 22, 2002 through June 12, 2002. The contacts were randomly selected from the overall list of potential participants.
- **Continuing until an adequate amount of data was collected.** For the survey results to be meaningful, it was necessary to contact a certain minimum number of travelers in each community. This helps to ensure that the results are statistically significant. For this study, a target confidence interval of 95 percent with a +/- 5 percent precision was selected as an appropriate level of accuracy. This means that there is a 95 percent chance that the results for the total population of business travelers (if every traveler was surveyed) would fall within 5 percent of the results shown here. This level of accuracy is more than adequate for identifying the large-scale patterns, trends, and priorities required for this study.
- **Quality Control.** Various quality control measures were applied to ensure that the data collected was valid and as accurate as possible. These included follow-up calls to some participants, verification of the geographic location of the participants, and checks for outlying data and other unusual results.
- **Processing the data.** After the survey was completed, the raw results were processed in a variety of ways so that patterns could be identified. These results are discussed in the following sections of this chapter.

A total of 6,087 contacts were dialed for the survey. Of these, 1882 were unable to be reached. Of those that were reached, 420 refused to participate. An additional 2,423 were ineligible to participate because they had not traveled for business two or more times during the past year. A small number of surveys were excluded because they were incomplete or otherwise found to be inconsistent during the quality control process. **Error! Reference source not found.** shows the number of valid surveys completed for each community after all of these exclusions were made.

Table 4- 23. Number of Surveys Completed by Community

	Duluth	Eau Claire	Rochester	St. Cloud	Total
Surveys Completed	337	333	333	348	1,351

Survey Questions and Format

Each telephone contact was greeted by the survey staff with the following introductory script:

“Hello, my name is: _____. I am calling on behalf of the Minnesota Department of Transportation [and the Wisconsin Department of Transportation]. We are trying to improve air service at the [Duluth, St. Cloud, Eau Claire or Rochester] Airport and would like your participation in a brief six question survey. All of your answers will remain absolutely confidential.”

Contacts willing to participate were then asked several questions. Because the purpose of the survey was to obtain data from people who fly relatively frequently, it was necessary to establish whether the contact was qualified to complete the remainder of the survey. The first question accomplished this:

1. Have you flown on an airline two or more times for business on in the last 12 months?

Yes, continues survey.

No, ends survey.

If the contact answered “No” to this question, the survey was ended, and the data for the call was excluded from the results. If the contact answered “Yes”, the survey was continued. Approximately one-third of the contacts dialed met this criteria. Of those qualified, approximately 65 percent were willing to complete remainder of the survey. The following questions were asked:

2. For those business trips, how many times have you flown from:

_____ Airport _____

Minneapolis-St. Paul Airport _____

3. Please identify the one business destination you most frequently travel to: _____

4. Which of the following are important in your decision to fly from _____ Airport or Minneapolis-St. Paul?

(I = Important; N = Not Important)

___ Cost of ticket

___ Total trip time, including driving, parking or layover time when connecting

___ Prefer non-stop service

___ Parking is cheaper at local airport

___ Strong preference for jet service

- Faster, easier security clearance at local airport*
- Employer policy requires use of a specific airport. If so, which airport ?*
- Prefer not to drive to Minneapolis-St. Paul*
- Opportunity for other business meetings in Minneapolis-St. Paul*
- Experience of flying from _____ Airport is better.*

5. Are you willing to pay more to fly from _____ Airport rather than drive to the Minneapolis-St. Paul Airport?
 No Yes If yes, how much more for a roundtrip ticket?

- < \$50*
- \$50 - \$100*
- \$101 - \$150*
- More than \$150*

6. Which of the following improvements in service at _____ Airport are important to you?

(I = Important; N = Not Important)

- More early AM flights*
- Service to another airport. Which one? _____*
- Low fare carrier such as Frontier or Southwest*
- More evening flights*
- Jet aircraft*
- Greater reliability of the local service*

Other: _____

At the completion of the survey, the contact was thanked for their time and the call was ended. Only those surveys that were able to be fully completed were used in subsequent analysis

Chapter 5 - Current and Planned Airport Development

5.1 INTRODUCTION

An airport's infrastructure determines its capability for handling current and future activity. The infrastructure analysis presented in this chapter outlines the strengths and limitations of the Tier 2 airport facilities.

All of the Tier 2 airports are capable commercial service airports with adequate facilities and the ability to accommodate future growth. Still, each airport is unique. Duluth, for example, has a strong military presence as well as capable runways and navigational aids. Rochester has ample passenger and cargo facilities and is planning several improvements such as a runway extension and improved highway access. St. Cloud has made many improvements in recent years and has ample facilities for accommodating additional air service; more improvements, including an air traffic control tower, are planned for the near future. Chippewa Valley has a strong corporate presence as well as ample commercial passenger facilities.

The infrastructure required to accommodate the airports' future needs is dependent on the airports' individual characteristics and future aspirations. This chapter presents a baseline comparison of the four airports to analyze how each airport is functioning at the present time, as well as the potential of each airport to accommodate additional activities in the future.

5.2 DULUTH INTERNATIONAL AIRPORT

The Duluth International Airport is located in St. Louis County, approximately five miles northwest of the central business district of the City of Duluth. The City of Duluth purchased the original property for the airport in 1929. Two 2,650-foot sod runways were constructed on the 640 acres of land and the airfield was dedicated as a public airport in 1930. In 1942, three runways were paved, with each runway having a length of 4,000 feet and a width of 150 feet. The runways were constructed at nearly equal angles from each other and were identified as Runways 3-21, 9-27, and 13-31. In 1945, Runways 9-27 and 3-21 were extended to 5,699 feet. After World War II, the U.S. Air Force (USAF) constructed permanent and semi-permanent facilities on land leased from the City of Duluth. In 1948, the Minnesota Air National Guard (MNANG) constructed permanent facilities on the airfield. The USAF has since phased out its facilities, but MNANG continues to operate.

In 1951, Runway 9-27 was further extended to 9,000 feet with a 1,000-foot overrun. Five years later, Runway 9-27 was completely rebuilt and in 1966, it was extended to its current length of 10,152 feet. Runway 3-21 remains 5,699 feet in length. Runway 13-31 was closed in 1974 and used as a taxiway to accommodate the addition of the International Arrivals building, which was built as part of the new Terminal Building. In 1989, the new Terminal Building and the adjacent structures were connected to form one enclosure. The original terminal building was then converted for use as offices for general aviation, the Federal Aviation Administration (FAA), and the U. S. Weather Bureau. Figure 5-1 shows an illustration of the Duluth International Airport from the Minnesota Airport Directory.

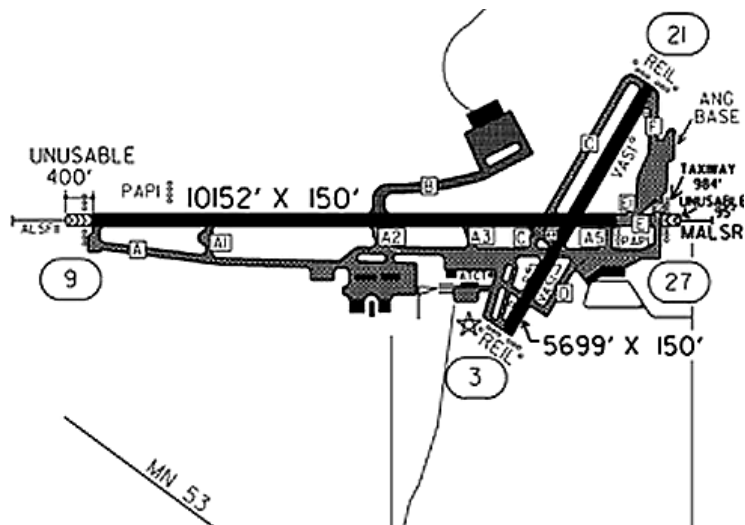


Figure 5-1. Duluth International Airport

Runways and Taxiways

Existing facilities at the Duluth International Airport include a 10,152-foot by 150-foot concrete paved primary runway (9-27). Runway 9-27 has strength capabilities to accommodate a 75,000-pound aircraft with a single wheel landing configuration, a 121,000-pound aircraft with a double wheel landing configuration, and a 230,000-pound aircraft with a double tandem landing configuration. These weight limits enable the runway to accommodate all types of aircraft with single wheel landing configurations as most aircraft with this type of landing configuration weigh less than 40,000 pounds. The weight restrictions for double wheel landing configurations allow the runway to accommodate aircraft such as a Boeing 737 or a McDonnell-Douglas DC-9. The weight restriction for a double tandem landing configuration permits a Boeing 757 to visit the airport.

The crosswind runway (3-21) at the Duluth International Airport is a 5,699-foot by 150-foot asphalt paved runway. Runway 3-21 has strength capabilities to accommodate a 75,000-pound aircraft with a single wheel landing configuration, a 100,000-pound aircraft with a double wheel landing configuration, and a 160,000-pound aircraft with a double tandem landing configuration. While virtually any type of single wheel aircraft can frequent the airport via the crosswind runway, the runway is restricted to smaller double and double tandem aircraft. In addition, the length of the runway also restricts the size of aircraft that can use Runway 3-21.

Runway 9-27 connects to a full length taxiway and the apron areas via eight connector taxiways. Of the eight taxiways, two have holding bays and one is designed as a high speed exit taxiway. Runway 3-21 has a partial parallel taxiway on its west side. There are five connecting taxiways directing aircraft to the west of Runway 3-21 and three connecting taxiways directing aircraft to the east of Runway 3-21, which leads to the Air National Guard military base.

Navigational Aids

The lighting on Runway 9-27 consists of high intensity runway edge lights (HIRLs). The runway is marked as a precision instrument runway. Runway 9 is equipped with ALSF-1¹ approach lighting. Runway 27 is equipped with MALSR² approach lighting, a 1,400-foot medium intensity approach lighting system with runway alignment indicator lights. The visual slope indicator for both runways is a 4-light Precision Approach Path Indicator (PAPI) system on the left. Both runways have an Instrument Landing System (ILS) and Runway 9 is equipped a Category II ILS³.

The lighting on Runway 3-21 consists of HIRLs, the same as Runway 9-27. The runway is marked as a non-precision runway. Both runway ends are equipped with runway end identifier lights (REILs)⁴. The visual slope indicator for both runways is a 4-box Visual Approach Slope Indicator (VASI) on the left.

Aprons and Aircraft Storage Facilities

There are six apron areas in the current airfield configuration. These apron areas are identified as Cirrus, Midfield, Terminal, Tower, the Minnesota Air National Guard ramp, and the Northwest Airlines (NWA) facility ramp. Collectively, these apron areas total over 1.2 million square feet.

The Cirrus Apron, approximately 100,000 square feet, is utilized by Cirrus Design for its operations and manufacture of single engine general aviation aircraft. The Midfield Ramp, approximately 250,000 square feet, is utilized by a number of individual hangars, including a large maintenance hangar that houses the Army De-Icing Test Facility. The Terminal apron area, south of runway 9-27 and east of runway 3-21, covers an area of approximately 172,000 square feet. This area is used primarily for air carrier operations and U. S. customs. Currently, Northwest Airlines, Northwest Airlink (Mesaba Airlines), and American Eagle⁵ operate from this area. The Tower Ramp, totaling approximately 320,000 square feet, wraps around the Old Terminal Building. Portions of this ramp are used for air cargo operations, while other portions are used for general aviation activities. The fixed base operator (FBO) operates from this ramp, which allows for additional tie-downs and aircraft parking availability. The MNANG ramp is used exclusively for military operations and is the largest apron at Duluth, totaling nearly 350,000 square feet. Finally, the Northwest Airlines facility ramp completes the apron area at Duluth International Airport. The Northwest Airlines facility ramp is located north of Runway 9-27, apart from the other apron areas, and is accessed via a separate taxiway.

Terminal Facilities

The terminal building at Duluth opened in 1974 and consists of nearly 53,000 square feet. The building has four levels – a basement area, first floor, second floor, and a mezzanine level. The basement houses a parking area, as well as utilities, storage, an employee lounge, and a catering service area. The first floor contains the ticketing and baggage area, as well as rental car agencies. The second floor comprises the coffee shop,

¹ ALSF is a standard 2,400-foot high intensity approach lighting system with sequenced flashing lights.

² MALSR is a medium-intensity approach light system with runway alignment indicator lights.

³ A basic ILS classified as Category I provides guidance information to pilots flying by instrument rules down to a decision height of not less than 200 feet. Improved equipment, both airborne and ground, provide for Category II ILS approaches. A decision height of not less than 100 feet on the radar altimeter is authorized for Category II ILS approaches. The Category II ILS for Runway 9 at Duluth is one of only two such systems in Minnesota, with the other ILS located at Minneapolis-St. Paul International Airport.

⁴ REILs are bright flashing lights located at each corner of the runway ends.

⁵ American Eagle terminated air service to Duluth in December of 2002.

restaurant, bar, and an observation gate. The mezzanine level accommodates the administrative offices and conference rooms. Finally, an International Arrivals Building, encompassing approximately 10,000 square feet, is connected to the terminal building via the passenger lounge and meeting area.

Airport Access

The Duluth terminal area is accessible from US Highway Route 53 and State Highway 194, via Haines Road. Access to the airport is accomplished via Grinden Drive, formerly Airport Road. Grinden Drive comprises an entranceway that loops in front of the terminal building. The airport is not readily accessible from the main freeways of Duluth, especially Interstate 35 to the south, thereby requiring the use of local roadways.

Airport Security

Prior to the terrorist attacks of September 11, 2001, security at the airport consisted of standard baggage screening and passenger checkpoints. However, following the events of September 11, security measures were significantly increased. In the weeks and months following the attacks, short-term parking was closed and no vehicles were allowed in front of the terminal building. In addition, military personnel were stationed throughout the airport and only passengers with boarding passes were allowed in aircraft boarding areas.

Recent changes in these measures have taken place as short-term parking has been reopened and vehicles are now allowed in front of the terminal building, provided that they are continuously attended. One measure that hasn't changed was the loss of 40 enclosed parking spaces under the terminal in the basement level as a result of restrictive federal security requirements. These parking spaces were eliminated as they posed a potential safety threat since there was no means of providing adequate scanning or searching facilities at the entrance to this area. The value of the enclosed parking spaces is especially noticeable in the winter, when very cold temperatures make these parking spaces valuable commodities.

Land Use and Zoning

Duluth International Airport currently rests upon nearly 3,100 acres in St. Louis County. It is located in the northwest area of Duluth and is surrounded by three jurisdictions: the City of Hermantown, Canosia Township, and Rice Lake Township. All three jurisdictions, plus St. Louis County and the City of Duluth, have significant stakes in how land is developed in and around the airport. Therefore, the jurisdictions surrounding the airport created a Joint Zoning Board to regulate the use of property in the vicinity of the Duluth Airport. This allows each jurisdiction to develop without adversely affecting the airport.

Since the Duluth International Airport already owns nearly 3,100 acres, the airport already controls much of the land use. Land north of the airport is zoned Multiple Use Non-Shoreland by Canosia Township. The comprehensive plan of Canosia Township states that the airport is an important facility to the residents of the township and the zoning ordinances set forth by the township are currently compatible with future planned uses of the airport.

Similarly, Rice Lake Township, which is northeast of the airfield, has zoned much of the area as commercial or industrial. Other zoning districts in the airport area include Multiple Use Non-Shoreland and Residential. Although Rice Lake's zoning is compatible with the current Land Use Safety Zones, this area may soon be experiencing pressure to develop. Therefore, inconsistencies exist between the future land use goals of Rice Lake Township and the future plans of the Airport Authority.

The Cities of Duluth and Hermantown both have current zoning that is compatible with future development plans of the Airport Authority.

Proposed Airfield Improvements

Airport improvement projects (development or expansion projects, not necessarily reconstruction or rehabilitation projects) anticipated to occur at Duluth within the next five years include landside projects such as constructing a new Aircraft Rescue and Fire Fighting (ARFF) building, acquiring additional security equipment, rehabilitation of the existing terminal building, and constructing a new aircraft de-icing facility. Airside projects include constructing a perimeter road to the airport, construction of a general aviation apron, expansion of the terminal apron, extension of runway 3-21 and the associated parallel taxiway, and construction of a new taxiway.

Airport Capabilities – Present and Future

Of the four Tier 2 airports, Duluth currently has the most infrastructure to act as a primary reliever to air traffic currently utilizing MSP. The primary runway at the airport allows nearly any type of aircraft to utilize the airport. The navigational aids associated with the primary runway are comparable to MSP and Duluth offers the only Category II Instrument Landing System of the four Tier 2 airports and one of only two in the state. The airport has a surplus of land available for development. The Minnesota Air National Guard provides a strong military presence and there are both airline services and air cargo services.

That being said, the crosswind runway needs to be extended to improve the capabilities of the airport. FAA guidelines state that the crosswind runway should have a length that equals 80% of the primary runway. The current length of the crosswind runway is essentially 5,700 feet and 80% of the primary runway is just over 8,100 feet. This amounts to a necessary extension of approximately 2,400 feet. If the airport can provide a crosswind runway of at least 8,000 feet, the airport would be more desirable for additional military, cargo, and airline service activities.

Currently, Duluth boasts a strong military presence with MNANG. It is estimated that the military impact on the community approaches \$50,000,000 and there are more than 1,000 part-time and full-time employees. MNANG maintains and operates over 60 buildings that are centered on nearly 140 acres northeast of Runway 9-27. Adjacent to this site is 16 acres leased by MNANG for storage of munitions such as warheads. In addition, MNANG provides and operates the existing ARFF service at the airport. Air Guard personnel are the critical and first responders to emergency situations at the airport. However, the ARFF facility is currently located at the northeast end of the airport, at the MNANG facilities. The new ARFF facility currently proposed will be constructed in a more centrally located place on the airport.

Marketing additional presence from the military to Duluth is a possibility due to the existing facilities and the history of the Air Force using Duluth as a base. In addition, the low density environment around the airport accommodates practice for military personnel. The potential exists for Duluth to become a military training facility due to its location, surrounding land uses, and existing military presence.

Air cargo arrives at the airport through either Federal Express, Airborne, or in the case of UPS, in the belly of a passenger aircraft. UPS does not have facilities at the airport, but both Federal Express and Airborne do. Potential expansion in air cargo at the airport can be pursued in the Canadian market. Duluth International Airport can operate as an international port with the potential to become a greater player in the free trade zone. In addition, other potential expansion in the area of air cargo is possible with airline services, such as Northwest.

Overall, the Duluth International Airport has the airside and landside facilities to act as a reliever to MSP, especially with regards to military air traffic activities. Improving the local roads connecting the airport to Interstate 35 will improve the access for passengers located to the south.

5.3 ROCHESTER INTERNATIONAL AIRPORT

The City of Rochester was originally served by Lobb Field Airport, beginning in 1928 and continuing until 1960. Starting in 1956, the City of Rochester began to acquire approximately 2,000 acres in order to build a new airport approximately eight miles southwest of the central business district. Construction of the airport began in 1957. The land acquisition was completed in 1959. Construction was completed in September of 1960 and the airport was dedicated and named Rochester Municipal Airport in 1961.

The original airport facility had high speed taxiways, a terminal building, two runways (13-31 and 2-20) with parallel taxiways, a control tower, and a maintenance-service building. In 1966, the primary runway (13-31) was resurfaced with bituminous pavement and in 1984; it was reconstructed with concrete and extended to its current length of 7,533 feet. Runway 2-20 was reconstructed in 1977 – 1978 and extended in 1999 – 2001 to its current length of 7,300 feet. Figure 5-2 shows an illustration of the Rochester International Airport as it appears in the Minnesota Airport Directory.

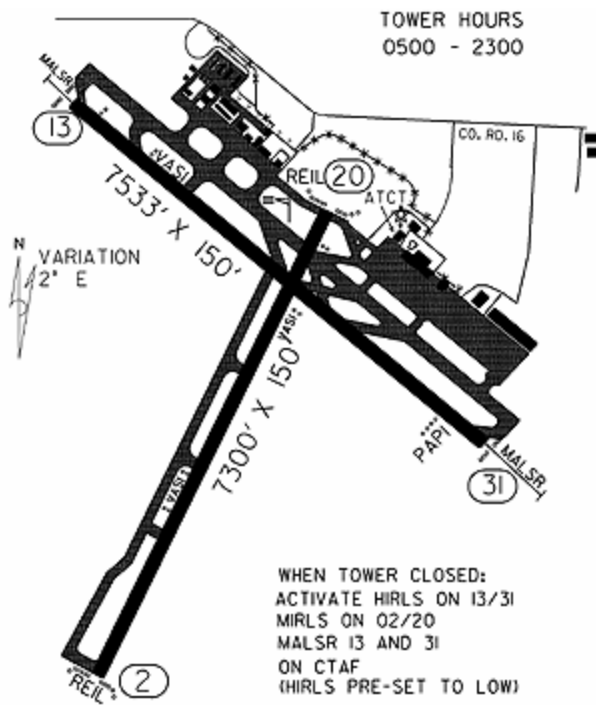


Figure 5-2. Rochester International Airport

Runways and Taxiways

Existing facilities at the Rochester International Airport include a 7,533-foot by 150-foot concrete paved primary runway (13-31). Runway 13-31 has strength capabilities to

accommodate a 100,000 pound aircraft with a single wheel landing configuration, a 175,000 pound aircraft with a double wheel landing configuration, and a 300,000 pound aircraft with a double tandem landing configuration. These weight limits enable the runway to accommodate all types of aircraft with single wheel landing configurations, aircraft such as a Boeing 737 or a McDonnell-Douglas DC-9 that utilize double wheel landing configurations, and an aircraft as large as the Airbus Industries A300, with a dual tandem wheel landing configuration. In the cases of the larger planes, the length of the runway is more restrictive than the weight bearing limitations. The pavement strength can support the weight of the aircraft, but the runway length may not accommodate the length the aircraft needs to perform a take-off at maximum weight.

The crosswind runway at the Rochester International Airport is a 7,300-foot by 150-foot concrete paved runway (2-20). Runway 2-20 has the same strength capabilities as Runway 13-31 and can accommodate virtually the same types of aircraft, due to the similar lengths and pavement strengths. However, the separation between the majority of the length of Runway 2-20 and its parallel taxiway does not meet current FAA guidelines for separation, preventing larger aircraft, such as a Boeing 737 or McDonnell-Douglas DC-9, from using the taxiway and runway at the same time. Conversely, at the Runway 2 end, there is approximately 2,000 feet between Taxiway B3 and Taxiway B4 in which the separation distance between the runway and parallel taxiway does meet FAA guidelines for separation. Therefore, with the guidance of the Air Traffic Control Tower, larger aircraft are not completely restricted from using the runway and taxiway concurrently.

Runway 13-31 has a full parallel taxiway, 60 feet in width, on its north side. There are eight connector taxiways that join Runway 13-31 to the parallel taxiway and seven of the eight taxiways have high speed exit design characteristics. In addition, another seven taxiways connect the parallel taxiway to apron and terminal ramp areas.

As previously indicated, Runway 2-20 has a partial parallel taxiway, also 60 feet in width, on its west side. The parallel taxiway extends from Runway 13-31 to the south end of the runway (Runway 2 end). There are four taxiways connecting the parallel taxiway to Runway 2-20. In addition, there are three taxiways north of Runway 13-31 that connect Runway 2-20 to the terminal ramp and the Fixed Based Operator (FBO)/General Aviation area.

Navigational Aids

The lighting on Runway 13-31 consists of high intensity runway edge lights (HIRLs). The runway is marked as a precision instrument runway. Both ends of the runway are equipped with MALSR approach lighting. The visual slope indicator for Runway 13 is a 4-box VASI on the left, whereas the visual slope indicator for Runway 31 is a 4-light PAPI on the left. Both runways have a category I ILS for instrument approaches.

The lighting on Runway 2-20 consists of medium intensity runway edge lights (MIRLs). The runway is marked in accordance as a non-precision instrument runway. Runway end identifier lights (REILs) are on both runway ends. The visual slope indicator for both runways is a 4-box VASI system on the left.

Aprons and Aircraft Storage Facilities

The apron areas at the Rochester International Airport consist of an air carrier parking apron to the west, south and southeast of the terminal building. The air carrier apron at the southeastern end of the terminal extends into an air cargo ramp to serve the air cargo facilities in that area.

In addition to the air carrier parking area and the air cargo area, there is remaining ramp area located in the immediate vicinity of the FBO, northwest of the terminal building. The FBO, Rochester Aviation, has three large hangars on site, two that are used for aircraft storage and one that is used for maintenance. There is a new General Aviation Terminal

that was finished in the spring of 2002 that connects to the FBO hangars. In addition, the airport supports 40 T-hangars located northwest of the main FBO facility.

Terminal Facilities

The terminal building at Rochester was constructed in 1959, but has been expanded and renovated since that time. The building consists of over 54,000 square feet of usable space, which does not include space in the basement. (75,900 square feet including the subsurface basement). This building contains four air carrier gates on the second level and two commuter holdrooms on the lower level. In addition, the lower level provides ticketing and baggage claim, rental car agencies, a restaurant, gift shop, flight museum area, security screening and boarding lounges. The second level consists of additional boarding lounges and administrative offices. All boarding lounges on both levels are equipped with passenger loading bridges or have the potential to accommodate passenger loading bridges.

Airport Access

Rochester International Airport is located approximately eight miles southwest of the central business district of the city of Rochester. The terminal area is served by a two-lane airport access road running south from County Road 16. The general aviation area is served by a separate two-lane access road from County Road 16. County Road 16 connects to US Highway 63, which is a four-lane limited access expressway that continues north to downtown Rochester. US Highway 63 provides primary access to the airport. However, US Highway 63 connects with County Road 16 with a limited access interchange. This interchange needs modifications in width and sight distance in order to improve safety and access to the airport.

Currently, several alternatives are being studied in order to improve access to the airport. These improvements include the reconstruction of the County Road 16 interchange and the construction of a new diamond interchange at 85th Street with a realignment of MN Highway 30. Also in discussion is the development of a new north-south arterial corridor from County Road 16 on the west side of the airport. These ongoing studies are an indication of the need to improve access to the airport.

Airport Security

The security at Rochester has not changed dramatically as a result of the attacks of September 11. Initially, there was a restriction on parking within 300' of the terminal building. Following the placement of this restriction, Rochester did a blast analysis on airport buildings to determine the ability of the buildings to withstand explosions. It was determined that the buildings were structurally sound and this allowed the airport to lift the 300' parking restriction. Therefore, aside from expanded airport security in terms of law enforcement personnel, the airport has not experienced any significant changes in airport security or procedures.

Land Use and Zoning

When discussing the land occupied by the airport, the land can be divided into four quadrants – north, south, east, and west. The north quadrant contains the FBO operations, aircraft parking hangars, and weather agency facilities. The south quadrant is mainly undeveloped and used for agricultural activity. The east quadrant is occupied by the terminal building and airport operation and maintenance facilities. The west quadrant is mainly undeveloped and used for agricultural purposes. In addition, there is an area of commercial/industrial uses near the intersection of County Road 16 and US Highway 63 that contains a hotel, restaurant, and office building area.

Airport property is located entirely within the city limits of Rochester. The City of Rochester Zoning Map identifies the airport as a Mixed Commercial-Industrial Use District. In addition, areas north of the airport are zoned as Mixed Single-Family, Agricultural, Industrial, and General Commercial. Lands adjacent to the airport are located within unincorporated Olmsted County. The Olmsted County Zoning Map establishes Agricultural Protection Districts in the airport vicinity. Low-density residential districts are located northeast of Rochester and Highway Commercial Districts are located east of US Highway 63.

The Olmsted County General Land Use Plan classifies airport property as a part of the urban service area, which permits development at an urban density and with commercial and industrial uses. Agricultural lands west, south, and southeast of the airport are designated as a "resource protection area." To preserve land use compatibility and permit future airport development, the airport needs to establish a land acquisition program to acquire properties north, south, and west of the airport, as they become available. As properties are acquired, local land use and zoning maps will require modification. Zoning ordinances for Rochester have recently been passed that have allowed the property around the airport to be zoned for the Master Plan and the ultimate runway extensions, according to the Airport Layout Plan.

Several airport land use plans have been developed to provide guidance on efficient management of airport land uses. One alternative for land use is the development of a Midfield Air Carrier Terminal. A modern terminal complex would be constructed between parallel runways east of the crosswind runway. The midfield site contains sufficient area for future expansion. This terminal site would be advantageous because aircraft would have convenient access to three runways. Additionally, the terminal site could have direct ground access from the proposed interchange at US Highway 63, although infrastructure and access road improvements would be required.

Proposed Airfield Improvements

A number of projects are slated to occur during the next five years at the Rochester International Airport. Replacing the medium intensity edge lights on Runway 2-20 with high intensity edge lights as well as adding a precision Instrument Landing System (ILS) with MALSR on both ends is scheduled for 2002, according to the latest Capital Improvement Plan (CIP). A perimeter road around Runway 20 is scheduled for 2003. The first phase of a 1,500 foot runway extension for Runway 13-31 and elimination of Taxiways A-4 and A-5 are proposed in 2004. In 2005, two projects are scheduled: the second and final phase of the runway extension for Runway 13-31 and replacing electric cables on taxiway lights. Additional projects include construction of a new taxiway, security fencing, and additional pavement rehabilitation, as necessary."

Airport Capabilities – Present and Future

An extension of the primary runway would help further improve Rochester's capabilities at an air service airport. This work is currently in the Capital Improvement Program for 2004 and 2005 as a 1,500-foot extension. An environmental assessment is in progress. Following the extension, Runway 13-31 would have a length of 9,000 feet. Runway 2-20 would remain at 7,300 feet and satisfy the FAA guidelines for a crosswind runway length to be 80% of the primary runway length. However, as previously mentioned, there is approximately 5,000 feet of Runway 2-20 that currently meets the runway-taxiway separation standards of Airplane Design Group (ADG) II. This means that planes having a wingspan greater than 79 feet are unable to use the crosswind runway and taxiway concurrently over this length. Specifically, this eliminates any Boeing or McDonnell-Douglas aircraft from using the crosswind runway and parallel taxiway at the same time within the 5,000 feet. However, because of the 2,000 feet at the Runway 2 end that meets the runway-taxiway separation standards of ADG IV/V; larger aircraft have limited

use of the runway and taxiway with the assistance of the Air Traffic Control Tower. In spite of this, future extension or reconstruction of Runway 2-20 will require the construction of a parallel taxiway extension and ultimately, the realignment of this taxiway at an increased separation distance to conform to ADG IV/V standards. This will allow a Boeing 737 or an MD-80 to use the entire taxiway and runway concurrently.

The military activity at Rochester comprises the Minnesota Air National Guard and the Air Force reserves. Most of the military activity at Rochester consists of aircraft that depart from MSP and practice at Rochester. In addition, the MNANG out of Duluth departs from Duluth and also performs operations at Rochester. Capacity problems at MSP may force additional military operations to Rochester. In addition, the Minnesota Army National Guard, currently based at St. Paul Downtown Airport, is considering relocation to a different airport and Rochester is currently a possibility. Therefore, the military presence at Rochester has the potential to increase significantly due to capacity issues at MSP and the availability of Rochester.

Air cargo at Rochester has historically been satisfied by scheduled passenger airline service as belly cargo. However, in recent years, two all-air cargo airlines began operating at Rochester. Air cargo operations recently were staged on portions of the dedicated terminal and general aviation ramp aprons. However, air cargo activity is typically ramp intensive as the activity area involves the staging of loading/unloading jet aircraft and delivery trucks, as well as the processing of packages and shipments. To accommodate air cargo, Rochester recently improved its capacity in this area by constructing an air cargo ramp and building area. A separate air cargo facility area is now in place to avoid congestion and eliminate conflicts with other aviation activity. This area includes a permanent air cargo building, sufficient ramp space, ground equipment storage areas, and truck docking and parking areas. An access roadway connected to County Road 16 is in place to allow transport trucks the ability to link directly with area highways and on to metropolitan areas in the Midwest. Rochester is sufficiently capable of handling existing and potential needs for air cargo service.

An area of potential for expanding both air cargo and airline passenger service at Rochester is by improving access to the airport. The Minnesota Department of Transportation (MN/DOT) has identified Trunk Highway (TH) 52 as an Interregional Corridor between the Minneapolis-St. Paul area and Rochester. Interregional Corridors are to be given emphasis for improving capacity, safety, and travel speeds. MN/DOT is also planning to reconstruct a portion of TH 52 in Rochester to improve its capacity. These improvements, along with the reconstruction of the County Road 16 interchange with US Highway 63, will make access to the Rochester International Airport more attractive for passengers and shippers from the Minneapolis-St. Paul area.

Overall, the Rochester International Airport has the capabilities to act as a reliever to MSP with regards to airside and landside facilities and is functioning well at current levels. However, to move forward to the next level of aviation activity, improvements need to be made to the primary runway length and resolving the issue of the taxiway-runway separation for the majority of the length of Runway 2-20. In addition, improving access to the airport through roadway and interchange upgrades will enhance the appeal of Rochester as an alternative to MSP.

5.4 ST. CLOUD REGIONAL AIRPORT

In 1967, the city of St. Cloud selected, purchased, and developed a 1,400-acre site four miles southeast of downtown St. Cloud for the purpose of constructing an airport. Prior to this time, the St. Cloud area was served by Whitney-Cable Airport from 1929 to 1935 and by Whitney Memorial Airport from 1935 until 1969. Due to the construction of nearby homes, schools, and hospital projects, Whitney Memorial Airport became increasingly

unsafe due to a lack of safety zones. In addition, inadequate airfield lighting and limitations in pavement strength and runway length added to the precarious conditions at the airport. These reasons were the basis of the city's purchase of land in 1967 to develop a new airport. St. Cloud Regional Airport was completed in 1969 and provided solutions to the problems that had plagued Whitney Memorial Airport. Since its opening, the airport has received runway and taxiway extensions, a terminal building, hangar areas, an Aircraft Rescue and Fire Fighting (ARFF) Station, as well as other related facilities. Figure 5-3 shows the airport as depicted in the Minnesota Airport Directory.

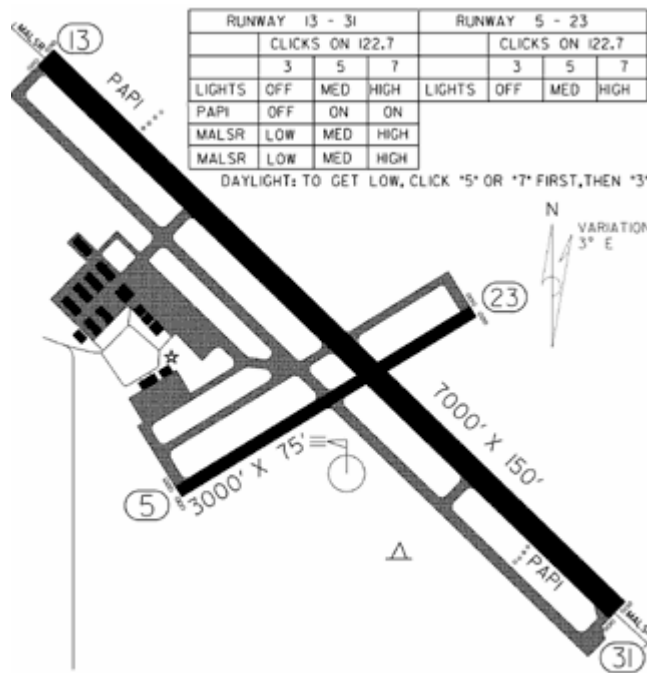


Figure 5-3. St. Cloud Regional Airport

Runways and Taxiways

Existing facilities at the St. Cloud Regional Airport include a 7,000-foot by 150-foot concrete paved primary runway (13-31). Runway 13-31 has strength capabilities to accommodate a 75,000 pound aircraft with a single wheel landing configuration, a 175,000 pound aircraft with a double wheel landing configuration, and a 280,000 pound aircraft with a double tandem landing configuration. Aircraft such as the MD-80 and basic Boeing 737 are capable of landing and taking off from the primary runway. The crosswind runway at the St. Cloud Regional Airport is a 3,000-foot by 75-foot asphalt paved runway (5-23). Runway 5-23 has strength capabilities to accommodate a 50,000-pound aircraft with a single wheel landing configuration and a 75,000-pound aircraft with a double wheel landing configuration. Runway 5-23 is severely limited in its ability to accommodate aircraft larger than small general aviation aircraft. The weight limits are restricting, but the minimal runway length of 3,000 feet prohibits most aircraft over 30,000 pounds from using the runway.

Runway 13-31 has a full parallel taxiway, 60 feet in width, on its west side with six connector taxiways. Runway 5-23 has a parallel taxiway, varying in width from 40 to 60

feet, on its north side. There are three taxiways connecting the parallel taxiway to Runway 5-23, including the taxiway parallel to Runway 13-31.

Navigational Aids

The lighting on Runway 13-31 consists of high intensity runway edge lights (HIRLs). The runway is marked in accordance with a precision instrument runway. Both ends of the runway are equipped with MALSR approach lighting. The visual slope indicator for both runway ends is a 4-light PAPI system. The lighting on Runway 5-23 consists of medium intensity runway edge lights (MIRLs). The runway is marked in accordance with a basic runway. An Instrument Landing System (ILS) is in place on Runway 31.

Runway 13-31 has “cans” in place for future in-pavement centerline and threshold lights⁶. These were placed as part of the 2000 – 2001 Airport Rehabilitation and Expansion project. The lights themselves are scheduled to be installed within the next five years, following the construction of an air traffic control tower (ATCT).

Aprons and Aircraft Storage Facilities

The apron areas at the St. Cloud Regional Airport consist of an air carrier parking apron to the south of the terminal area. This area is currently used by Mesaba Airlines for passenger services. In addition to the air carrier parking area, there is general aviation apron space located in the immediate vicinity of the FBO, north of the terminal building.

Terminal Facilities

The airline terminal building was completed in 1995. Prior to this time, the 1969 general aviation terminal building handled commercial passenger traffic since airline service was initiated in 1993. Upon the opening of the new terminal building in 1995, the general aviation terminal was renovated and still serves as the terminal for general aviation activities.

The airline terminal building consists of one floor with two ticketing and baggage areas, a boarding lounge, a car rental agency, administrative office and conference room, and a cafeteria area/restaurant which is currently unoccupied. The terminal was designed to accommodate two large turboprop aircraft at one time. Expansion beyond two gates would require additional construction.

Airport Access

Direct access to the airport from downtown St. Cloud is provided by State Highway 23 and US Highway 10. From these roads, airport users travel east along Del Tone Road to arrive at the Airport. Access from the south is provided by Sherburne County Road 65, US Highway 10, and Interstate 94. However, in each case, a two-lane county road provides final access to the airport.

Airport Security

Prior to the events of September 11, security at the airport consisted of verbal inquiries from airport staff, awareness of suspicious activities, and random baggage checks. The airport did not have baggage screening or passenger checkpoints. Passengers were screened at MSP prior to boarding another aircraft.

Since the terrorist attacks, security measures at St. Cloud Regional Airport are markedly different. The airport has since installed a baggage screening area and passenger checkpoint. Vehicles are no longer allowed to park in front of the terminal unattended.

⁶ The “cans” are the fixtures in the pavement that contain the in-pavement lights.

Local law enforcement agencies frequent the airport routinely. Initially, parking stalls within a set distance from the terminal building were blocked off. However, these have since reopened.

Land Use and Zoning

St. Cloud Regional Airport is located in Sherburne County. The airport is bordered by the Sand Prairie Wildlife Management area to the west, a gravel pit to the northeast, and the Elk River to the east and south. Existing land uses in those areas surrounding the airport are predominantly agricultural, with the exception of one residential area located to the northeast, two industrial areas southwest and west, and a public area located to the west. Existing zoning adjacent to the airport property is entirely agricultural.

An Airport Zoning Ordinance was adopted by the City of St. Cloud and the counties of Benton, Sherburne, and Stearns in 1976. The purpose of the zoning ordinance was to establish height limitations around the airport and restrict uses that may be hazardous to aircraft operating at the airport, as well as to people located on the ground near the airport. Recent pressure to develop land parcels north and east of the airport are challenging the effectiveness of these controls. The ordinance, as adopted in 1976, is still in place. However, the process for amending this ordinance to reflect proposed ultimate runway conditions should begin based on the recently updated Airport Layout Plan for St. Cloud. The City of St. Cloud continues to work with Benton and Sherburne Counties to prohibit residential development in areas that will be impacted by arrival and departure flights. This is especially important for those areas northeast of Runway 23 and northwest of Runway 13 identified as either urban development or rural residential land uses. Development along these lines, if left unchecked, may lead to land uses incompatible with airport operations.

The FAA recommends that airports control their Runway Protection Zones (RPZs) and prevent residential development and places of public gathering to be located within these areas. The City of St. Cloud will need to both convert existing easements into fee acquisition and purchase land for the extended RPZ's on all runway ends. In addition, the Minnesota Department of Transportation safety zoning regulations will necessitate the purchase of land in fee/easement for future development.

Proposed Airfield Improvements

Proposed projects slated to occur during the next five years at the St. Cloud Regional Airport consist of constructing an air traffic control tower in 2003, as well as expanding the terminal building and installing additional security fencing. In 2004, an instrument landing system is planned to be installed for Runway 13, as well as centerline and touchdown zone lighting on Runway 13/31. RVR equipment will be installed at the same time. The airline terminal parking lot will be expanded, as well as the general aviation apron area. No major infrastructure improvements are scheduled to take place in 2005. However, in 2006, the crosswind runway will be reconstructed and extended, along with the parallel taxiway. A MALSR approach system will be installed on both ends of Runway 5/23, along with high intensity runway edge lights (HIRLs).

Airport Capabilities – Present and Future

Recent improvements at the St. Cloud Regional Airport have significantly increased the ability of the airport to act as a reliever to MSP. In the past three years alone, nearly \$20,000,000 was spent on new infrastructure. Over the past five years, several improvements have been made to the airport. Landside improvements that have occurred consist of a new terminal building, ARFF station, and additional hangar space. Airside improvements consist primarily of the 2000-2001 Airport Rehabilitation and Expansion Project that included reconstruction, widening, and extension of the primary

runway, reconstruction and widening of the parallel and connecting taxiways, and reconstruction and expansion of the terminal area apron. In addition, the lighting and navigational aids at the airport were upgraded to coincide with the improvements in airport pavements.

In spite of the recent improvements, there still are important needs would help the airport provide better service. Increases in aviation activity have created an obvious need for an Air Traffic Control Tower (ATCT). An ATCT is presently in design stages with proposed construction to begin in 2003. In addition, the crosswind runway at St. Cloud is only 3,000 feet long and 75 feet wide. This runway is severely limited in its ability to accommodate aircraft much larger than general aviation aircraft (less than 12,500 pounds). With the primary runway having a length of 7,000 feet, the crosswind runway length is only 43% of the length of the primary runway, which falls well short of the FAA guideline of 80%.

There is no military presence at the airport, although there are occasional military aircraft operations. These operations usually originate from another out-state airport and the pilots use St. Cloud as a practice facility. At the present time, no military units are expected inhabit a base at St. Cloud. However, the airport is lobbying the MNANG for a helicopter facility that is currently stationed at the St. Paul Downtown Airport and is considering relocation.

There is also no air cargo facility at the airport. The only air cargo at St. Cloud is served by Mesaba Airlines (Northwest Airlink) which carries small parcels on its passenger aircraft. Mesaba employs Saab 340 turboprops, thereby restricting many kinds of cargo shipments due to limitations in terms of lift capabilities and storage volume. Up until the completion of the recent runway extension, St. Cloud did not have the infrastructure to accommodate jet service. However, the potential does exist to market jet service for air cargo now that the facilities are in place.

The terminal building at the airport has two ticket counters and baggage areas for passenger service. One of these is currently occupied by Mesaba Airlines while the other remains empty. More than ever before, St. Cloud seems able to accommodate additional airline passenger services.

St. Cloud and the Twin Cities are connected by two major four-lane highways, TH 10 and Interstate 94. This provides convenient access to the St. Cloud Regional Airport, particularly for the northern and western suburbs. Adding a new crossing of the Mississippi River southeast of St. Cloud with an access to Interstate 94 would provide additional convenience in reaching the St. Cloud Regional Airport. Accessibility to the Twin Cities, combined with reasonably priced service to other hubs, will provide great potential for expanding scheduled service in the St. Cloud area.

Overall, the St. Cloud Regional Airport has made significant improvements in recent years that have allowed it to bridge the gap between St. Cloud and other airports in similarly sized communities. More improvements are planned for the future and, more than ever before, the potential of the airport has been recognized. Further improvements in infrastructure will enhance the appeal of the airport for military operations, air cargo services, and additional airline passenger services.

5.5 CHIPPEWA VALLEY REGIONAL AIRPORT

The Chippewa Valley Regional Airport is located four miles north of the Eau Claire central business district. Unlike most parts of Eau Claire, most of the airport actually lies in Chippewa County. The airport was originally built in 1945 and consisted of two runways, two hangars, a single apron, and a terminal building. The first scheduled airline service occurred in 1946. At that time, landing aids consisted of medium intensity lights, a windsock, and rotating beacon. The mid-1950's saw additional improvements, including a

second paved apron. A new terminal building and parking lot were constructed in 1960 to accommodate the growing scheduled services. Runway 4-22 was extended by 3,000 feet in 1967 to accommodate the DC-9 jet services proposed by North Central Airlines. The instrument landing system became operational and the general aviation terminal area received additional hangar space in 1973. Eau Claire County acquired the airport from the City of Eau Claire in 1979-1980 and the Airport currently operates under a tri-county airport agreement. Today's facility occupies nearly 1,000 acres of land. Figure 5-4 shows an aerial photograph of the current conditions.

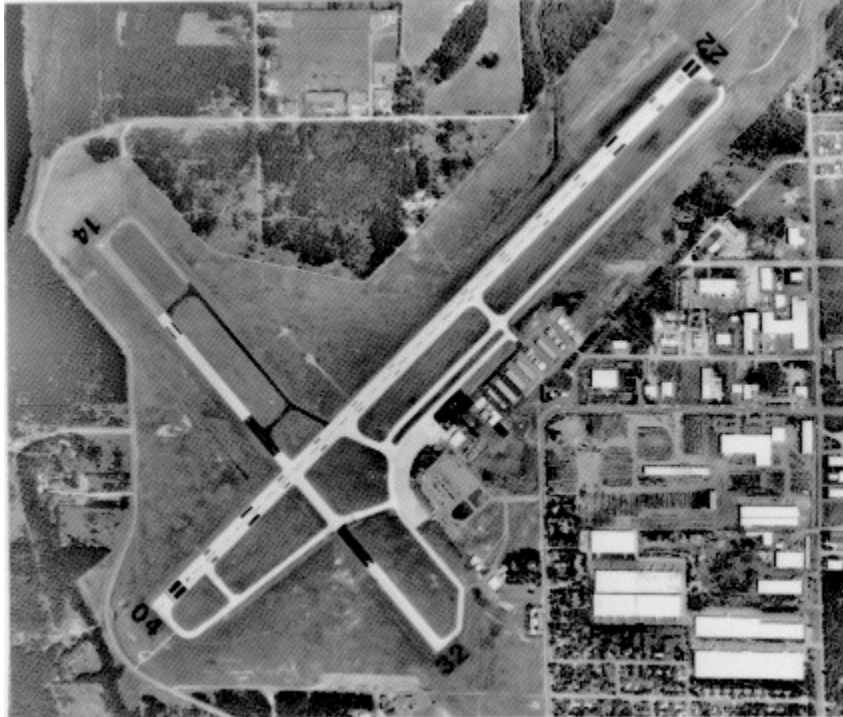


Figure 5-4. Chippewa Valley Regional Airport

Runways and Taxiways

Existing facilities at the Chippewa Valley Regional Airport include a 7,301-foot by 150-foot concrete paved primary runway (4-22) with a run-up pad on the runway 4 end. Runway 4-22 has strength capabilities to accommodate a 100,000 pound aircraft with a single wheel landing configuration, a 180,000 pound aircraft with a double wheel landing configuration, and a 320,000 pound aircraft with a double tandem landing configuration. The primary runway can accommodate aircraft such as a Boeing 737 or a McDonnell-Douglas DC-9. In addition, the airport has accommodated older generation Boeing 727-200, 737-200, McDonnell-Douglas DC-9-10/30/50 and MD-80 aircraft. Military aircraft, such as the C-141 and C-130, have also made use of the airport via the primary runway.

The crosswind runway at the Chippewa Valley Regional Airport is a 4,999-foot by 100-foot asphalt paved runway (14-32) with run-up pads on both ends. This runway is actually 5,001 feet long, but is listed as 4,999 feet. Runway 14-32 has strength capabilities to accommodate a 40,000-pound aircraft with a single wheel landing configuration and a 60,000-pound aircraft with a double wheel landing configuration. The crosswind runway at Chippewa Valley Regional Airport is severely limited in its ability to accommodate aircraft much larger than general aviation aircraft. The weight limits are restricting, as is

the runway length. In spite of this, the runway has served Saab 340, Citation-10, and Gulfstream aircraft.

Runway 4-22 has a 50-foot wide partial parallel taxiway. Taxiway A runs parallel along the northern portion of Runway 4-22, for approximately 4,500 feet on the east side of the runway. Three connecting taxiways provide access between the runway, parallel taxiway, and apron areas. The southern 1,800 feet of Runway 4-22 are serviced by taxiway B, which does not run parallel to the runway. Two connecting taxiways provide access between the runway and the apron areas. Runway 14-32 has a partial parallel taxiway with a width of 50 feet. The taxiway runs parallel to the runway on the northwest end for approximately 2,400 feet and on the southeast end for approximately 1,000 feet. There are five taxiways connecting the parallel taxiway to Runway 14-32.

Navigational Aids

The lighting on Runway 4-22 consists of high intensity runway edge lights. The runway is marked as a precision instrument runway. Runway 22 is equipped with MALSR approach lighting. The Runway 4 end is equipped only with runway end identifier lights (REILs). The visual slope indicator for Runway 4 is a 4-box VASI on the left. For Runway 22, the visual slope indicator is a 4-light PAPI system on the left, as well. Runway 22 is also equipped with an ILS.

The lighting on Runway 14-32 consists of medium intensity runway edge lights. The runway has basic runway markings. The Runway 14 end is equipped with REILs and both runways utilize a PAPI system for visual slope indication.

Aprons and Aircraft Storage Facilities

The apron areas at the Chippewa Valley Regional Airport consist of an air carrier parking apron adjacent to the terminal area. This area is currently used Mesaba Airlines for passenger services and encompasses approximately 7,600 square yards. In addition to the air carrier parking area, there is remaining ramp area located in the immediate vicinity of the FBO, northeast of the terminal building. Two hangar facilities are located east of Runway 14-32, near the Runway 32 end. Combined, these two hangar areas account for approximately 170,000 square feet of space that is available for aircraft storage. The FBO at the airport, Heartland Aviation, provides services for general aviation users and operates from a 14,000 square-foot facility. Heartland Aviation recently constructed a 120' x 140' x 90' door aircraft maintenance hangar that can accommodate G-5 aircraft.

Terminal Facilities

The passenger terminal building was originally built in 1959-60 and was expanded in 1981. The original terminal building is now used for airport administration. The expanded portion of the terminal houses airline ticketing and operations, baggage claim, rental car agencies, departure gates, and a restaurant. The terminal building totals approximately 25,400 square feet.

Airport Access

Chippewa Valley Regional Airport is located within the city limits of Eau Claire, Wisconsin. Interstate 94 and U.S. Highway 53 provide primary access to the region serviced by the airport. The airport itself is accessed via U.S. Highway 53 or Hastings Way and then either Runway Avenue, Melby Avenue, or Starr Avenue.

Highway 53 is currently under construction to provide a four-lane bypass east of the existing Highway 53 with a Melby Avenue exit to the airport. In addition, a new four-lane highway is under construction north of the airport with two proposed exits that would provide new access to the airport.

Airport Security

The terrorist attacks on the United States brought about increased security measures at Chippewa Valley. The airlines provided security screening at Chippewa Valley Regional from the mid-1970's until 1989, at which point a secure boarding lounge was constructed. Greater security was provided once a Mesaba flight reached MSP and passengers were checked prior to boarding a connecting flight. However, since the terrorist attacks, the security system at Chippewa Valley Regional was significantly upgraded. A new enlarged sterile boarding lounge was constructed in early 2002. All passengers are thoroughly screened prior to boarding a flight as a result of the increased security requirements.

Land Use and Zoning

Land use in the vicinity of the airport varies. Residential development adjoins the airport property to the south and southeast. Commercial land uses are located to the east of the airport. Low-density residential and recreational land uses are located to the north and west. Low-density residential development is presently planned for all areas surrounding the airport property boundary and within the extended approach paths to each runway end. The plateau topography of the airport and the surrounding areas hamper the development of the airport itself.

Eau Claire County is the owner of Chippewa Valley Regional Airport. Zoning is administered by Eau Claire County – Land use Control Division. Zoning ordinances have been passed by the county, enacted in the spring of 2002, creating three zones per the statutes of Wisconsin. Zone A is considered the Airport Development District and coincides with on airport land use and development control. Zone 1 is the Runway Approach Areas and restricts new development and limits existing residential development. Aviation easements and non-suit covenants are obtained for these areas. The final zone, Zone 2, is the Extended Runway Approach Areas and Overflight Area. This zone requires soundproofing and air conditioning for residential areas, as well as navigation easements and non-suit covenants to be obtained. The homeowner is responsible for the processing fees.

Proposed Airfield Improvements

Several projects are slated to occur during the next three years at the Chippewa Valley Regional Airport. In 2002, the first phase of shifting Runway 4/22 800 feet to provide adequate safety areas will be completed. In 2003, the second and final phase of shifting Runway 4/22 is expected. The result of the shift of this runway will be 820' of new concrete with a final runway pavement length of 8,121 feet. Other projects to occur in 2003 include construction of two connecting taxiways and the construction of an air traffic control tower with an access road and parking lot. In 2004, improvements to infrastructure include terminal building renovations and additions, passenger loading bridges, parking lot expansion, and constructing a terminal building service road and reconstructing the entrance and loop road.

Airport Capabilities – Present and Future

Chippewa Valley Regional Airport has pieces in place to act as a reliever to MSP. The primary runway can accommodate most aircraft suitable for its length. The crosswind runway, while limited in pavement strength, is close to the FAA guidelines for a runway length of 80% of the primary runway. Both runways have adequate lighting and navigational aids for the present levels of air traffic. An interlocking system of parallel and connecting taxiways makes maneuvering around the airport convenient. The terminal building is well utilized for present activity levels with conference rooms, exhibit space, rental car agencies, a restaurant, and other facilities. The airport has a strong FBO in Heartland Aviation and a prominent business with the presence of the headquarters of

Menard's, which utilizes the airport facilities as its base of operations. All these things indicate that Chippewa Valley Regional Airport has the foundation in place to operate at a higher level than existing conditions.

However, Chippewa Valley Regional Airport is essentially an urban airport with a "downtown" location. There are residential houses directly across the street. In addition, the airport is sited on a plateau 85 feet above the Chippewa River, which forms the northern and western boundaries of the plateau. The location of the airport and the plateau topography limits the ability of the airport to expand and/or develop. At the present time, the airport encompasses more than 900 acres, of which over 300 acres are undeveloped. The capacity of the existing airport has not been reached. However, expansion of the existing airport site is limited by existing land uses, such as residential areas, and physical constraints, such as the Chippewa River. It is reasonable to assume that at some point in the future, the existing airport site could reach the limit of its potential development.

The military presence at Chippewa Valley Regional consists of the Wisconsin Army National Guard. The National Guard maintains an armory and vehicle maintenance facility on the south side of the airport. Armory operations result in periodic helicopter operations, as well as King Air fixed wing and C-130 transport aircraft visits. It is estimated that military operations at the airport total approximately 100 per year. However, it is most likely that any additional military unit attracted to the airport would consist of helicopters exclusively since the airfield lacks the necessary arresting barriers used by military airplanes. Fixed wing aircraft would be anticipated to support the operations of the military unit, but these aircraft would not be part of the permanent based aircraft fleet. That being said, with the exception of the potential for a new military unit to be based at the airport, there are no known changes that would significantly alter the type of military operations that are occurring at the airport. A Civil Air Patrol⁷ Squadron is also located at the Airport and operates from its own hangar.

The proximity of the airport to the Twin Cities area and the interstate highway connection does not necessarily eliminate the future potential for air cargo services. It is possible, considering the economic growth in the region and reliance on air cargo as shown by strong national growth over the past decade. A determination should be made of estimated volume of cargo in the area and should sufficient volumes of air cargo be produced in the region, it would be possible for a cargo carrier to establish facilities at Chippewa Valley Regional Airport to serve this demand.

Overall, the Chippewa Valley Regional Airport has a solid foundation in which to build on to allow it to reach activity levels more indicative of a reliever airport to MSP. However, there are limiting factors such as incompatible land uses, topography constraints, and questions regarding its ability to further expand airline services or attract an air cargo facility.

5.6 SUMMARY TABLES

The tables below summarize the infrastructure and facilities at each airport. Table 5-1 shows the primary runway characteristics, Table 5-2 summarizes the characteristics of the crosswind runways of each airport, and Table 5-3 describes other important aspects of the four airports.

⁷ The Civil Air Patrol is a civilian auxiliary of the United States Air Force. The primary operations of the Air Patrol are search and rescue for general aviation aircraft

Table 5-1. Primary Runways

	Duluth	Rochester	St. Cloud	Eau Claire
<i>Primary Runway</i>	9-27	13-31	13-31	4-22
- <i>Orientation</i>	East- West	Northwest- Southeast	Northwest- Southeast	Northeast- Southwest
- <i>Length (feet)</i>	10,152	7,533	7,000	7,301
- <i>Width (feet)</i>	150	150	150	150
- <i>Pavement Material</i>	Concrete	Concrete	Concrete	Concrete
- <i>Surface Treatment</i>	Grooved	Grooved	Grooved	Wire-combed
- <i>Pavement Strength (pounds)</i>				
-- <i>Single Wheel</i>	75,000	100,000	75,000	100,000
-- <i>Dual Wheel</i>	121,000	175,000	175,000	180,000
-- <i>Dual Tandem Wheel</i>	230,000	300,000	280,000	320,000
<i>Runway Lighting</i>	High Intensity (HIRL)	High Intensity (HIRL)	High Intensity (HIRL)	High Intensity (HIRL)
<i>Runway Approach Aids</i>				
- <i>Visual Approach Indicator</i>	PAPI (9, 27)	VASI (13), PAPI (31)	PAPI (13, 31)	VASI (4), PAPI (22)
- <i>Approach Lighting System</i>	ALSF-1 (9), MALSR (27)	MALSR (13, 31)	MALSR (13, 31)	MALSR (22)
<i>Instrument Approach Procedures</i>	ILS- CAT II (9) ILS (27)	ILS (13, 31) ASR (13,31)	ILS (31) VOR/DME (13)	ILS (22) NDB or GPS (22)
	ASR (9, 27)	NDB or GPS (31)	VOR (31)	LOC/DME (4)
	NDB or GPS (9, 27)		NDB or GPS (31)	VOR or GPS-A (4, 22)
<i>Runway End Identifier Lights</i>	None	None	None	REIL (4)
<i>Distance Remaining Signs</i>	Yes	Yes	Yes	Yes
<i>Pavement Markings</i>	Precision Instrument	Precision Instrument	Precision Instrument	Precision Instrument
<i>Runway Overrun</i>	Yes -- 1,000 feet each end	No	No	No
<i>RVR Equipment</i>	Yes	Yes	No	No
<i>Displaced Threshold</i>	No	No	No	Yes -- Runway 4 (190 feet)
<i>Instrument Approach</i>	ILS (9, 27)	ILS (13, 31)	ILS (31)	ILS (22)
<i>Centerline Lights</i>	Yes	No	No*	No
<i>Touchdown Zone Lights</i>	Yes	No	No*	No
<i>Taxiway Lighting</i>	Medium Intensity (MITL)	Medium Intensity (MITL)	Medium Intensity (MITL)	Medium Intensity (MITL)

* Cans are in place for future lighting.

Table 5-2. Crosswind Runways

	Duluth	Rochester	St. Cloud	Eau Claire
Crosswind Runway	3-21	2-20	5-23	14-32
- Orientation	Northeast-Southwest	Northeast-Southwest	Northeast-Southwest	Northwest-Southeast
- Length (feet)	5,699	7,300	3,000	4,999
- Width (feet)	150	150	75	100
- Pavement Material	Asphalt	Concrete	Asphalt	Asphalt/Concrete
- Surface Treatment	Grooved	Wire-combed	Porous Friction Course	N/A
- Pavement Strength (pounds)				
-- Single Wheel	75,000	100,000	50,000	40,000
-- Dual Wheel	100,000	175,000	75,000	60,000
-- Dual Tandem Wheel	160,000	300,000	N/A	N/A
Runway Lighting	High Intensity (HIRL)	Medium Intensity (MIRL)	Medium Intensity (MIRL)	Medium Intensity (MIRL)
Runway Approach Aids				
- Visual Approach Indicator	VASI (3, 21)	VASI (2, 20)	None	PAPI (14, 32)
- Approach Lighting System	None	None	None	None
Instrument Approach Procedures	VOR (3)	VOR/GPS (2)	GPS (5, 23)	VOR/GPS (14, 32)
	VOR/DME (21)	VOR/DME (20)		
	TACAN (3, 21)	ASR (2, 20)		
	GPS (3)			
	ASR(3, 21)			
Runway End Identifier Lights	Yes (3, 21)	Yes (2, 20)	No	Yes (14)
Distance Remaining Signs	Yes	Yes	No	Yes
Pavement Markings	Non-precision Instrument	Non-precision Instrument	Basic	Basic
Runway Overrun	No	No	No	No
RVR Equipment	No	No	No	No
Displaced Threshold	No	No	No	No
Instrument Approach	No	No	No	No
Centerline Lights	No	No	No	No
Touchdown Zone Lights	No	No	No	No

Table 5-3. Airport Facilities

	Duluth	Rochester	St. Cloud	Eau Claire
<i>Air Traffic Control Tower</i>	Yes	Yes	No (planned 2002-2003)	No (planned 2003-2004)
<i>Airport Size (Acres)</i>	3,020	2,020	1,400	980
<i>Fire and Rescue ARFF Index</i>	B	C	A	A
<i>Apron/Ramp Area (square feet)</i>	1,730,250	667,800	412,800	467,100
- Terminal Apron	172,000	361,800	150,000	68,400
- Military Apron	345,500		N/A	N/A
- General Aviation Apron(s)	1,212,750	306,000	262,800	398,700
<i>Terminal Building:</i>				
- Area (square feet)	52,400	52,400	9,982	31,000 + basement
- Rental Car Facilities	Yes	Yes	Yes	Yes
- Restaurant	Yes	Yes	No	Yes
- International (Customs)	Yes	Yes	No	No
<i>Automobile Parking</i>				
- Total Area (square feet)	195,300	174,336	N/A	148,500
- Number of Stalls	555	540	314	413
-- Public	466	370	213	279
-- Rental Car Agencies	49	130	40	93
-- Employee	40	40	61	41
<i>Airport Zoning:</i>				
- Zones for Current Conditions?	Yes	Yes	Yes	Yes
- Zoned for ALP Conditions?	No	Yes	No	Yes
<i>Airport Beacon</i>	Yes	Yes	Yes	Yes
<i>Segmented Circle</i>	No	No	Yes	Yes
<i>Lighted Windcone</i>	Yes	Yes	Yes	Yes
<i>ASOS</i>	No	Yes	No	Yes
<i>AWOS</i>	Yes	Yes	Yes	No
<i>Airport Elevation</i>	1428	1317	1024	907
<i>Aircraft Storage</i>				
- Area (square feet)	N/A	N/A	N/A	168,800
- Number of T-Hangars	30	40	64	52-63
- Number of Corporate Hangars	28	7	N/A	25-30
<i>VOR</i>	Yes	Yes	Yes	Yes
<i>VOR/DME</i>	Yes	Yes	Yes	Yes
<i>ASR</i>	Yes	Yes	No	No

Chapter 6 - Industry Dynamics

6.1 INTRODUCTION

The airline industry has had a long history of turmoil beginning in full force in 1978 with airline deregulation and continuing episodically during each economic downturn. What is interesting (and significant) about the tumult is that each episode brings greater and more devastating losses. The turmoil is documented daily in the press and yet it is difficult to explain why an industry so basic to the world economy seems bent on a path of self destruction.

A major goal of the Tier 2 air service initiative is to reposition Minnesota's perimeter airports to (1) better serve the local air demand; (2) relieve congestion on the roads and potential congestion at Minneapolis-St. Paul International Airport; and (3) advance each airport as a competitive business center. Making sense of what's going on in the airline industry is critical to an effective strategy.

This chapter takes a broad look at what's changing in the airline industry, short-term and long-term and how this will affect Tier 2 airports in Minnesota. Among the important points discussed are:

- Economic recovery will improve the demand for air service, but structural changes, unless addressed, will delay or make profitability for the airlines impossible.
- Within the United States, there are two airline industries: the mass market industry and the medium to small market industry. Low cost carriers have operated very successfully (and profitably) in mass markets. Many smaller perimeter airports have their eyes on attracting the mass market providers to their less congested airport. Southwest built its early success at the second tier. The mainline carriers have tried to blend mass market strategies into hub & spoke models with limited success.
- Increased cost for security and airport improvements has taken a larger bite out of airline revenues at a time when fares continue to decline.
- Low cost carriers (LCC's) have established a toehold in every major market, even fortress hubs. However, for the mainline carriers, the real battle for capacity and market share is taking place among mainlines not the LCC's.
- The difference in operating costs between the mainline carriers and low cost carriers is narrowing through aggressive cost-cutting measures by the majors. This may signal a slowing of low cost carrier expansion.
- Deployment of regional jets on mainline routes is also a key strategy to control capacity and lower direct operating costs. Widespread use of RJ's on the larger domestic routes will happen before small communities get regional jets (on market merit alone.)
- Out of economic necessity, there is a new public-private partnership growing between communities and airlines. Forging a simple, straightforward partnership will be critical to new carrier initiatives.

6.2 WHY IS THIS NIGHT DIFFERENT FROM ALL OTHER NIGHTS?

In the early 1990's, air carriers experienced losses that were terrible and unprecedented. Yet despite huge financial difficulties, the airlines recovered, made adjustments to capacity and hubbing structures and went on to perform reasonably well for the next ten years using their existing business models. During 1990's, there was a lot of focus on maximizing revenue. Computer reservation systems and yield management systems came into their own and were able to fine-tune the revenue environment fairly effectively. The airlines continued to go after market share through acquisitions and strategic alliances.

At the end of 1999, the stock market reached an all time high and began to crack as shown in Figure 6.1. The erosion of stock market wealth had a huge impact on the telecommunication sector directly and indirectly on many corporate and individual investors.

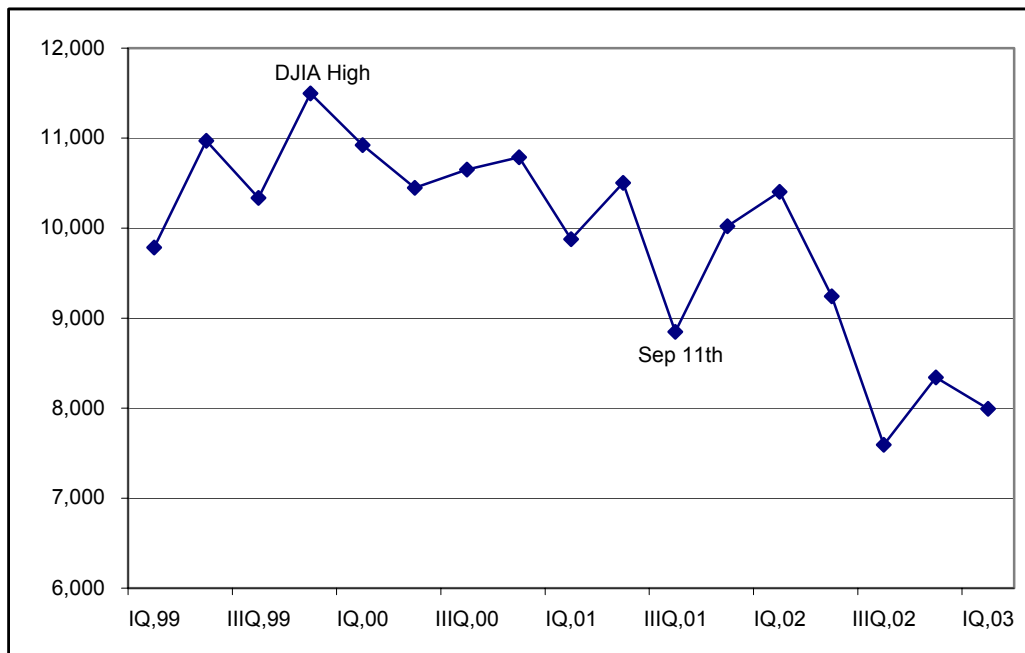
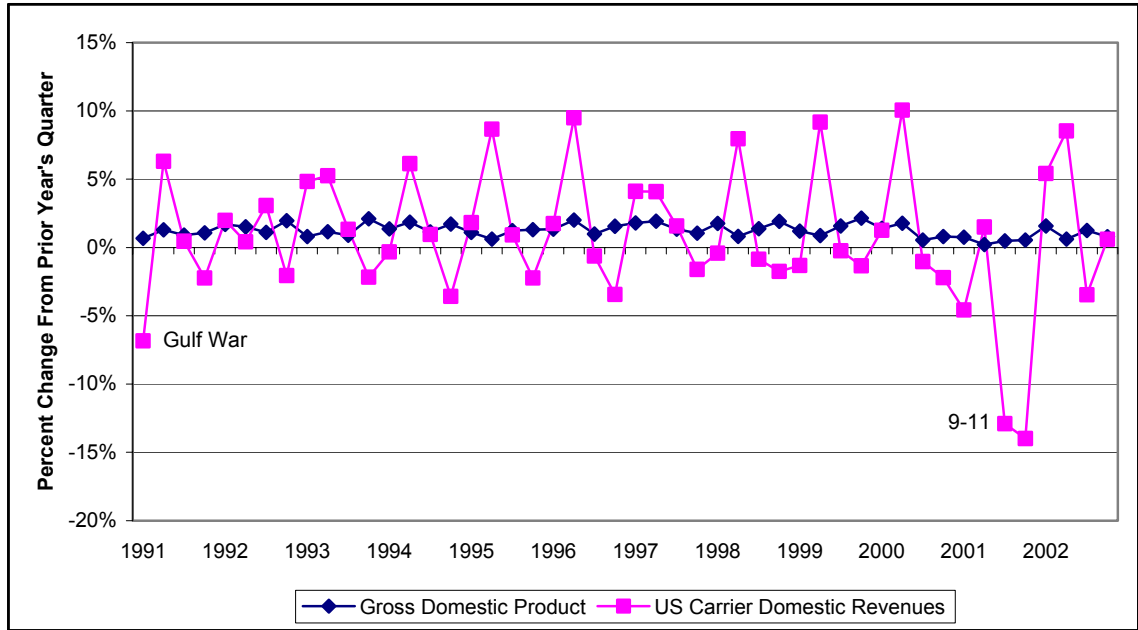


Figure 6- 1. Dow Jones Industrial Average, Quarterly, 1999-2003

Leading into the third quarter of 2000, even before 9-11, conditions for the airline industry deteriorated. Figure 6.2 shows the precipitous decline in airline revenues. Traditionally, the fortunes of the airline industry closely follow proxies for productivity of the U.S. economy. For the first time in airline history, there was disconnection between airline revenues and the Gross Domestic Product (GDP). This anomaly suggests that the stock market bubble created wealth (and loss of wealth) not captured by the standard economic measures. In addition, certain factors converged to stress the airline industry further. First of course, 9-11 brought air service to a virtual standstill. This was the first time in airline history that the entire domestic network shut down. Shortly thereafter, the Anthrax scare added a general sense of panic and drastically limited the way airlines handled first class mail. Most recently, the SARS epidemic reduced air travel to Asia. Each of these powerful single events resulted in a rapid and comprehensive response from the Federal government and the airline industry. The magnitude of the response itself was highly unusual and resulted in immediate and adverse impacts for the airlines.



Sources: Bureau of Economic Analysis and USDOT Form 41

Figure 6- 2. Financial Loses of the 1990's Pale in Comparison to Current Misfortunes

To stem an industry-wide tailspin, airlines are scouring every cost center to reduce expenditures. Aircraft retirements are at an all time high.¹ Yields are at an all time low. United is in Chapter 11. Low cost carrier penetration is increasing, even in fortress hubs. The great convergence of factors makes clear analysis difficult. To further separate the issues, Table 6-1 identifies and comments on the implications of each triggering event. There are indications that not all of the events will be short-lived (cyclical). The airlines have wrestled with certain structural issues for a long time including declining yields, increasing costs, some of which are within their realm to control and others, beyond. The airline industry has a quasi-public utility structure that depends on government to operate, maintain and develop airports, manage the air traffic control system, and share in the cost for security.

The convergence of one time events, a cyclical downturn and many structural problems has forced the industry to question many basic operating assumptions such as:

- Airline demand tracks closely with economic performance.
- The airline industry is deregulated and capable of full control of costs and revenues.
- Business travel is inelastic.
- The hub and spoke system maximizes revenues, controls markets and is the most efficient use of aircraft.
- Market share effectively controls competition.
- Low cost carriers will stay out of fortress hubs.

Because airline survival requires adaptation, this is one of the most open periods in airline history. Small and medium airports should view this as a time of opportunity.

¹ In April, 2003, airlines had parked 603 planes which represent 12.0% of pre-Sept. 11 capacity. (Aviation Daily, 6.2.03)

Table 6- 1. The Perfect Storm, What are the Factors?

Factor	Trigger Event	Cyclical	Structural	Discussion
Aftermath of 9-11	X		X	Terrorism temporarily dampened demand for air travel. Added delays due to heightened security reduced use of the short-haul service. The car became more competitive with flying on routes less than 500 miles. 911 also created a climate of rapid response to perceived threats.
SARS Epidemic	X			Fears of a deadly epidemic resulted in curtailment of service to Asian markets. Impact was immediate, but short-lived. Significant revenue consequences for ailing industry.
The Bubbling, Bulging, Bursting Economy		X	X	Technology and telecommunication bubble infused the economy with inflated stock market wealth, generating ten years of prosperity, a very long cycle. Fallout affected an affluent segment of the population and long term will temper capital expenditures in certain sectors.
Current Recession		X		The current recession hit certain sectors more than others. The disconnect between air transportation and GDP is dramatic.
Heightened Security		X		Securing airports created long-term costs for airlines and government. New requirements resulted in reallocation of federal dollars to security infrastructure. Deferred spending on airport maintenance and development may have important consequences.
Internet Marketing			X	Sale of internet tickets has significantly removed the travel agent from distribution channels and made competitive pricing available to both business and leisure passengers.
Business Travel			X	Business traveler considered the lifeblood of profitable routes. Internet sale of airline seats, travel budget cuts, email and teleconferencing have eroded this segment of the market and it may never return like the good old days.
Low Cost Carrier Expansion		X		Low cost carriers enter markets effectively when the gap between their costs and mainline carriers is wide. Happened in early 1990 and since September 11th.
Loss of Small Community Gateways			X	The hub and spoke model for service works best for small communities. However, as the mainline carriers mainstream service and cut costs, many of the smallest airports have lost service or are in jeopardy of losing service.
Infatuation with Regional Jets		X		Today, regional jets are touted as the lower cost solution for the mainline carriers. Widespread use of <100 seat aircraft will ultimately result in more congestion at the largest airport as New York LaGuardia has already experienced.

Sources: KRAMER aerotek, inc. and Eclat Consulting, Inc.

6.3 LOW COST CARRIER IMPACT IS IMMENSE

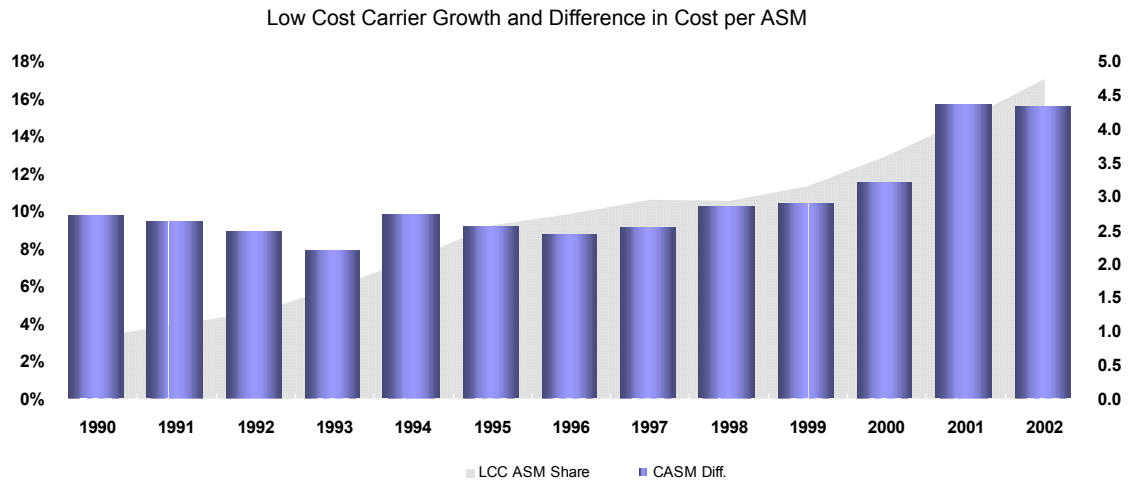
Since September 11th, there have been two airline industries: network carriers and low cost carriers (LCC's). Table 6-2 describes dramatically the difference between the two groups. The network carriers operate 80 percent of all capacity as measured by ASM's (available seat miles). However, the stock market values the network carriers much less than the low cost carriers. The low cost carriers have a market capitalization of almost four times the market cap of network carriers. At this point in time, all bets are with the low cost carriers.

Table 6- 2. Carrier Market Capitalization and ASM's

Network Carriers	Market Capitalization (\$ millions)	Available Seat Miles (000)*	Low Cost/Niche Carriers	Market Capitalization (\$ millions)	Available Seat Miles (000)*
America West	137	6,962,073	AirTran	534	2,152,809
American/TWA	992	32,933,032	Alaska	506	4,864,673
Continental	728	12,915,744	America Trans Air	54	3,683,876
Delta	1,648	25,656,828	Frontier	208	1,562,942
Northwest	767	14,916,855	JetBlue	2,165	2,229,727
United	142	25,625,719	Midwest Express	47	841,454
US Airways	48	12,008,746	Southwest	12,517	17,637,823
Total	\$4,461	131,018,997		\$16,030	32,973,304

Source: Aviation Daily, June 2003, Market Cap as of May 31, 2003, Available Seat Miles during IIIQ, 2002

In 1992, low cost carriers operated 8 percent of U.S. carrier ASMs. LCC market share has grown in 2003 to 20 percent. This unprecedented period of expansion predates September 11th. However, low cost carriers have effectively exploited mainline carrier weakness. Figure 6-3 tracks the growth in LCC market share since 1990 and compares the differential between the cost to produce one low cost carrier ASM and one mainline carrier ASM. When cost differentials are large, low cost carriers expand. After 9-11, cost differentials reached an historic high of between 4 and 4.5 cents per ASM. During the last two years, low cost carriers have significantly increased market share in the largest population centers (mass markets).



Source: Eclat Consulting, Inc.

Figure 6- 3. LCC Exploit Mainline Troubles

Table 6-3 shows low cost carrier market penetration at the top 10 CMSA² markets. Between 1997 and 2003, low cost carriers have concentrated expansion at the perimeter of the largest CMSA's. Southwest entered Manchester, NH, Providence; Islip NY; and Baltimore. Jet Blue has established its base at New York's JFK Airport. Many of the airports where low cost carriers already operated in 1997 continued to expand their service. Midway (75%), Dallas Love Field (76%), Oakland (61%) and Burbank (64%) stand out as leaders in low cost carrier service.

Table 6- 3. Low Cost Carrier Penetration at Top 10 CMSA Markets

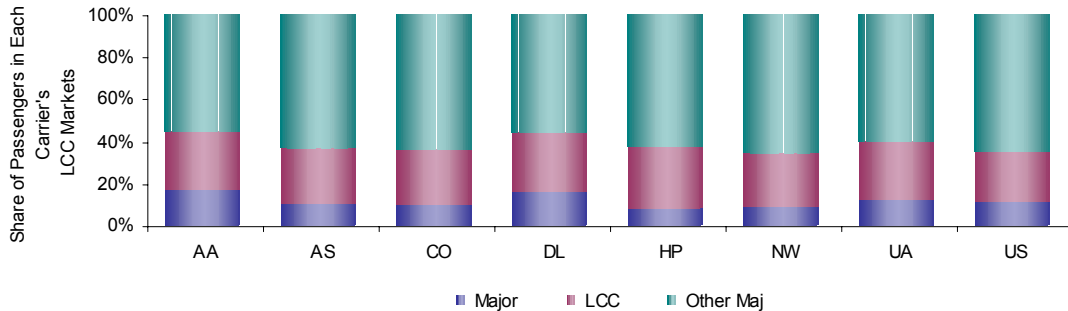
CMSA	Airport	Sep-97	Mar-03
Boston			
	Boston	1%	3%
	Manchester	0%	20%
	Providence	13%	18%
New York			
	Islip	6%	47%
	JFK	1%	22%
	La Guardia	0%	3%
	Newark	0%	1%
Philadelphia		0%	2%
Washington			
	Baltimore	14%	46%
	Dulles	0%	3%
	Ronald Reagan	0%	1%
Chicago			
	Midway	64%	75%
	O'Hare	0%	0.3%
Atlanta		6%	13%
Dallas/Ft. Worth			
	DFW	0%	2%
	Love Field	64%	87%
Houston			
	Hobby	68%	76%
	Intercontinental	3%	3%
San Francisco			
	Oakland	57%	61%
	San Francisco	3%	2%
	San Jose	38%	39%
Los Angeles			
	Burbank	56%	64%
	Los Angeles	18%	22%
	Long Beach	0%	46%
	Ontario	42%	54%
	Orange County	11%	18%

² Consolidated Metropolitan Statistical Area

6.4 MAINLINE CARRIERS IN A JAM

Major Carriers Compete Heavily with Each Other

While the low cost carriers have made significant inroads in the mass market for travel, LCC's still represent 20 percent or less of the market. Mostly, the majors are competing with each other for market share. Figure 6-4 isolates city pairs where a major carrier competes with a low cost carrier. These would be the largest markets. Competition is greatest among major carriers; however, the low cost carriers are undoubtedly the price-setters in most of these markets.

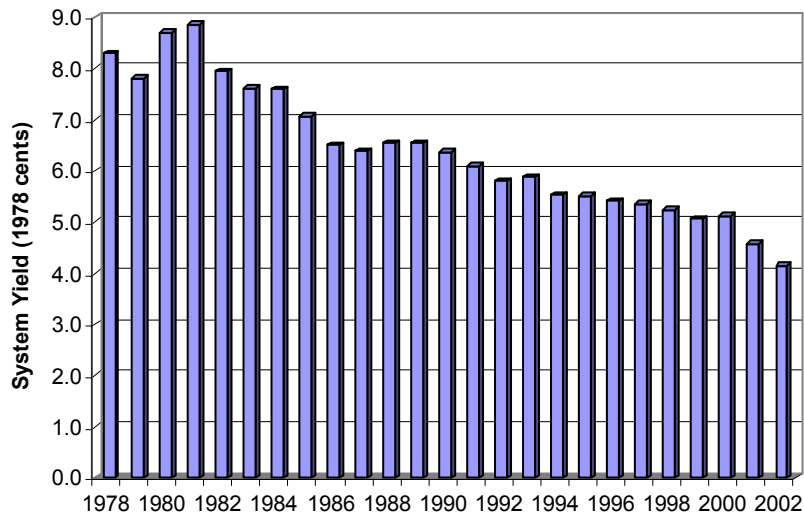


Source: Eclat Consulting, Inc.

Figure 6- 4. Major Carriers are Still Competing Mostly with Each Other

Air Fares are at Historic Lows

Revenue pressures exist on many fronts, in addition to low cost carriers. Languishing demand has led to continuation of downward pressure on passenger yields, set in motion in shortly after airline deregulation in 1978. Figure 6-5 tracks domestic and international yields, adjusted for inflation. In 2002, passenger yields hit an all time low of 4.15 cents per ASM when expressed in 1978 dollars



Source: Air Transport Association

Figure 6- 5. Annual Passenger Prices (Yield in 1978 cents)

Internet Fares End the Era of Business Fares

All carriers have embraced e-tickets and the Internet as principal methods to sell and distribute tickets. In the past, most corporations used in-house or third party travel agents to book travel. As travel agent commissions continue to fall, the agency role is diminishing as agencies must either focus on other types of travel, shrink, or go out of business. Since the beginning of 2001, commissions are down 55 percent. At their peak in 1992, commissions represented 12.8 percent of passenger revenue. In 2002, commissions were 3 percent of passenger revenue or just one fourth of the historic high.

Internet marketing of air travel has made fares more competitive and transparent to both business and leisure passengers. In the past, carriers counted on higher yields for business travel. This segment of the market may have all but disappeared, thanks largely to the Internet.

Costs Differentials Large Between Network and Low Cost Carriers

The network model and mass market model have generated distinctly different operating cost profiles as shown in Table 6-4 where United and Southwest operating costs are compared. As of 2002, United's cost per ASM was 54 percent higher than Southwest's. The biggest cost differentials are still labor, rents, and landing fees. Reducing operating expenses to effectively compete with low cost carriers has been at the heart of the network carriers' recovery strategy.

Table 6- 4. Comparison of United and Southwest Operating Costs, 2002

	Cost per ASM (cents)*			% of Revenue		
	United	Southwest	% Difference	United	Southwest	Difference
Labor	4.77	2.89	65	49.7	36.1	13.6
Fuel	1.29	1.11	16	13.4	13.8	(0.4)
Commissions	0.28	0.08	250	2.9	1.0	1.9
Maintenance Material	0.38	0.57	(33)	3.9	7.1	(3.2)
Rents/Landing Fees**	1.26	0.77	64	13.1	9.6	3.5
Depreciation	0.65	0.52	25	6.7	6.5	0.2
Other***	<u>2.79</u>	<u>1.48</u>	89	<u>29.1</u>	<u>18.4</u>	10.7
Total	11.40	7.41	54	118.8	92.4	26.4

* Cost per available seat mile; not adjusted for stage length

** Includes aircraft rents

*** Purchased services, booking fees, crew hotels, legal services, utilities, communication services, other.

**** Excludes non-recurring or special charges.

Note: Based on revenues of UAL=\$14,286M (RASM=\$.096) and LUV=\$5,522M (RASM=\$.082); expenses of UAL = \$16,973M and LUV=\$5,104M.

Source: Merrill Lynch via Air Transport Association

6.5 Mainline Carriers Fight Back

With United Airlines in Chapter 11 bankruptcy and several other airlines close to bankruptcy, many network carriers are engaged in a fight for life. This has taken many forms.

Network Housecleaning

Within the United States, there are currently 30 hub airports that serve 30,000 city pairs. Despite the large number of cities served, passengers are actually concentrated in few

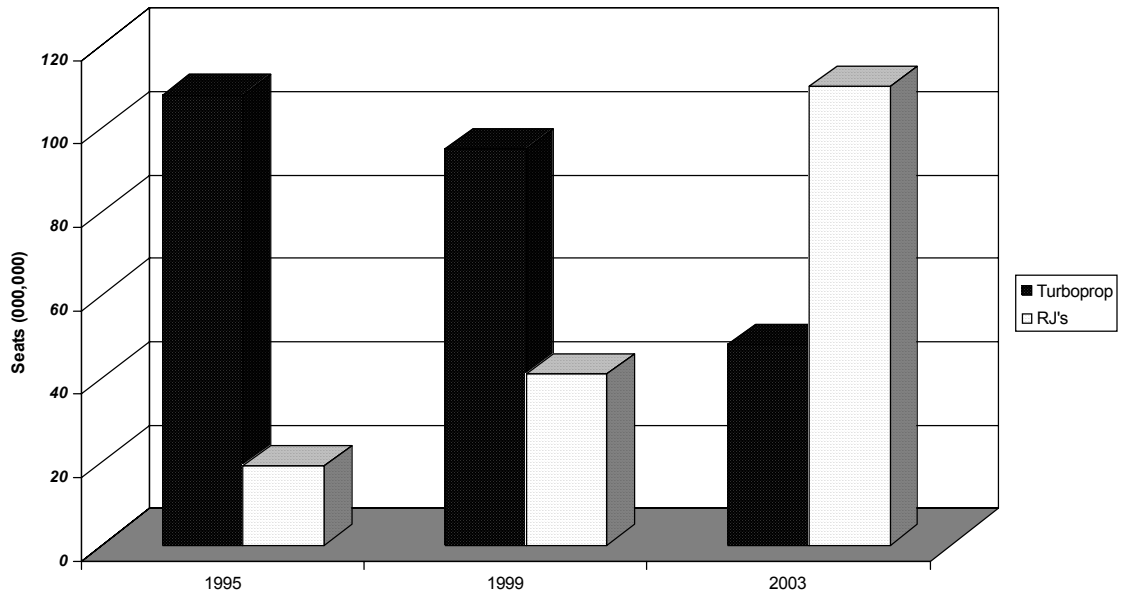
routes. The top 5 percent of routes carry 73 percent of all traffic. The remaining 27 percent of passengers are served on an extensive hub and spoke system.

The network carriers, cognizant of these inefficiencies are drawn to the largest and most profitable routes. These days every very route is scrutinized for profitability. Carriers have abandoned stations where alternate routes can yield a higher return. The deepest capacity cuts have occurred on domestic short haul routes (flights under 250 miles) and on Atlantic and Pacific routes where war, SARS and terrorism have clearly dampened demand.

It is unlikely that 30 hubs and 30,000 city pairs will survive in the domestic system. States and smaller communities will have to decide whether air service or automobiles are the mode of choice for transport to a larger airport. It would appear that especially in carrier-dominated markets; the airlines are somewhat indifferent whether they serve incremental passengers at spoke airports or at their hub. Communities committed to support local air service will have a greater chance of maintaining spoke links during economic downturns.

RJ's Replacing Turboprops

Airlines are retiring turboprop aircraft quickly because seat mile costs are high.³ Figure 6-6 shows the change in number of seats on turboprops and regional jets since 1995. In 1995, there were approximately 108 million turboprop scheduled seats in Lower 48 cities and about 19 million regional jet seats. In 2003, regional jets have become the small aircraft of choice with 110 million RJ scheduled seats. Turboprops represent about 48 million scheduled seats.



Source: BACK Aviation Solutions, Inc.

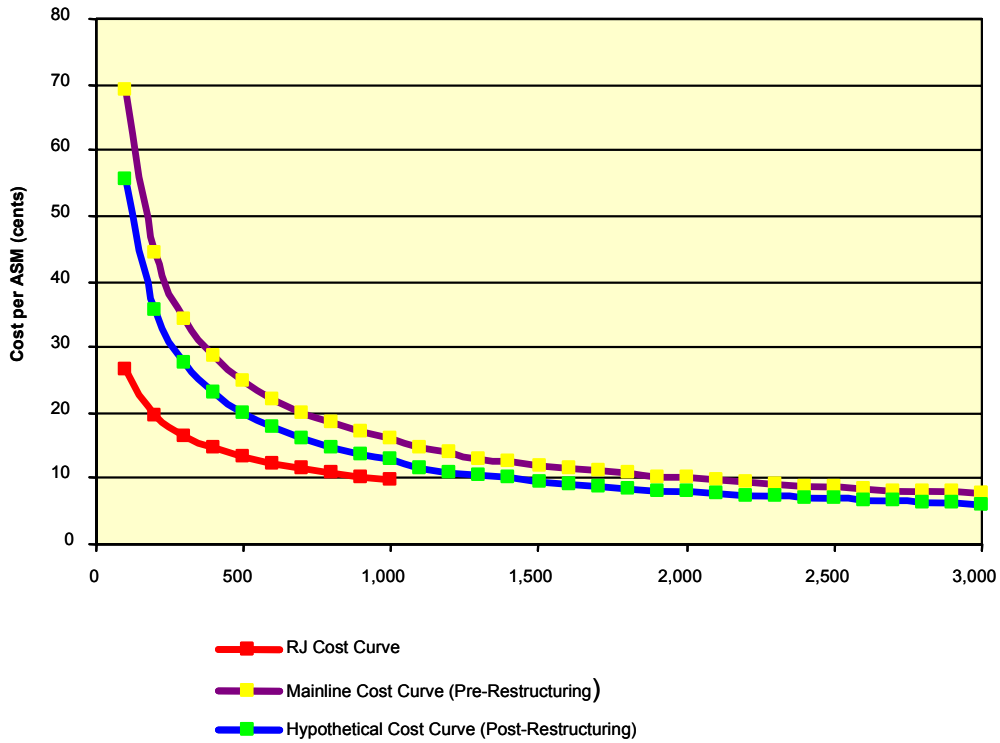
Figure 6- 6. Scheduled Seats in Lower 48 States

Many of the regional jets that are going into the system are not replacing service in small communities. The vast majority of regional jets are deployed on mainline routes to either serve off-peak schedules with smaller aircraft or to position a carrier in a market where another carrier dominates.

³ Turboprops have fewer seats. Consequently, operating overhead is higher on a per seat basis.

Cost Control is Working

A strategy of lowering costs through replacement of larger jets by regional jets is already in the works. If the strategy is effective, network carriers will lower respective cost curves to levels not anticipated two years ago. The successful convergence of cost structure amongst carriers may well close the window on this period of low cost carrier expansion. Figure 6-7 shows how the spread in costs is likely to converge.



Source: Courtesy of ECLAT Consulting, Inc.

Figure 6- 7. Seat Mile Costs: Mainline and 50 Seat Regional Jet

6.6 FUTURE OF TIER 2

There is no question that Tier 2 and Tier 3 airports are challenged to remain viable in the national system of airports. Do Greater Minnesota airports face extinction or a bright future? Much depends on how the next few years play out for the industry.

Extinction?

Certain industry dynamics challenge a positive outlook for Tier 2 and Tier 3 airports in Minnesota. The most important of these factors include:

- If Northwest's recovery is prolonged and difficult, the airline will scour for additional ways to cut costs and capacity in their system.
- Most network carriers are retiring turboprop aircraft in favor of regional jets. However, regional jets are not ideally suited for small, very short-haul markets. Northwest is also reducing its Saab fleet. Over time, fewer turboprops will decrease Northwest's

ability to bring on increased turboprop frequencies during peak summer months. Winter schedules and shared flights may become a year-round reality.

- The willingness of Minnesota and Wisconsin air passengers to drive to MSP continues a pattern of high diversion and obscures the magnitude of local demand for air service. Proven local enplanements are the strongest argument to maintain or increase service.

Bright Future?

On the other hand, there are a number of local factors that strengthen the case for continued service at Tier 2 airports:

- Greater Minnesota airports have a favorable fare structure for carriers. The add-on fares charged to serve perimeter airports are generally adequate to cover the fully allocated cost of operation. Furthermore, MSP is still a higher fare airport than national averages. MSP fares form the basis of Greater Minnesota airports plus a local add-on.
- While airfield capacity at MSP is likely to remain more than adequate near term, increased highway congestion has lengthened travel time & hassle for travelers originating at the perimeter of the metropolitan area. The Minneapolis metro area may reach 'environmental' saturation prior to reaching capacity at the airport itself.
- If good connecting times are available at the hub airport, passengers can save time when they drive, park, and clear security at the local airport.
- Many communities have adopted a strategy to share the financial risk of new service with the carriers. This approach can significantly reduce the cost and risk of additional or new service at smaller airports.

Chapter 7 - Air Service Opportunities

7.1 INTRODUCTION

A major purpose of this project was to explore the future roles of Tier 2 airports. This chapter focuses on air service. Chapter 8 examines the ways that airports can become economic activity centers, diversify and increase revenue streams.

The financial crisis in the airline industry has challenged the conventional models of air service and provokes the question: what is the future of air service at smaller airports? Are the airlines heading toward a model that privatizes the smallest spoke routes by requiring air passengers to drive to a larger airport? Empirically this seems to be the case. Many Minnesota and Wisconsin airports have very large diversion rates to Minneapolis-St. Paul International Airport (MSP). Chippewa Valley Regional Airport reports that as much as 80 to 86 percent of local passengers will drive to the Twin Cities. St. Cloud reports diversion of 81 percent. In our surveys, Rochester captured 43 percent and Duluth, when American served the market, captured 51 percent. Cities with two carriers tend to capture more of the local demand than cities where Northwest Airlines operates as the sole carrier. Persuading Northwest to add service at Tier 2 (and Tier 3) is challenging because they already carry most passengers either at the local airport gateway or at MSP.

The dominance of Northwest sets an important context for improvements in Tier 2 air service. Other factors are also guiding the strategy.

- For serving local demand at Tier 2 airports, the network hub and spoke model still makes the most sense.
- With airline consolidation, the number of alternative carriers to Northwest is limited.
- In addition to Minneapolis-St. Paul, the most attractive hubs for Tier 2 airports are Chicago O'Hare and Denver as these cities are also top destinations for Minnesota air passengers. Other spoke operations should be studied carefully.
- For Tier 2 and 3 airports where Northwest Airlines is the sole carrier, demonstration of new incremental passengers into the Northwest system or direct cash revenue guarantees are the two most important factors that will motivate Northwest to increase level of service.
- Because the Minneapolis-St. Paul metropolitan area is rapidly growing, highway congestion makes Tier 2 airports increasingly more attractive gateways.
- As Rochester and Duluth have demonstrated, a second mainline carrier at Eau Claire (EAU) and St. Cloud (STC) will reduce diversion. EAU and STC have potential to serve a larger 'behind' market as these airports could tap passengers that typically by-pass these airports when driving to MSP.
- Because the airline industry is weak and in a state of transition, attention to changes in carrier strategies may bear fruit for Tier 2 airports.

Since airport facilities take a long time to plan and build, the Tier 2 study adopted a forward-looking approach to air service development. This chapter explores four paradigms of air service development in an order that acknowledges a logical progression of air service. These paradigms are:

1. Improved network access, using conventional hub and spoke systems.
2. Air shuttle access to a low cost carrier center, such as Chicago's Midway Airport.
3. Use of a Tier 2 airport as a low cost carrier portal to the Minneapolis-St. Paul metropolitan market.
4. Development an alternate second airport to serve the metro area.

To set the context for the discussion, we begin with an overview of demand for air service at Tier 2 airports followed by a discussion of each paradigm.

7.2 TIER 2 DEMAND PROFILE

Enplanement Trends

In 2002, Tier 2 airports enplaned 343,465 passengers. This is down 2.2 percent from a high in 1999 of 351,158. Traffic at Minneapolis-St. Paul International Airport peaked in 1999 and is down 6 percent from these highs. Figure 7.1 compares enplanement trends at Tier 2 airports and MSP. Tier 2 airports represent a small but steady number of enplanements, when compared to MSP. Most of the absolute growth at Tier 2 is attributable solely to the addition of American service at Duluth from 1999-2002.

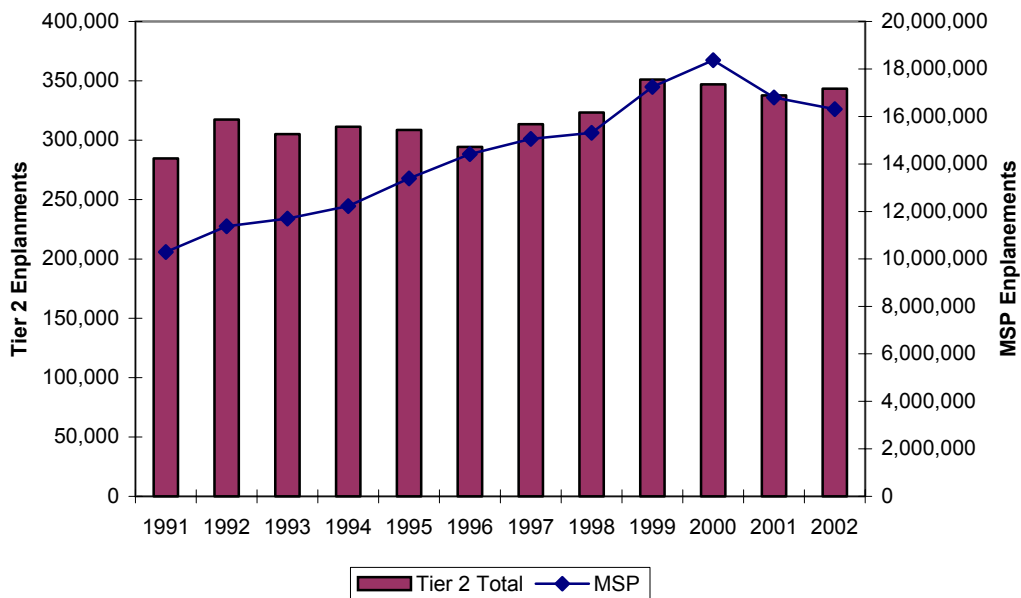


Figure 7- 1. Tier 2 and MSP Enplanements, 1991-2002

Estimate of Unconstrained Demand

Diversification Approach

At Tier 2 airports a wide variance occurs between the number of passengers associated with a local community and the number of passengers that actually use the local airport. When considering all Tier 2 airports, 61 percent of Tier 2 passengers use MSP as their departure airport as Figure 7-2 shows. If MSP did not exist, Tier 2 airports would serve a population base of approximately 1.5 million people.

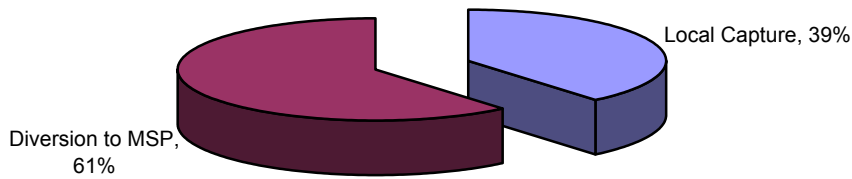


Figure 7- 2. Diversion to MSP from Tier 2 Airports

Estimated air travel that is locally generated is approximately 877,000 enplanements. These passengers represent unconstrained demand, a level of airport activity that would exist if there were no options but the local airport. There are reasons to believe that 877,000 enplanements (1.8 million total passengers) is a conservative number:

- The St. Cloud air service area is one of the fastest growing areas in Minnesota and the Upper Midwest. Sherburne County where the St. Cloud Regional Airport has already been included in the Minneapolis-St. Paul MSA¹. The population growth path northwest along Highway 10 and I-94 is solidifying.
- Rochester is an important destination airport for Mayo Clinic patients. Mayo Clinic expansions can drive up demand for Rochester air service.

The factors most often identified as important in determining airport choice are: (1) the price of the ticket; (2) schedule and frequency of flights; and (3) the drive time to a larger alternate airport. Capture rates at Tier 2 airports directly correspond to these factors. Duluth and Rochester have more air service and, as a consequence, higher capture rates than Eau Claire and St. Cloud.

It is not possible to change all of these factors. However, there is potential to recapture additional passengers with added service. Based on assumptions of improved service, Duluth and Rochester could recapture an additional 15% of their market; Eau Claire and St. Cloud with the introduction of a second carrier could achieve a higher recapture rate. Near-term potential for Tier 2 airports is close to 514,000 enplanements with enhancements to service. Figure 7-3 summarizes existing enplanements, unconstrained demand and near term potential for the Tier 2 group of airports.

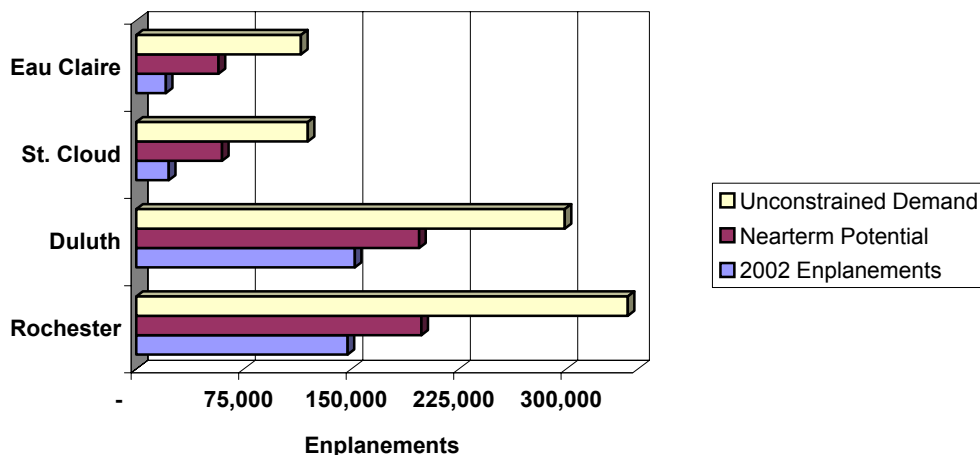


Figure 7- 3. Tier 2 Demand Profile

¹ Metropolitan Statistical Area

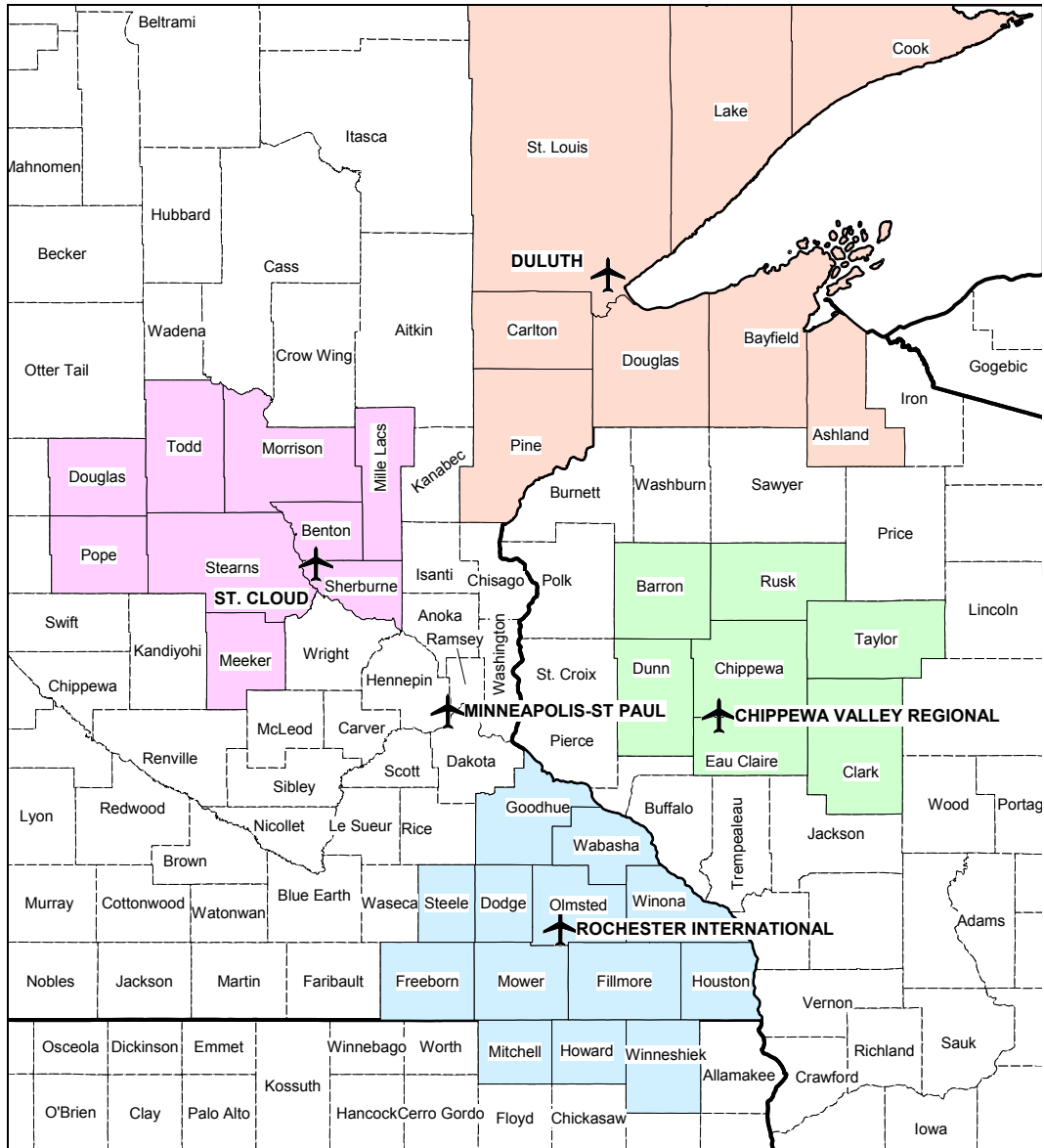


Figure 7- 4. Airport Service Areas – Working Definition

7.3 INDIVIDUAL AIRPORT PROFILES

While it is useful to identify current activity and demand at all of the Tier 2 airports together, each airport serves a distinctive market. Figure 7-4 reviews our working definition of the service areas for each airport. A full discussion of service areas can be found in Chapter 3. The following sections summarize the chief characteristics of each airport.

Duluth

Duluth International Airport has a service area that includes Superior and extends into northern Wisconsin. Of all the Tier 2 airports, Duluth is the most self-contained. The 162 mile drive to MSP is a deterrent to would-be drivers if competitive service and fares are available at Duluth.

Duluth's service area population is estimated at 351,000, with a 2002 capture rate of 51%, the largest of all Greater Minnesota airports. Diversion of passengers to MSP is higher in 2003 because American Airlines ended its Chicago service in December, 2002 as part of a network reduction in capacity. A top priority of Duluth's is to restore Chicago service. Duluth has a full schedule of service to MSP. Northwest's maintenance base at the airport keeps a steady rotation of jet aircraft coming in and out. Of Tier 2 airports, Duluth has the most airport infrastructure in place to serve as a commercial reliever to MSP for passenger, cargo or military operations.

Eau Claire

Chippewa Valley Regional Airport is an urban airport located four miles north of Eau Claire's central business district. The facility occupies nearly 1,000 acres of land and is surrounded by residential and light industrial activity. Several airfield improvements are underway that will result in a primary runway of 7,300 feet with 8,121 feet of pavement available in the event of an aircraft overrun. In addition, a new air traffic control tower will be on-line in 2005 and a passenger terminal study is underway. Airport management has effectively utilized the terminal as revenue producing business center.

The airport supports a service area of approximately 304,000. Northwest turboprop service is available to MSP, 93 miles away. There is a large component of business travel that uses the local service, but the number of enplanements suggests that passenger activity is largely service driven rather than demand driven. A very low ratio of enplanements to population (7%) indicates high diversion rates and/or use of private aircraft. Menard's operates a substantial private air service out of the airport, transporting employees back and forth to its headquarters in Chippewa Valley.

Attraction of a second carrier to Chicago will improve access and create a competitive environment to discipline schedule stability and fares. However, given the financial difficulties of the mainline carriers, the community will need to demonstrate solidarity and financial support to offset the risk of entry.

Rochester

Rochester International Airport is located 78 miles southeast of MSP on Highway 52 and serves a population base of approximately 449,000. The airport is owned by the City of Rochester and operated by the Rochester Airport Company, a wholly owned subsidiary of the Mayo Foundation. This unique structure has effectively developed the airport's air service and air cargo. Rochester flights to MSP meet all of Northwest connecting banks. American offers four daily flights to Chicago. FedEx, Airborne Express and DHL also operate at the airport. The Mayo Clinic and IBM, the region's two largest employers, are large users of air service.

Capture rate at Rochester is estimated at 43%. This airport because of the Mayo Clinic has the largest destination traffic base of the Tier 2 airports. Geographically, Rochester is well situated to capture air cargo traffic that is heading south to Chicago. However, improving access to the airport through roadway and interchange upgrades will enhance the appeal of Rochester International for cargo and passenger development. The airport has supported additional TWA service in the past and could effectively support a westbound service on a network carrier.

St. Cloud

St. Cloud Regional Airport is the newest Tier 2 airport and the closest to MSP at 77 driving miles. Commercial air service began in 1994 and supports a population base of 383,000 people. Like Chippewa Valley Regional, use of St. Cloud Regional to MSP is largely schedule and frequency driven. The enplanement to population ratio is a very low 6%. Air service competes heavily with the automobile.

Despite its proximity to the Metro area, St. Cloud has the highest potential future as a Tier 2 airport. The airport is located in the second fastest growing corridor in the metropolitan area. As a new airport, St. Cloud Regional has some catching up to do. The City is taking effective action to acquire or reserve land for expansion. Recently, the airport extended its runway and taxiway to 7,000 feet. In 2003, construction began of an air traffic control tower. Because the airport is actually located in Sherburne County, there may come a time when multi-county governance will make sense to fulfill long range expansion plans.

St. Cloud is very active in its air service development activities. With its partner, Brainerd, the two cities were awarded one of the largest grants offered by the USDOT Small Community Air Service Pilot Program. The grant will fund development of a Flight Bank and efforts to improve existing service and attract a second carrier to Central Minnesota.

7.4 ESTIMATE OF UNCONSTRAINED DEMAND

Diversions Method

Tables 7-1 provides an estimate of the total, unconstrained demand for air service, based on surveys conducted for this study (see Chapter 4) and previous ticket samples. Unconstrained demand puts an upper boundary on passenger activity at Tier 2 airports if they continue in their role as a spoke in network carrier operations. Unconstrained demand also assumes zero percent diversion. Under the current regime of network service and a Northwest hub at MSP, Tier 2 airports will continue to experience significant rates of diversion. The goal is to capture more passengers, not necessarily all passengers.

Table 7- 1. Estimates of Unconstrained Demand Using Diversion Method

	2002 Enplanements	Capture Rate	Unconstrained Demand
Duluth	152,528	51%	299,075
Eau Claire	20,692	18%	114,953
Rochester	147,506	43%	343,037
St. Cloud	<u>22,739</u>	<u>19%</u>	<u>119,679</u>
Total Tier 2	343,465	39%	876,743

Population Approach

There are two common ways to estimate an area's demand for air service. The first as indicated in Table 7-1, suggests that knowing approximately what percentage of passengers use a local airport, it is possible to infer what the total market looks like. Another approach is to relate population in a service area to the airport activity. Except in the most rural or poor areas of the country, a good estimate of enplanements is to equate one enplanement to every person in the population. This is also true of *isolated airports* that would provide airlift for most passengers. *Urban airports* typically have one or more enplaned passengers to population. *Hub airports*, because of the connecting activity, have ratios well in excess of 1.00 (Minneapolis-St. Paul has an enplanement to local population ratio of 2.00.) Diversion will reduce this ratio for communities where there is *more than one airport* within reasonable driving distance.

For Tier 2, the ratio of enplanements to population is clearly a barometer of local airport service levels and shows the impact of diversion. St. Cloud and Eau Claire have a very low ratio of .06 and .07 respectively. During this time frame, Duluth and Rochester had a full complement of Northwest service and American Airline service to Chicago. St. Cloud and Eau Claire had 4 to 6 daily flights to MSP, half of these flights were shared with other communities.

Table 7-2 relates Tier 2 service area population (developed in Chapter 3) with levels of local enplanements and takes another look at enplanement potential based on raising the ratio of local enplanements to population. If the ratio in St. Cloud or Eau Claire was raised to one enplanement for every three persons in the population, boarding passengers would more than triple.

Table 7- 2. Estimates Using the Ratio of Population to Demand

	2002 Enplanements	Service Area Population	Existing Enplanement: Population Ratio	Target Enplanement: Population Ratio	Ratio Based Enplanement Potential
Duluth	152,528	351,000	0.43	0.50	175,500
Eau Claire	20,692	304,000	0.07	0.33	100,320
Rochester	147,506	449,000	0.33	0.40	179,600
St. Cloud	22,739	383,000	0.06	0.33	126,390
<i>Total Tier 2</i>	<i>343,465</i>	<i>1,487,000</i>	<i>0.23</i>	<i>0.39</i>	<i>581,810</i>

Comparative Analysis

Table 7-3 compares top North Central airports and the relationship between several variables: population², enplanements, access to hub airports and distance to the closest hub. There is a lot of information on this table, but the data prompts the question: what levels of service could Tier 2 airports reasonably expect? What do other slightly larger airports have? Does proximity to MSP have a significant and detrimental impact on local air service?

²Population by airport service area was not available for all of the North Central cities in Table 7-3. Instead, zip code service areas were used for population estimates. These areas, established by the US Postal Service, are reasonable proxies for trade areas.

Table 7- 3. Comparison of North Central USA Airports

Zip Code Service Areas ³	Zip Code Area Population as of 1/1/01	Enplanements 12 mo. ending 3.31.03	Enplanements: Population Ratio	Nearest Hub	Drive Miles	Number of Hubs Served	Chicago Service ⁴	Denver Service ⁴
Minneapolis-St Paul	3,137,000	6,310,810	2.01	Hub	NA	19	UA, AA, TZ	NW, UA, F9
Milwaukee, WI	2,194,700	2,246,800	1.02	Hub	NA	19	UA, AA, TZ	UA, YX
Madison, WI	804,900	702,740	0.87	Chicago	134	12	UA, AA, TZ	UA
Green Bay, WI	537,300	334,330	0.62	Chicago	193	6	UA, AA	no
Oshkosh, WI (Appleton)	453,300	236,720	0.52	Chicago	163	5	UA	no
Wausau, WI	385,700	136,530	0.35	MSP	189	4	UA	no
Rochester, MN	307,000	130,400	0.42	MSP	78	2	AA	no
Duluth, MN	300,400	126,990	0.42	MSP	162	1	no	no
Sioux Falls, SD	290,900	278,200	0.96	MSP	268	4	UA	UA
St. Cloud, MN	282,500	19,920	0.07	MSP	77	1	no	no
Eau Claire, WI	245,600	19,090	0.08	MSP	93	1	no	no
La Crosse, WI	233,100	106,900	0.46	MSP	50	2	AA	no
Rapid City, SD	175,000	198,660	1.14	Denver	399	3	no	UA
Fargo ND	166,900	219,570	1.32	MSP	249	3	UA	UA
Bismark, ND	124,600	134,910	1.08	MSP	470	2	no	UA
Grand Forks, ND	101,600	82,730	0.81	MSP	327	1	no	no
Rhineland, WI	94,600	27,360	0.29	MSP	244	1	no	no

Sources: Rand McNally Commercial Atlas and Marketing Guide, 2002, Official Airline Guide, MapQuest, US DOT O&D 10% sample

³ Zip Code Service Areas were established by the US Postal Service. They usually include a city and the area conveniently served from the central city by rail or other ground transportation. Zip Code Service areas often conform to a city's trading area. Since we only have air service areas for Tier 2 airports, we used the Zip Code Service areas for comparison purposes. The population numbers do not correspond exactly to Tier 2 service areas, but do provide a good basis for comparing Tier 2 airports with other airports.

⁴ UA = United Airlines, AA = American Airlines, TZ = American Trans Air, NW = Northwest Airlines, F9 = Frontier, YX = Midwest Airlines

The top three airports listed in Table 7-3 are in a class by themselves. Minneapolis-St. Paul (MSP), Milwaukee (MKE), and Madison (MSN) have the largest populations. MSP and MKE are hubs for Northwest and Midwest Airlines respectively. Madison is Wisconsin's capital and home of the University of Wisconsin.

In the group of other cities, the following observations can be made:

- Smaller more isolated cities have higher local enplanements, but there is no discernible pattern for cities close to hub airports.
- Diversion from close-in cities with two carriers is lower than diversion rates when Northwest is the sole carrier.
- American Airlines is positioning close in to MSP with service to Chicago from Rochester, La Crosse and a proposed re-entry to serve Duluth.
- United Express is serving Northeastern Wisconsin, North and South Dakota. Air Wisconsin has served as the contract carrier in Wisconsin.
- For close-in cities with two carriers, an enplanement to population ratio of .40 to .50 is the average.
- On a local population basis alone, Duluth, St. Cloud and Eau Claire are next in line to get Chicago service.

The next sections discuss four possible ways that Tier 2 airports could develop air service.

7.4 PARADIGM 1: IMPROVED NETWORK ACCESS

Overview

Improved network access using conventional hub and spoke systems is the most logical build-out of existing air service for Tier 2 airports. Today, airlines operate from within two basic models:

- The network model used by mainline carriers in their hub and spoke systems; and,
- A mass market model used by low cost carriers to provide point-to-point service on the highest density routes.

Based on the size of Tier 2 communities, network carriers offer the best access to the national transportation system. The major network carriers are: American, Continental, Delta, Northwest, United, and US Airways. Each of these carriers has entered into marketing alliances that increase network access to partner carriers. For example, Northwest has entered into such an agreement with Continental; United and US Airways operate flights under the other carrier's name.

All of the U.S. mainline carriers continue to pursue aggressive measures to cut costs. Under current conditions, service retention as well as service expansion are the highest priority for all Tier 2 airports. It is also reasonable to ask whether network hubs will continue as the backbone of the U.S. air carrier structure. At the present time there are:

- 30 hubs in the U.S.
- 30,000 city pair markets
- 5 percent of all city pairs constitute 73 percent of all passengers
- The remaining 28,500 city pairs are all served by hub and spoke systems⁵

⁵ Data with permission from Eclat Consulting, Inc

It is easy to understand why the carriers are taking a hard look at each and every spoke route.

For Tier 2 airports, future spoke operations will depend on the partnership forged with the airlines and the degree to which passengers support the local airport. The raw potential and market conditions are present to continue growing.

Travel Patterns

Duluth and Rochester dominate Tier 2 travel patterns and provide an indication of traffic patterns when both MSP and Chicago service is available. Table 7-4 presents a consolidated view of top origin and destination markets for Tier 2 airports and MSP. Passengers in the table represent trips in both directions. Travel patterns out of Tier 2 airports are very similar to travel out of Minneapolis-St. Paul. Chicago is the largest destination market. Phoenix and Denver are the second and third most important. Traffic in certain markets is more concentrated at MSP because multiple carriers serve these markets and/or fares are lower. Atlanta is a good example of competitive service at MSP. Northwest, Delta and AirTran all fly to Atlanta with AirTran serving as the price setter.

Table 7- 4. Consolidated Tier 2 Airport Traffic and MSP Traffic (Both Directions), YE 2002

Rank	Market	Tier 2 Total	% of Total	MSP	% of Total
1	O'Hare Intl, IL (ORD) + Midway (MDW)	37,910	6.3%	923,850	7.4%
2	Sky Harbor Intl, AZ (PHX)	23,770	4.0%	522,980	4.2%
3	Denver Intl, CO (DEN)	18,590	3.1%	463,100	3.7%
4	Orlando Intl, FL (MCO)	17,620	2.9%	429,130	3.4%
5	McCarran Intl, NV (LAS)	15,830	2.6%	348,750	2.8%
6	Ronald Regan Natl, DC (DCA)	15,260	2.6%	258,500	2.1%
7	La Guardia, NY (LGA)	14,890	2.5%	362,720	2.9%
8	Dallas/Ft Wor Int, TX (DFW)	13,890	2.3%	325,870	2.6%
9	Los Angeles Intl, CA (LAX)	13,520	2.3%	381,980	3.1%
10	Seattle/Tacoma In, WA (SEA)	13,440	2.2%	285,520	2.3%
11	Wm B Hartsfield, GA (ATL)	13,420	2.2%	402,280	3.2%
12	San Francisco In, CA (SFO)	12,550	2.1%	339,150	2.7%
13	Logan Intl, MA (BOS)	12,470	2.1%	293,670	2.4%
14	Wayne County, MI (DTW)	11,210	1.9%	218,100	1.8%
15	Lindberg Field, CA (SAN)	9,850	1.6%	219,670	1.8%
	<i>Top 15 Markets</i>	<i>244,220</i>	<i>40.9%</i>	<i>5,775,270</i>	<i>46.4%</i>
	<i>Other</i>	<i>353,430</i>	<i>59.1%</i>	<i>6,663,640</i>	<i>53.6%</i>
	Total	597,650	100.0%	12,438,910	100.0%

Sources: USDOT O&D Survey and 298C Data, calendar year ending December 31, 2002. Includes air carriers and commuters

Table 7-4 provides a good indication of traffic that is currently flowing across Tier 2 airports. It is also useful to explore what the contribution each of the Tier 2 service areas are making to air travel at local airports and MSP.

Using the distribution of passengers established by Tier 2 airports, Table 7-5 estimates the number of passengers (in both directions) that *Tier 2 service areas* are contributing to both local airports and MSP. It is on this basis that we can begin to assemble a sensible air service strategy that respects market size, the powerful draw of MSP and the realities of network opportunities.

Table 7- 5. Estimated Demand by Market, Tier 2 Airports

Rank	Destination	2002 Tier 2				
		Market Share	Duluth	Eau Claire	Rochester	St. Cloud
1	O'Hare Intl, IL (ORD)	6.3%	37,942	14,583	43,519	15,183
2	Sky Harbor Intl, AZ (PHX)	4.0%	23,790	9,144	27,287	9,520
3	Denver Intl, CO (DEN)	3.1%	18,606	7,151	21,340	7,445
4	Orlando Intl, FL (MCO)	2.9%	17,635	6,778	20,227	7,057
5	McCarran Intl, NV (LAS)	2.6%	15,843	6,090	18,172	6,340
6	Ronald Regan Natl, DC (DCA)	2.6%	15,273	5,870	17,518	6,112
7	La Guardia, NY (LGA)	2.5%	14,902	5,728	17,093	5,963
8	Dallas/Ft Wor Int, TX (DFW)	2.3%	13,902	5,343	15,945	5,563
9	Los Angeles Intl, CA (LAX)	2.3%	13,531	5,201	15,520	5,415
10	Seattle/Tacoma In, WA (SEA)	2.2%	13,451	5,170	15,428	5,383
11	Wm B Hartsfield, GA (ATL)	2.2%	13,431	5,162	15,406	5,375
12	San Francisco In, CA (SFO)	2.1%	12,560	4,828	14,407	5,026
13	Logan Intl, MA (BOS)	2.1%	12,480	4,797	14,315	4,994
14	Wayne County, MI (DTW)	1.9%	11,219	4,312	12,869	4,490
15	Lindberg Field, CA (SAN)	1.6%	9,858	3,789	11,307	3,945
16	St Paul Intl, MN (MSP)	1.6%	9,858	3,789	11,307	3,945
17	Philadelphia Intl, PA (PHL)	1.6%	9,688	3,724	11,112	3,877
18	Tampa Intl, FL (TPA)	1.6%	9,338	3,589	10,710	3,737
19	Portland, OR (PDX)	1.4%	8,617	3,312	9,884	3,448
20	Newark Intl, NY (EWR)	1.4%	8,497	3,266	9,746	3,400
21	Lambert-St Louis, MO (STL)	1.4%	8,147	3,131	9,344	3,260
22	George Bush Intc, TX (IAH)	1.3%	7,626	2,931	8,747	3,052
23	Baltimore/Wash Intl, MD (BWI)	1.2%	7,336	2,820	8,414	2,936
24	Miami Intl, FL (MIA)	1.1%	6,786	2,608	7,783	2,715
25	Raleigh/Durham, NC (RDU)	1.1%	6,606	2,539	7,576	2,643
26	Kansas City Intl, MO (MCI)	1.1%	6,535	2,512	7,496	2,615
27	SW Florida Reg, FL (RSW)	1.1%	6,535	2,512	7,496	2,615
28	Robert B Mueller, TX (AUS)	1.1%	6,405	2,462	7,347	2,563
29	San Jose Mun, CA (SJC)	1.0%	6,065	2,331	6,957	2,427
30	Hopkins Intl, OH (CLE)	1.0%	5,785	2,223	6,635	2,315
	<i>Top 30 Markets</i>	<i>40.1%</i>	<i>358,249</i>	<i>137,697</i>	<i>410,910</i>	<i>143,358</i>
	<i>Other</i>	<i>59.9%</i>	<i>239,901</i>	<i>92,209</i>	<i>275,164</i>	<i>96,000</i>
	Estimated Unconstrained Demand⁶	100.0%	598,150	229,906	686,074	239,358

Sources: USDOT O&D Survey and 298C Data, year ending December 31, 2002. Includes air carriers & commuters.

⁶ Derived from Table 7-1 and doubled to estimate unconstrained demand in both directions.

Hub and Spoke Strategies for Tier 2

For the Tier 2 airports, service to both MSP and an additional hub airport is a good strategy to recapture local passengers otherwise driving to MSP. Given the large rates of diversion, especially at Eau Claire and St. Cloud, building the passenger base at the Tier 2 airports with additional network service is the strongest way to prove the local market.

Each of the Tier 2 airports is on a different stage of service development. Roughly speaking each airport should build its network service in the following order: Minneapolis-St. Paul, Chicago O'Hare, and Denver.

Under this paradigm, Rochester, since it has a full schedule to MSP and four flights to ORD, would begin immediately to recruit two or three regional jet frequencies to Denver. Duluth's highest priority is restoration of Chicago service followed by recruitment for Denver service. Eau Claire and St. Cloud would focus on Chicago service first, beginning with three regional jet frequencies. Table 7-6 summarizes near-term increments.

Table 7- 6. Near Term Service Increments for Tier 2 Airports

Airport	Goals	Notes
Duluth	Chicago	Reinstatement of Chicago Service
Eau Claire	More MSP Chicago	Higher Frequency, better connecting schedule at MSP, confirm capture rate, go after Chicago
Rochester	Denver	Begin Denver recruitment, targets: United and Frontier
St. Cloud	More MSP Chicago	Higher Frequency, better connecting schedule at MSP, RJ's to Chicago

Anticipating Traffic and Revenue Targets

It used to be that carriers would set average breakeven load factors as targets to achieve on a given route. Today, total revenue is what counts. To give an idea of recent passenger revenues at Tier 2 airports, Table 7-7 shows outbound revenue for the 12 months ending March 31, 2003.⁷

Table 7- 7. Outbound Passenger Revenue at Tier 2 Airports

	12 Months ending March 31,	
	2003	2002
Duluth	\$ 23,623,000	\$ 23,638,000
Rochester	\$ 23,346,000	\$ 24,163,000
St. Cloud	\$ 3,748,000	\$ 3,962,000
Eau Claire	\$ 3,273,000	\$ 3,497,000

Sources: USDOT O&D Survey

⁷ For estimating purposes outbound revenues doubled gives an estimate of what each airport is generating in total.

Passenger revenue must cover not only the direct operating costs and a profit margin, but also an allocated portion of the carrier's overhead, including costs of operating the network and administration. Each airline has its own direct operating costs and method of determining the fully allocated cost of operating a route. While fully allocated costs are confidential, it is important for airports to examine their market characteristics and make certain that proposed service is realistically in the ballpark. The following sections provide an approach to testing the preliminary feasibility of new or additional service. Prior to analyzing a particular route, it is useful to ask the basic, but important questions:

- Does the current service meet the apparent needs of the market?
- Are existing flights full? If not, why not?
- Where will new passengers come from?
- Does the proposed service provide adequate and convenient connecting opportunities that match the travel patterns of local passengers?
- How strong is the local point-to-point traffic on the proposed route?
- How well does the proposed route fit in with the carrier's existing network?
- Is the carrier expanding?
- How is traffic likely to divide between existing and new service?
- What aircraft are appropriate for the new service and does the target carrier operate this class of aircraft?

Aircraft Planning Parameters

Table 7-8 presents a useful filter to estimate the annual number of available seats and enplaned passengers needed to fill 70 percent of the aircraft. The variables presented represent typical service scenarios for Tier 2 airports. An assumed load factor of 70 percent is conservative. Any of the variables can be changed to suit specific situations. But the table provides guidance that 3 frequencies per day on a 44-50 seat regional jet will require 33,000-38,325 enplaned passengers.

Table 7- 8. Aircraft Planning Parameters

Aircraft	Seats	Trips/day	Trips/year	Seats/year	Enplaned Load Factor @ 70%
Saab 340	34	6	2,190	74,460	52,122
ERJ 135	37	3	1,095	40,515	28,361
ERJ 140	44	3	1,095	48,180	33,726
CRJ 200	50	3	1,095	54,750	38,325
CRJ 700	70	3	1,095	76,650	53,655
ERJ 190	100	3	1,095	109,500	76,650

Direct Operating Costs

Direct operating costs (DOC) include a carrier's crew cost, fuel and oil, rentals, depreciation, insurance, taxes and maintenance. Each carrier of course has its own cost structure and direct operating costs vary by stage length or the miles for each segment of flight. The direct operating costs that appear in Table 7-9 are expressed in average costs per ASM.⁸ For example, it costs Northwest Airlines on average, 16 cents per ASM to fly a

⁸ ASM = seat X trip miles

Saab aircraft from St. Cloud to Minneapolis. It is counter intuitive that a small aircraft is more expensive to operate than a large aircraft. This is of course not true. What is true is that with more seats in a larger aircraft, direct operating costs can be spread across a larger number of passengers.

Table 7- 9. Average Direct Operating Costs per ASM for Selected Aircraft and Carriers

Aircraft	Seats	Avg. DOC per ASM	Carrier
Saab 340	34	0.16	Northwest
ERJ 135	37	0.099	American Eagle
ERJ 140	44	0.079	American Eagle
CRJ 200	50	0.093	Air Wisconsin
CRJ 700	70	0.053	American Eagle
ERJ 190	100	new	Jet Blue

Source: USDOT, Form 41, Third Quarter, 2002

Estimating Direct Route Costs

To get an estimate of what a carrier must invest to provide service on a new route, Table 7-10 shows the relevant variables with three examples: Northwest service between St. Cloud and Chicago; American Eagle service between Duluth and Chicago; and Air Wisconsin/United Express service between Eau Claire and Chicago. On a direct operating cost alone, it costs about \$775,000 to operate 3 Saab roundtrips and up to \$3 million for 3 roundtrips to Chicago. This is only direct operating costs and does not include any of the indirect costs incurred by the carrier.

Table 7- 10. Estimating Direct Operating Costs for New Routes

Aircraft	Saab 340	ERJ 140	CRJ 200
Carrier	Northwest	American Eagle	Air Wisconsin
Seats	34	44	50
Route	STC-MSP	DLH-ORD	EAU-ORD
Stage Length	65	397	268
ASM's per Trip	2,210	17,468	13,400
Cost/ ASM	0.16	0.079	0.093
Direct Costs Per Segment	\$354	\$1,380	\$1,246
Six Segments per day (3 roundtrips)	\$2,122	\$8,280	\$7,477
Annual Direct Operating Cost	\$774,384	\$3,022,139	\$2,729,178

Source: USDOT, Form 41, Third Quarter, 2002

Total Revenue Targets

The exercise to estimate the cost of new service provides an important piece of the puzzle. However, direct operating costs do not include other indirect costs such as company administration or the cost of operating the hub & spoke network. Carriers assign a fully allocated cost to each segment of service that includes DOC plus overhead. Every company has a different formula for fully allocated costs. However, the range can be between 50% to 150% more than direct operating costs. From a carrier's perspective, a profitable route is one that provides a return of fully allocated costs plus a

profit margin. To put this in perspective, a carrier might look for revenues up to \$7.5 million to cover the fully allocated cost of new RJ service to Chicago.

Options (or Necessity) to Partner with Carriers

Just to provide an entry level of regional jet service, carriers face a multi-million dollar investment. During these risk-averse times, many airlines want communities to share the risk of additional or new service. There is a wide range of schemes in use to offset the extra cost and risk of service start-up. These include:

- Local advertising support
- Reduced landing fees and rental rates
- Discounts or free hotel rooms for flight crew
- Fuel discounts
- Revenue guarantees settled monthly or quarterly
- Advanced purchase of tickets on a new carrier
- Use of a Travel Bank that guarantees revenues to the new carrier.

It is rare these days for airlines not to ask for some amount of local support to establish a new route. Tier 2 cities are already experienced in partnering with carriers. The necessity for these relationships are likely to continue for the foreseeable future.

7.5 PARADIGM 2: ACCESS TO A LOW COST CARRIER CENTER

One of the industry dynamics discussed in Chapter 6, was the significant growth of low cost carriers during the last two years. This trend was fueled by a host of factors not the least of which is a growing expectation amongst air travelers that lower fares are the norm and should be available.

Minnesota airports have always been known as high cost cities for air travel, but during this recent period, both Tier 2 and MSP have experienced lower average fares. Table 7-11 summarizes average one way fares for all markets at Tier 2 over the last five years. Appendix 7A provides data for each of the top 30 markets by airport.

Table 7- 11. Average One-Way Fares – All Markets

Average One Way Fare - All Markets	1999	2000	2001	2002
St. Cloud	190	203	197	187
Duluth	196	202	193	184
Rochester	213	213	198	176
Eau Claire	202	205	186	171
<i>All Tier 2 Airports</i>	<i>203</i>	<i>207</i>	<i>195</i>	<i>180</i>
<i>Minneapolis-St. Paul Int'l Airport</i>	<i>186</i>	<i>181</i>	<i>176</i>	<i>174</i>

Sources: USDOT O&D Survey and 298C Data. Includes air carriers & commuters.

The growing but still modest availability of low fares at Minneapolis-St. Paul presents two leading questions for Tier 2 airports:

1. What are the chances that Southwest or another mass market carrier will set up a significant operation in Minnesota?
2. Immediately, where can Tier 2 airports go to find low fares?

A strategy to gain access to a low cost center has considerable following and its feasibility should be investigated in more detail. Table 7-8 recaps from Chapter 6 the largest metropolitan areas where low cost carriers have a strong position. For Minnesota, Chicago's Midway Airport is the obvious choice, with a caveat that capacity issues at Midway may make achievement of this strategy (for multiple airports) more difficult.

Table 7- 12. Low Cost Carrier Penetration at Top 10 CMSA Markets⁹

CMSA	Airport	Sep-97	Mar-03
Boston			
	Boston	1%	3%
	Manchester	0%	20%
	Providence	13%	18%
New York			
	Islip	6%	47%
	JFK	1%	22%
	La Guardia	0%	3%
	Newark	0%	1%
Philadelphia		0%	2%
Washington			
	Baltimore	14%	46%
	Dulles	0%	3%
	Ronald Reagan	0%	1%
Chicago			
	Midway	64%	75%
	O'Hare	0%	0.3%
Atlanta		6%	13%
Dallas/Ft. Worth			
	DFW	0%	2%
	Love Field	64%	87%
Houston			
	Hobby	68%	76%
	Intercontinental	3%	3%
San Francisco			
	Oakland	57%	61%
	San Francisco	3%	2%
	San Jose	38%	39%
Los Angeles			
	Burbank	56%	64%
	Los Angeles	18%	22%
	Long Beach	0%	46%
	Ontario	42%	54%
	Orange County	11%	18%

⁹ Consolidated Metropolitan Statistical Area

Just over 300 miles away, Chicago's Midway Airport enjoys one of the highest concentrations of low cost carriers in the country. Here low cost carriers have a 75 percent market share. Some of these carriers operate regional feed, but Southwest does not provide feed or interline with other carriers. In this paradigm, Tier 2 airports would work together with Chicago Midway Airport and Southwest to address capacity problems and resolve issues of security and baggage transfer. If these issues are solved, Tier 2 airports would recruit an airline or wet lease an aircraft to provide service to Midway Airport.

The whole regional jet industry is evolving at this time. JetBlue plans to acquire 100 of the Embraer 190 aircraft with the intention of putting these aircraft into low cost point-to-point service at small and medium airports. Atlantic Coast Airlines (ACA) is also going on its own as a low cost carrier. While initial plans¹⁰ indicate a low cost operation out of Washington Dulles Airport, ACA has one of the larger fleets of 50 seat Canadair regional jets and has experience operating in the North Central region¹¹. The landscape is fluid in this area right now and other possibilities will undoubtedly emerge.

While a model to access low cost carrier centers is outside the present structure of airline service, it does not require an excessive leap of imagination. Given the low fares offered out of Midway, a regional jet service from Tier 2 airports to Midway plus low fare tickets for the connecting segment could price competitively with a network carrier fare. This approach may result in connecting times similar to American's de-peaked hub at Chicago O'Hare where an average wait time between flights can be up to 90 minutes.

Implementation of this concept will necessitate addressing important issues such as:

- Are capacity problems at Midway Airport sufficient to keep the door closed to increasing regional jet operations? Are there any other low cost centers (such as Kansas City or St. Louis) that would perform equally well?
- Under what circumstances can or would Southwest accept transferred baggage from other carriers.
- Can internet and kiosk check-ins or another mechanism make it possible for a passenger to reduce the overhead of interline connections.
- Can the airport keep interlining passengers in a continuously secure area?
- Is the total trip cost to the low cost carrier center and to points beyond price competitive with mainline network service?
- Is there an airline willing to provide regional jet feed service into a low cost carrier center

Many of these questions should be addressed as a next step. A joint effort by Tier 2 airports makes sense.

7.6 PARADIGM 3: TIER 2 AS A LOW COST PORTAL FOR MSP

The other low cost paradigm envisions Southwest or another larger scale low cost operation positioning sooner or later in the Minneapolis-St. Paul metropolitan area.

Southwest Airlines is famous for entry into a metropolitan market through the doorway of a second tier airport. For example, Providence, RI and Manchester, NH were used as entry into the Boston metropolitan market. There are various rules-of-thumb that identify the market fundamentals needed to support a Southwest-type service. These include:

¹⁰ As of August, 2003

¹¹ ACA operated as a United Express contract carrier at Fargo, ND and Sioux Falls, SD.

- A population of at least one million within 90 minutes of the airport; and
- An ability to profitably support at least 8 daily flights or approximately 265,000 enplaned passengers each year.¹²

Currently, Southwest Airlines is concentrating on other markets in the United States and has passed up markets where a mainline carrier is likely to defend aggressively. That said, the North Central and Mountain states are the last regions in the U.S. without significant low cost carrier presence. Both Denver and Minneapolis must be very attractive, tempting and inevitable markets.

Two futures are possible. In the normal course of events, entry of Southwest into this region may be 5 to 15 years away. However, major changes in United or Northwest hub operations at MSP or Denver could accelerate low cost carrier entry into the region.

Development of a high volume, low cost operation would either go into MSP or a Tier 2 airport. Duluth is not a likely candidate given its distance from MSP. However, Rochester, St. Cloud and Eau Claire are potential portals to the metro market provided that the airports can solve highway access, parking, terminal and runway capacity issues.

7.7 PARADIGM 4: ALTERNATE AIRPORT TO MSP

According to a recently published report¹³, 10 to 12 million locally originating passengers appear to be the threshold value where a second airport can be viable in a metropolitan area. Today, Minneapolis-St. Paul International Airport enplanes more than 16 million passengers. However, a little more than 6 million passengers are originating from Minnesota. The majority of passengers are connecting from other Northwest flights.

The use of a Tier 2 airport as an alternate metropolitan airport could happen when:

- Originating local passengers increase substantially by 4 to 5 million;
- A carrier uses Tier 2 airports as a low-cost satellite airport and diverts metro area passengers; or,
- Significant capacity and delay issues develop at MSP because of Northwest connecting activity. Such delays might warrant more intense use of Tier 2 airports as gateways to the national network.
- Prior to reaching capacity problems (as evidenced by high levels of delayed operations at MSP), environmental issues such as noise or highway congestion make an alternate airport attractive for development.

Since 1998, three new runways have opened at the 31 largest hubs and ten are under construction including MSP's fourth runway.¹⁴ According to the USDOT report¹³, "all but nine of the large hub airports have either opened a new runway, are constructing one now or are considering a new runway or runway configuration." A few metropolitan areas lack the physical space or community support to expand. For these cities, an alternate airport is an option to consider. This path is not without its own controversy. Not long ago, Minneapolis-St. Paul contemplated a replacement airport for MSP. In Chicago, there are hard decisions and debate about a second airport for Chicago. Atlanta has considered a second airport at least twice.

¹² Southwest is considering this low volume service configuration. Currently, Southwest's smallest markets such as Buffalo, NY have 10 daily departures; Kansas City and St. Louis have 74 daily departures; and Chicago Midway has 132 daily departures.

¹³ Alternate Airports Study, USDOT, Office of the Assistant Secretary for Transportation Policy, April, 2003

¹⁴ Runway 17/35 is scheduled for completion in late 2005

Nevertheless, there are examples where multiple airports have worked successfully. Massport, owner of Boston's Logan Airport, was a key proponent and supporter of development at Manchester and Providence airports. In similar ways, the Port Authority of New York and New Jersey, worked diligently with perimeter airports to secure air service and establish market viability. The Los Angeles and the Baltimore-Washington Metropolitan airports function as multiple airports in consolidated metropolitan areas.

Typically, alternate airports are located within 75 miles of the major airport. This would indicate St. Cloud as an attractive candidate should the right conditions develop. However, given the resources required to build out this airport, it will be important to reserve the option for development, but not over invest until the need becomes more apparent. An alternate airport will require major capital investment and cooperation amongst airport sponsors, the Metropolitan Airport Commission and all levels of government.

An alternate airport in the Minneapolis-St. Paul metropolitan area is a long range proposition. If the need becomes apparent, the synergy between MSP and Tier 2 airports will be extremely important for coordinated planning and investment decisions.

APPENDIX 7A.1 – DULUTH O&D MARKET DETAIL

Domestic Total O&D Passengers and Average One-Way Fare by Market

Source: USDOT O&D Survey and 298C Data. Includes Air Carriers and Commuters.

Rank	Market	Passengers				Average One Way Fare			
		1999	2000	2001	2002	1999	2000	2001	2002
1	O'Hare Intl, IL (ORD)	18,980	15,940	15,290	15,640	180	218	192	183
2	Sky Harbor Intl, AZ (PHX)	8,630	8,900	8,990	10,170	151	168	168	142
3	McCarran Intl, NV (LAS)	7,680	8,060	8,780	9,520	160	165	153	142
4	Orlando Intl, FL (MCO)	7,640	9,070	9,540	9,030	160	164	158	153
5	Denver Intl, CO (DEN)	8,090	8,750	8,990	8,870	138	142	139	145
6	Ronald Regan Natl, DC (DCA)	6,100	5,010	5,530	6,700	212	220	179	194
7	Seattle/Tacoma In, WA (SEA)	7,100	6,610	6,820	6,320	180	195	180	186
8	Los Angeles Intl, CA (LAX)	6,210	5,900	5,650	6,280	173	176	163	153
9	Dallas/Ft Wor Int, TX (DFW)	5,170	5,220	4,890	5,820	190	201	198	184
10	Wm B Hartsfield, GA (ATL)	6,290	6,470	6,320	5,570	190	170	158	137
11	Logan Intl, MA (BOS)	5,430	5,520	4,910	5,250	189	174	174	237
12	San Francisco In, CA (SFO)	5,460	5,900	5,340	5,200	168	180	191	173
13	La Guardia, NY (LGA)	4,820	4,960	5,040	5,160	198	203	205	189
14	St Paul Intl, MN (MSP)	6,920	6,430	6,230	5,050	123	129	129	113
15	Tampa Intl, FL (TPA)	3,400	3,670	3,820	4,680	161	164	174	143
16	Portland, OR (PDX)	3,650	4,070	4,230	4,610	218	206	185	175
17	Lindberg Field, CA (SAN)	3,120	4,070	3,450	4,260	200	184	171	185
18	Wayne County, MI (DTW)	8,550	7,260	5,330	4,190	197	213	216	223
19	Lambert-St Louis, MO (STL)	3,310	2,530	2,750	3,810	204	217	218	181
20	SW Florida Reg, FL (RSW)	2,930	3,260	3,590	3,730	137	136	138	130
21	George Bush Intc, TX (IAH)	1,870	2,650	3,460	3,580	249	283	258	238
22	Philadelphia Intl, PA (PHL)	3,340	3,710	3,130	3,480	240	239	224	204
23	Newark Intl, NY (EWR)	3,470	3,830	3,740	3,290	247	228	189	191
24	Kansas City Intl, MO (MCI)	4,710	4,150	2,920	3,260	130	137	235	197
25	Hopkins Intl, OH (CLE)	4,340	3,920	2,900	3,160	287	323	305	274
26	Milwaukee, WI (MKE)	3,270	3,990	3,440	3,070	194	164	185	197
27	Miami Intl, FL (MIA)	2,470	2,210	2,470	2,940	175	163	173	143
28	Baltimore/Wash Intl, MD (BWI)	2,220	2,250	2,160	2,910	212	244	222	174
29	Pittsburgh Intl, PA (PIT)	3,230	2,680	1,910	2,760	216	249	258	239
30	Salt Lake Intl, UT (SLC)	2,160	1,990	1,730	2,550	168	219	199	184
	Other	94,050	96,090	92,320	100,630	220	221	211	200
	Total	254,610	255,070	245,670	261,490	196	202	193	184

Duluth

Domestic Total O&D Passengers and Average One-Way Fare by Carrier, 2002

Source: USDOT O&D Survey and 298C Data.

Rank	Market	Passengers				Average One Way Fare			
		American	Northwest	Other	Total	AA	NW	Other	Total
1	O'Hare Intl, IL (ORD)	11,830	3,740	70	15,640	181	187	343	183
2	Sky Harbor Intl, AZ (PHX)	1,090	9,000	80	10,170	136	141	232	142
3	McCarran Intl, NV (LAS)	1,160	8,330	30	9,520	112	146	235	142
4	Orlando Intl, FL (MCO)	1,160	7,650	220	9,030	119	158	155	153
5	Denver Intl, CO (DEN)	1,040	7,780	50	8,870	117	147	385	145
6	Ronald Regan Natl, DC (DCA)	970	5,640	90	6,700	150	201	245	194
7	Seattle/Tacoma In, WA (SEA)	520	5,800		6,320	132	191	-	186
8	Los Angeles Intl, CA (LAX)	880	5,380	20	6,280	158	152	220	153
9	Dallas/Ft Wor Int, TX (DFW)	1,530	4,290		5,820	173	187	-	184
10	Wm B Hartsfield, GA (ATL)	420	5,140	10	5,570	135	137	208	137
11	Logan Intl, MA (BOS)	1,090	4,130	30	5,250	195	249	230	237
12	San Francisco In, CA (SFO)	690	4,480	30	5,200	108	183	134	173
13	La Guardia, NY (LGA)	1,290	3,860	10	5,160	164	197	239	189
14	St Paul Intl, MN (MSP)		5,050		5,050	-	113	-	113
15	Tampa Intl, FL (TPA)	520	4,130	30	4,680	138	143	166	143
16	Portland, OR (PDX)	350	4,250	10	4,610	176	174	282	175
17	Lindberg Field, CA (SAN)	1,060	3,170	30	4,260	204	178	239	185
18	Wayne County, MI (DTW)	320	3,870		4,190	134	230	-	223
19	Lambert-St Louis, MO (STL)	900	2,910		3,810	151	191	-	181
20	SW Florida Reg, FL (RSW)	260	3,420	50	3,730	112	131	184	130
21	George Bush Intc, TX (IAH)	430	2,820	330	3,580	211	240	260	238
22	Philadelphia Intl, PA (PHL)	810	2,610	60	3,480	152	221	164	204
23	Newark Intl, NY (EWR)	680	2,210	400	3,290	135	192	277	191
24	Kansas City Intl, MO (MCI)	390	2,870		3,260	130	206	-	197
25	Hopkins Intl, OH (CLE)	350	2,530	280	3,160	148	296	230	274
26	Milwaukee, WI (MKE)	380	2,680	10	3,070	117	208	152	197
27	Miami Intl, FL (MIA)	630	2,280	30	2,940	144	140	429	143
28	Baltimore/Wash Intl, MD (BWI)	470	2,370	70	2,910	134	181	184	174
29	Pittsburgh Intl, PA (PIT)	290	2,420	50	2,760	229	239	288	239
30	Salt Lake Intl, UT (SLC)	140	2,370	40	2,550	171	179	511	184
	<i>Other</i>	17,090	79,960	3,580	100,630	196	201	199	200
	Total	48,740	207,140	5,610	261,490	173	186	216	184

APPENDIX 7A.2 – EAU CLAIRE O&D MARKET DETAIL

Eau Claire

Domestic Total O&D Passengers and Average One-Way Fare by Market

Source: USDOT O&D Survey and 298C Data. Includes Air Carriers and Commuters.

Rank	Market	Passengers				Average Fare			
		1999	2000	2001	2002	1999	2000	2001	2002
1	Sky Harbor Intl, AZ (PHX)	1,090	1,060	1,470	1,460	177	144	127	134
2	Elko, NV (EKO)	1,560	2,340	740	1,360	58	58	63	56
3	Orlando Intl, FL (MCO)	980	800	1,610	1,290	191	120	151	169
4	Seattle/Tacoma In, WA (SEA)	1,030	1,510	990	1,250	173	189	139	174
5	Denver Intl, CO (DEN)	790	1,000	1,560	1,150	138	130	126	153
6	McCarran Intl, NV (LAS)	340	660	850	1,110	190	120	146	173
7	St Paul Intl, MN (MSP)	1,570	1,420	1,400	1,070	72	64	53	66
8	Wayne County, MI (DTW)	840	1,350	850	990	308	249	238	231
9	Dallas/Ft Wor Int, TX (DFW)	700	900	840	960	212	248	182	191
10	San Francisco In, CA (SFO)	1,190	1,150	1,130	920	211	274	157	154
11	Wm B Hartsfield, GA (ATL)	880	1,130	1,170	880	235	171	144	156
12	Ronald Regan Natl, DC (DCA)	1,110	830	750	830	187	245	223	168
13	Logan Intl, MA (BOS)	770	880	960	810	292	200	169	235
14	Los Angeles Intl, CA (LAX)	830	640	770	740	227	224	144	175
15	Lambert-St Louis, MO (STL)	840	710	680	720	221	227	202	174
16	La Guardia, NY (LGA)	700	560	780	700	228	162	169	142
17	Baltimore/Wash Intl, MD (BWI)	610	530	400	670	203	210	165	168
18	Newark Intl, NY (EWR)	650	500	550	650	250	270	280	237
19	Portland, OR (PDX)	730	460	740	650	258	175	194	149
20	O'Hare Intl, IL (ORD)	1,240	1,120	830	630	252	259	243	239
21	Tampa Intl, FL (TPA)	660	590	560	620	157	180	146	132
22	SW Florida Reg, FL (RSW)	490	300	420	600	150	151	152	149
23	Lindberg Field, CA (SAN)	750	630	730	560	219	300	210	161
24	John Wayne Intl, CA (SNA)	310	410	400	530	166	172	167	137
25	San Jose Mun, CA (SJC)	620	530	310	510	248	282	232	268
26	George Bush Intc, TX (IAH)	90	320	450	500	246	244	254	206
27	Philadelphia Intl, PA (PHL)	840	760	670	430	263	313	256	187
28	Pittsburgh Intl, PA (PIT)	150	190	400	430	347	255	247	131
29	Salt Lake Intl, UT (SLC)	180	410	300	400	189	207	165	146
30	Memphis Intl, TN (MEM)	310	450	220	390	229	313	359	176
	<i>Other</i>	<i>16,120</i>	<i>15,850</i>	<i>15,930</i>	<i>15,010</i>	<i>210</i>	<i>228</i>	<i>213</i>	<i>183</i>
	Total	38,970	39,990	39,460	38,820	202	205	186	171

APPENDIX 7A.3 – ROCHESTER O&D MARKET DETAIL

Rochester

Domestic Total O&D Passengers and Average One-Way Fare by Market

Source: USDOT O&D Survey and 298C Data. Includes Air Carriers and Commuters.

Rank	Market	Passengers				Average Fare			
		1999	2000	2001	2002	1999	2000	2001	2002
1	O'Hare Intl, IL (ORD)	27,630	23,510	20,130	20,460	202	213	186	177
2	Sky Harbor Intl, AZ (PHX)	9,880	8,540	8,450	10,550	213	216	211	155
3	La Guardia, NY (LGA)	8,700	7,890	6,930	8,390	218	234	226	182
4	Denver Intl, CO (DEN)	7,740	7,370	7,400	7,250	121	135	122	121
5	Ronald Regan Natl, DC (DCA)	8,360	7,060	6,640	6,860	219	246	217	164
6	Orlando Intl, FL (MCO)	6,330	5,860	7,700	6,220	178	189	152	168
7	Dallas/Ft Wor Int, TX (DFW)	7,620	6,620	4,970	6,080	209	195	194	190
8	Wm B Hartsfield, GA (ATL)	6,790	6,180	7,320	6,060	223	149	142	122
9	Logan Intl, MA (BOS)	7,990	7,720	5,970	5,780	264	211	249	196
10	San Francisco In, CA (SFO)	6,460	7,140	5,720	5,710	251	232	196	178
11	Los Angeles Intl, CA (LAX)	5,590	5,620	5,730	5,630	210	216	201	176
12	Philadelphia Intl, PA (PHL)	4,490	4,320	4,570	5,230	226	220	219	165
13	Wayne County, MI (DTW)	5,740	6,200	6,700	5,120	184	168	181	170
14	Seattle/Tacoma In, WA (SEA)	5,270	4,720	4,430	4,850	190	209	203	183
15	Lindberg Field, CA (SAN)	4,630	5,160	3,840	4,330	230	193	200	193
16	McCarran Intl, NV (LAS)	2,570	3,060	3,350	4,120	184	198	164	142
17	Raleigh/Durham, NC (RDU)	4,740	5,380	4,420	4,120	246	239	207	204
18	Newark Intl, NY (EWR)	4,810	4,630	3,840	4,090	223	276	224	205
19	Robert B Mueller, TX (AUS)	5,120	5,190	4,100	4,060	244	262	236	177
20	Tampa Intl, FL (TPA)	2,350	2,630	2,800	3,590	174	201	204	174
21	Miami Intl, FL (MIA)	3,380	3,100	3,700	3,430	235	223	226	202
22	Baltimore/Wash Intl, MD (BWI)	1,960	2,390	3,040	3,160	283	239	252	217
23	George Bush Intc, TX (IAH)	2,260	2,410	3,600	3,070	288	275	218	198
24	Lambert-St Louis, MO (STL)	3,070	2,650	6,080	2,990	206	212	176	164
25	San Jose Mun, CA (SJC)	4,040	3,530	2,940	2,940	395	338	281	266
26	Jacksonville Intl, FL (JAX)	2,160	2,080	3,110	2,790	332	316	269	203
27	Portland, OR (PDX)	2,910	3,010	2,670	2,690	232	260	207	162
28	Indianapolis, IN (IND)	2,700	3,070	2,660	2,670	232	254	212	189
29	St Paul Intl, MN (MSP)	4,290	3,980	2,910	2,600	60	58	79	74
30	San Antonio Intl, TX (SAT)	2,290	2,220	2,440	2,470	202	192	162	207
	<i>Other</i>	<i>103,110</i>	<i>99,600</i>	<i>102,420</i>	<i>99,370</i>	<i>210</i>	<i>212</i>	<i>202</i>	<i>179</i>
	Total	274,980	262,840	260,580	256,680	213	213	198	176

Rochester

Domestic Total O&D Passengers and Average One-Way Fare by Carrier, 2002

Source: USDOT O&D Survey and 298C Data.

Market	Passengers				Average One Way Fare			
	American	Northwest	Other	Total	AA	NW	Other	Total
O'Hare Intl, IL (ORD)	19,180	1,280		20,460	179	150	-	177
Sky Harbor Intl, AZ (PHX)	2,310	8,200	40	10,550	133	162	104	155
La Guardia, NY (LGA)	4,080	4,310		8,390	183	181	-	182
Denver Intl, CO (DEN)	1,960	5,280	10	7,250	88	134	237	121
Ronald Regan Natl, DC (DCA)	2,920	3,900	40	6,860	133	187	183	164
Orlando Intl, FL (MCO)	1,990	4,100	130	6,220	142	181	162	168
Dallas/Ft Wor Int, TX (DFW)	3,270	2,810		6,080	183	199	-	190
Wm B Hartsfield, GA (ATL)	1,320	4,720	20	6,060	117	122	535	122
Logan Intl, MA (BOS)	2,000	3,730	50	5,780	217	183	335	196
San Francisco In, CA (SFO)	1,620	4,050	40	5,710	141	191	277	178
Los Angeles Intl, CA (LAX)	2,080	3,520	30	5,630	176	174	431	176
Philadelphia Intl, PA (PHL)	1,900	3,300	30	5,230	160	168	110	165
Wayne County, MI (DTW)	1,070	4,040	10	5,120	144	177	119	170
Seattle/Tacoma In, WA (SEA)	1,010	3,830	10	4,850	133	197	161	183
Lindberg Field, CA (SAN)	1,570	2,710	50	4,330	176	203	177	193
McCarran Intl, NV (LAS)	1,190	2,930		4,120	103	158	-	142
Raleigh/Durham, NC (RDU)	2,380	1,690	50	4,120	190	226	111	204
Newark Intl, NY (EWR)	1,400	2,390	300	4,090	205	208	184	205
Robert B Mueller, TX (AUS)	2,640	1,370	50	4,060	171	191	78	177
Tampa Intl, FL (TPA)	870	2,650	70	3,590	113	195	161	174
Miami Intl, FL (MIA)	2,250	1,150	30	3,430	206	187	490	202
Baltimore/Wash Intl, MD (BWI)	900	2,210	50	3,160	174	234	204	217
George Bush Intc, TX (IAH)	1,110	1,710	250	3,070	164	218	217	198
Lambert-St Louis, MO (STL)	1,250	1,740		2,990	147	176	-	164
San Jose Mun, CA (SJC)	1,450	1,460	30	2,940	282	253	153	266
Jacksonville Intl, FL (JAX)	70	2,650	70	2,790	41	208	154	203
Portland, OR (PDX)	620	2,070		2,690	107	179	-	162
Indianapolis, IN (IND)	890	1,780		2,670	203	182	-	189
St Paul Intl, MN (MSP)		2,570	30	2,600	-	74	25	74
San Antonio Intl, TX (SAT)	1,580	890		2,470	220	184	-	207
<i>Other</i>	<i>35,240</i>	<i>61,990</i>	<i>2,140</i>	<i>99,370</i>	<i>172</i>	<i>181</i>	<i>230</i>	<i>179</i>
Total	102,120	151,030	3,530	256,680	171	179	217	176

APPENDIX 7A.4 – ST. CLOUD O&D MARKET DETAIL

St. Cloud

Domestic Total O&D Passengers and Average One-Way Fare by Market

Source: USDOT O&D Survey and 298C Data. Includes Air Carriers and Commuters.

Rank	Market	Passengers				Average Fare			
		1999	2000	2001	2002	1999	2000	2001	2002
1	Sky Harbor Intl, AZ (PHX)	2,100	1,670	1,390	1,590	141	156	157	125
2	Denver Intl, CO (DEN)	1,640	1,530	1,430	1,320	109	139	157	148
3	O'Hare Intl, IL (ORD)	1,240	1,370	1,070	1,180	246	241	225	174
4	St Paul Intl, MN (MSP)	1,800	1,520	1,500	1,130	47	48	64	73
5	McCarran Intl, NV (LAS)	650	740	740	1,080	200	148	142	155
6	Orlando Intl, FL (MCO)	1,380	1,200	1,050	1,080	159	182	150	147
7	Dallas/Ft Wor Int, TX (DFW)	1,570	1,110	1,230	1,030	156	206	199	271
8	Seattle/Tacoma In, WA (SEA)	1,230	840	960	1,020	183	161	159	173
9	Wayne County, MI (DTW)	1,160	890	820	910	247	204	294	241
10	Wm B Hartsfield, GA (ATL)	1,090	1,050	1,250	910	215	160	147	146
11	Los Angeles Intl, CA (LAX)	1,070	710	620	870	154	202	205	150
12	Ronald Regan Natl, DC (DCA)	1,180	970	820	870	194	231	187	152
13	San Francisco In, CA (SFO)	1,340	990	930	720	190	173	174	162
14	Chicago Midway, IL (MDW)	1,590	750	540	710	124	187	189	163
15	Lindberg Field, CA (SAN)	760	780	750	700	191	155	155	188
16	Kansas City Intl, MO (MCI)	1,170	1,010	800	680	92	125	167	224
17	Portland, OR (PDX)	930	540	520	660	214	200	195	145
18	La Guardia, NY (LGA)	1,130	1,030	500	640	226	308	261	202
19	Logan Intl, MA (BOS)	840	1,150	780	630	182	201	181	197
20	Lambert-St Louis, MO (STL)	790	860	600	620	218	206	232	209
21	Indianapolis, IN (IND)	730	420	740	600	233	256	299	256
22	Baltimore/Wash Intl, MD (BWI)	560	420	220	590	194	303	247	182
23	Jm Cox Dayton In, OH (DAY)	500	530	420	560	198	302	290	267
24	SW Florida Reg, FL (RSW)	720	510	560	550	125	151	158	108
25	Memphis Intl, TN (MEM)	390	360	450	540	179	279	213	238
26	Philadelphia Intl, PA (PHL)	1,060	620	540	540	283	194	274	183
27	Anchorage Intl, AK (ANC)	280	380	300	490	179	191	119	179
28	Reno, NV (RNO)	600	310	490	490	196	185	252	165
29	San Antonio Intl, TX (SAT)	230	330	260	490	195	139	181	167
30	Tucson Intl, AZ (TUS)	270	160	160	490	145	141	110	161
	<i>Other</i>	19,210	18,810	18,740	16,970	218	228	214	207
	Total	49,210	43,560	41,180	40,660	190	203	197	187

APPENDIX 7A.5 – MSP O&D MARKET DETAIL

Minneapolis - St. Paul

Domestic Total O&D Passengers and Average One-Way Fare by Market

Source: USDOT O&D Survey and 298C Data. Includes Air Carriers and Commuters.

Rank	Market	Passengers				Average One Way Fare			
		1999	2000	2001	2002	1999	2000	2001	2002
1	Sky Harbor Intl, AZ (PHX)	518,370	631,030	588,830	522,980	149	144	139	138
2	Chicago Midway, IL (MDW)	576,380	740,570	582,950	485,000	104	78	84	103
3	Denver Intl, CO (DEN)	548,540	574,330	509,130	463,100	100	113	117	119
4	O'Hare Intl, IL (ORD)	552,450	521,190	510,750	438,850	221	227	190	185
5	Orlando Intl, FL (MCO)	369,540	527,790	511,630	429,130	139	129	129	130
6	Wm B Hartsfield, GA (ATL)	406,620	442,020	425,170	402,280	179	147	122	113
7	Los Angeles Intl, CA (LAX)	436,730	487,040	483,450	381,980	179	183	164	176
8	La Guardia, NY (LGA)	311,400	329,050	285,220	362,720	269	274	251	218
9	McCarran Intl, NV (LAS)	288,020	462,600	422,210	348,750	131	118	125	128
10	San Francisco In, CA (SFO)	438,660	509,130	458,640	339,150	205	210	178	200
11	Dallas/Ft Wor Int, TX (DFW)	438,670	440,870	412,400	325,870	148	173	159	196
12	Logan Intl, MA (BOS)	342,640	409,450	340,970	293,670	216	184	202	210
13	Seattle/Tacoma In, WA (SEA)	330,100	388,740	355,470	285,520	161	164	155	166
14	Newark Intl, NY (EWR)	271,650	282,770	248,070	266,240	278	283	265	247
15	Ronald Regan Natl, DC (DCA)	228,250	220,520	190,460	258,500	228	239	231	195
16	Philadelphia Intl, PA (PHL)	208,550	221,970	224,970	238,370	251	244	217	190
17	Tampa Intl, FL (TPA)	146,730	172,180	187,110	223,710	198	179	170	139
18	Lindberg Field, CA (SAN)	186,410	243,180	230,180	219,670	186	174	161	162
19	Wayne County, MI (DTW)	295,180	371,490	268,360	218,100	191	161	209	226
20	Lambert-St Louis, MO (STL)	195,270	208,310	197,330	191,100	199	207	199	191
21	SW Florida Reg, FL (RSW)	119,120	160,590	183,930	189,070	143	139	146	132
22	Portland, OR (PDX)	129,210	140,240	133,930	154,500	222	230	202	171
23	Milwaukee, WI (MKE)	192,330	261,820	217,750	143,100	148	109	137	181
24	Kansas City Intl, MO (MCI)	308,460	314,150	197,420	141,900	90	85	156	215
25	Miami Intl, FL (MIA)	135,770	162,630	149,600	140,070	200	179	177	159
26	Baltimore/Wash Intl, MD (BWI)	113,790	112,300	114,130	138,900	246	246	234	198
27	Fort Laud Intl, FL (FLL)	70,030	94,160	122,400	138,750	200	187	162	148
28	George Bush Intc, TX (IAH)	116,350	155,410	136,340	136,640	255	249	247	238
29	John Wayne Intl, CA (SNA)	96,980	116,560	105,290	120,380	248	243	216	198
30	Indianapolis, IN (IND)	104,520	111,590	114,850	120,070	249	242	222	193
	<i>Other</i>	<i>4,269,490</i>	<i>4,649,590</i>	<i>4,327,850</i>	<i>4,320,840</i>	<i>203</i>	<i>204</i>	<i>198</i>	<i>185</i>
	Total	12,746,210	14,463,270	13,236,790	12,438,910	186	181	176	174

Chapter 8 - Tier 2 Special Functions & Services

8.1 BACKGROUND

Chapter 8 presents a discussion of the special regional roles that the Tier 2 airports can serve in today's changing airport environment.

Sponsors of small commercial service airports are confronted with unparalleled challenges. They must reshape the business model for the airport so that revenues are not wholly dependent on commercial air service. As discussed in Chapter 6, no airline forecaster could have anticipated the events that began to unfold in 2001. The aftermath of September 11th, sudden reductions in air service, economic recession, air carrier losses and bankruptcies, route system realignments, SARS, and the adoption of the Internet as the main distribution network for airline tickets all conspired to permanently alter 'business as usual.' In redeveloping a functioning business model, many airport sponsors are revising and expanding the role of their airports to maintain relevance and decrease revenue dependency on the air carriers.

Airports are making a transition from strictly an operations center to an economic activity center. The goal is for the airport to become an economic engine that will create activity and economic benefit for the community and thus justify continuance of the airport enterprise. Because airports serve different markets, the steps to transition to an Airport Economic Activity Center will vary from airport to airport.

The constraints and opportunities for each Tier 2 airport are different and, as such, each airport should develop its own discrete program. This section presents a discussion (1) special functions and services, (2) creation of incentives that will facilitate and promote the evolution of the airport as an Airport Economic Activity Center, and (3) individual possibilities for Chippewa Valley Regional, St. Cloud Regional, Rochester International, and Duluth International airports.

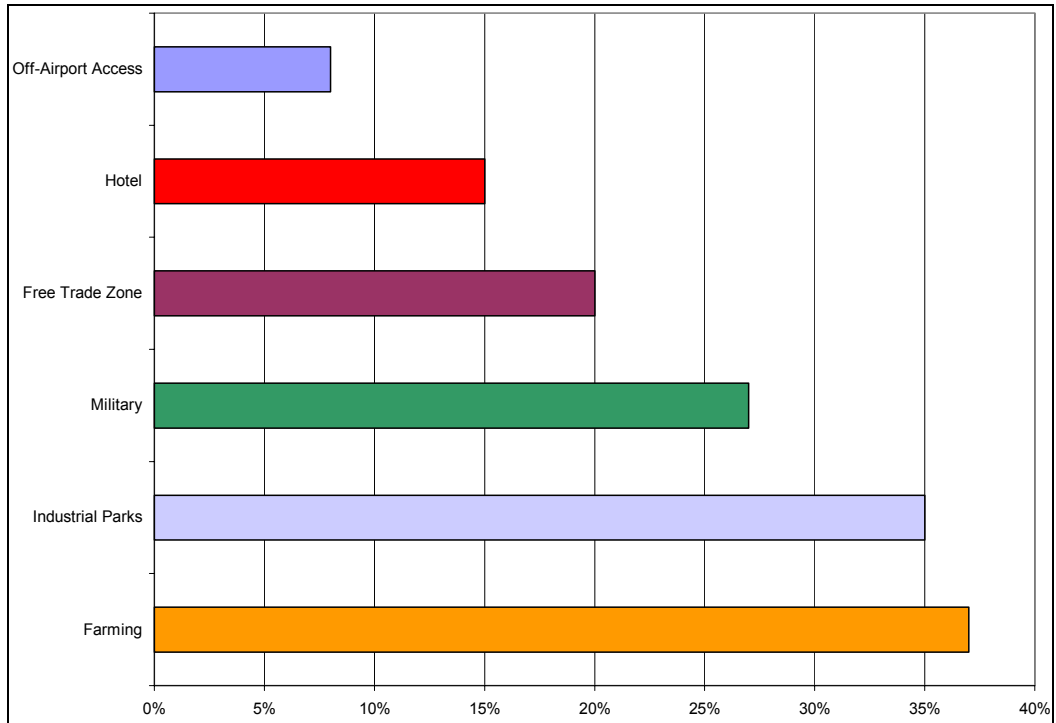
8.2 NON-AERONAUTICAL AIRPORT ACTIVITY — POTENTIAL

Recently, smaller airports have been facing downward pressure on revenue and decreasing aeronautical activity. To respond to a shrinking level of activity, airport sponsors have come to recognize that non-aeronautical revenues must go hand-in-hand with air service retention and development. Air carriers are looking for every possible cost savings. In airline profitability analyses, airline airport rents and fees do matter. Given air carrier preferences to operate in the largest markets, Tier 2 airport sponsors must keep airline rents and fees as low as possible to maintain and recruit air service. This means that it is important for airports to develop multiple sources of revenue.

Recently, an AAEE¹ survey of 180 large, medium, small and non-hub airports was conducted to determine the types of non-aeronautical activities airport sponsors are engaging in and the potential revenue by activity.

¹ American Association of Airport Executives

Figure 8-1 shows the percentage of airports participating in various non-aeronautical revenue-producing activities. This figure shows that a high percentage of airports engage in farming activities. Farming requires little effort from the airport management team to develop the activity and revenue. Also, the figure shows that as the activity increases in complexity the fewer the number of airports that participate in that activity. How lucrative are these activities?

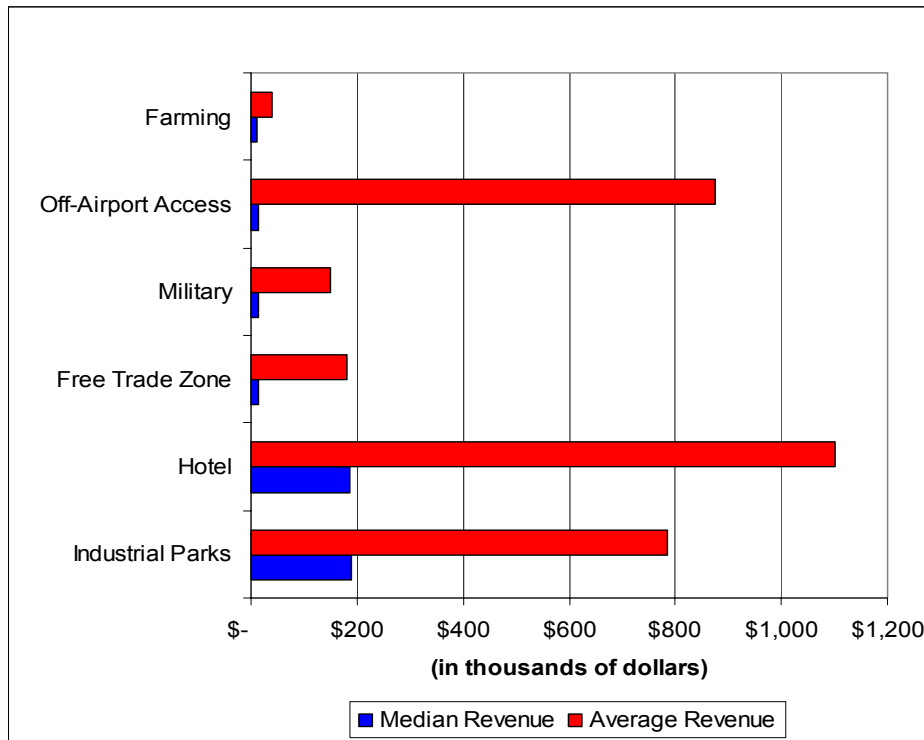


Source: AAAE 2001-2002 Rates and Charges Survey

Figure 8- 1. Surveyed Airports Engaging In Non-Aeronautical Activities

Figure 8-2 shows the average and median airport revenues reported in the survey. This information indicates the relative profitability of each of the activities and suggests that the more entrepreneurial the activity the larger the potential return. Farming produces the smallest amount of revenue; industrial parks, hotels and commercial activity can produce meaningful volumes of revenue.

The AAAE survey suggests that for airports to evolve into Business Activity Centers, airports must actively partner with economic development groups. Also, the survey illustrates that the future emphasis for airport sponsors will be on (1) airport property management and (2) the identification and development of special functions and services that will elevate an airport to the level of an economic development center for the region.



Source: AAAE 2001-2002 Rates and Charges Survey

Figure 8- 2. Average and Median Revenue by Activity at Surveyed Airports

8.3 SPECIAL FUNCTIONS AND SERVICES

Tier 2 airports are seeking to expand their traditional roles and activities. There is a rich variety of activities and enterprises that airports are pursuing. The following discussion describes some of these activities.

Operational Triage Centers

Some airports are working with federal, state and local emergency response agencies to make their airport the region's operational triage center for natural disasters and for potential terrorist events. Airports offer rich communications and transportation capabilities with large buildings and facilities that are valuable during emergencies. For instance, Augusta Regional Airport has been designated as the military disaster staging operations site for any nuclear incidents at the Department of Energy's Savannah River Site. The airport is also the operational triage center for any regional mass casualty transport for disasters in the region. Forward-looking, Augusta Regional Airport is working with local military officials to become a key link when large scale incidents (natural disasters as well as other kinds of disasters) require a combined military, government, and private sector response.

Aircraft Maintenance Center

Many airports have decided to become aircraft maintenance centers and have recruited and nurtured that activity. There are three types of aircraft maintenance centers: (1) large

commercial aircraft (80,000 pound certificated landing weight), (2) small commercial aircraft (commuter aircraft), and (3) general and corporate aviation aircraft. A brief description of each type of maintenance center follows.

Large Commercial Aircraft Maintenance Center

An airline aircraft maintenance center has a proven positive economic impact on the local economy in terms of jobs and expenditures. It also has a beneficial effect on air service because maintenance schedules usually result in increased frequencies of passenger aircraft arriving at the airport for maintenance. Communities that have succeeded in attracting large commercial aircraft maintenance centers are (1) Indianapolis International Airport with the United Airlines B-737/B-757 aircraft maintenance base that employs over 6,500 people, and (2) Duluth International Airport with the Northwest Airlines maintenance base that employs about 400 in the maintenance of various aircraft.

Large Commercial Aircraft Maintenance Centers are sought after by communities all over the country and therefore the competition is intense and the incentives required are usually costly.

Small Commercial Aircraft Maintenance Centers

Small commercial aircraft maintenance centers have a smaller economic impact, therefore, are less sought after than the large commercial aircraft maintenance center. Airports such as Knoxville International and Fort Wayne International airports have successfully recruited commuter airline maintenance centers. There is greater evidence that having a small commercial aircraft maintenance center will have a positive impact on air service than does a large commercial aircraft maintenance center.

In Georgia, Augusta Regional Airport has worked with and nurtured Garrett Aviation (an aircraft maintenance company) for years. As a result, the region is achieving employment growth from introduction of regional jets into the commercial airline fleet. Working together, Garrett and the airport are positioning Garrett Aviation to be one of the few designated national overhaul stations for regional jet aircraft engines. This program is projected to increase aircraft maintenance jobs at the airport from about 250 to approximately 1,100 in the ten-year future.

General & Corporate Aviation Aircraft Maintenance Centers

General and corporate aviation maintenance centers can provide reliable economic activity in a region as well. The key is recruiting a well-capitalized fixed base operator or aircraft maintenance company that has a solid "business plan". As described above, Augusta recruited Garrett Aviation over twenty years ago. Garrett's business plan was to be a niche player in the executive aircraft overhaul portion of the general aviation aircraft maintenance business. Garrett has grown the executive aircraft overhaul business to employ about 200 today. Another example is the impressive success of Cirrus Designs' aircraft manufacturing business at Duluth International Airport.

Cargo/Cargo Distribution

Many airports are interested in developing air cargo activity and facilities. Air cargo activity has been promoted and developed at several former military bases. Mather Air Force Base in Sacramento, California has been redeveloped as a civil airport with a portion dedicated to air cargo. With aggressive incentives, the airport has attracted several air cargo operators. Moffitt Federal Airfield in Sunnyvale, California is accommodating air cargo activity that can not be accommodated at Norman Y. Mineta San Jose International Airport. Las Vegas McCarran International Airport is planning the

redevelopment of Searchlight Airport for air cargo operations to serve southern Nevada and portions of southern California.

With a federally funded study, Contra Costa County, California is working to determine the feasibility of converting Byron Airport (a small general aviation reliever) into an air cargo logistics center to provide capacity relief for San Francisco and Oakland International Airports. The concept being explored is a combination of airside facilities for cargo aircraft and warehousing and cargo sorting facilities on the landside. In addition, because so much air cargo is now “trucked” from origin to destination, this study will also determine the viability of the airport serving as an air cargo trucking and distribution center for cargo originating or destined for locations along U.S. Interstate Highways 5 and 80 within an eight to ten hour drive from the airport. According to the Boeing Aircraft Company the fastest growing segment of air cargo is air cargo that is transported via “truck flights” and that never leaves the ground. This mode of operation is thirteen times more profitable for cargo airlines than flying the cargo on aircraft.

Some airports are exploring the opportunity surrounding the shipping of high value agricultural products by air. Stockton Metropolitan Airport in California has developed produce processing and cold chain facilities at the airport. These facilities are required for the proper storage and processing of outbound and inbound agricultural products. In addition, the airport sponsor has lengthened the runway to accommodate aircraft that would be used to transport produce.

Also, it should be noted that the Minnesota Department of Transportation, the Metropolitan Airport Commission, and a group of private sector parties are investigating the feasibility of creating an air cargo and logistics center in the region. An initial air cargo study, conducted by SITA Logistics Solutions in 2001, provided the following observations and recommendations to achieve greater air cargo efficiencies:

- International air cargo access is essential for Minnesota and the Upper Midwest Region to maintain economic vitality and to generate economic growth in the global marketplace.
- Ninety (90) percent of Minnesota's airfreight, equivalent to approximately 200 trucks per week, is trucked to/from Chicago.
- There are no direct international air cargo routes. Therefore, international destinations are limited to passenger routes.
- MSP's contribution to the State's distribution needs is declining.
- Recommendations that came out of the study were to develop a public/ private partnership to create a Midwest Gateway regional distribution center for international air cargo, and in the meantime, to maintain and grow freight services at Minneapolis/St. Paul International Airport (MSP) in conjunction with passenger flights, and support growth of FedEx and UPS at MSP.
- A Minnesota Cargo Project Development Steering Committee consisting of representatives from the Twin Cities Airports Task Force, the Metropolitan Airports Commission and Mn/DOT has been formed to provide leadership in developing the recommendations and to begin identifying the remaining project development needs.²

As the cargo project unfolds, airport and logistic resources within the metro area will be considered as potential sites. Depending on the nature, requirements and operational characteristics needed, one of the Tier 2 airports might be able to satisfy this role in whole or in part.

² Minnesota State Transportation Plan.

Military Aviation Center

The military frequently use civilian airports for basing Air Force, Navy, Army, and Coast Guard reserve units and for the Air National Guard. The Reserve and Guard units bring with them a cadre of full time staff and provide a positive economic impact on the community. In some locations, they contribute to the development of the airfield facilities. In addition, at some airports with Reserve or Guard units, the military provides aircraft rescue and firefighting services thus reducing the operating cost of these airports by hundreds of thousand of dollars.

As discussed above, military aviation centers produce jobs, economic benefit to the community, and some contributions to capital and operating costs. Military aviation does not produce material revenue for airports.

Multi Modal Transportation Center

Currently there is no hotter topic in the U. S. Department of Transportation and certain Congressional committees than inter-modal strategies. Programs that link combinations of air, rail, and surface transportation are almost assured of some level of federal participation to develop the concept and determine its feasibility.

Successes include Amtrak feeding Baltimore Washington International Airport with an ever-increasing volume of passengers. Van Nuys Airport (located in a Los Angeles suburb) serves as a location for Los Angeles International Airport passengers to park their cars, check in with their airline, and ride in comfort on high occupancy vehicles the last twenty five miles (one hour) to the airport. Also, airport employees use the same facilities and surface transportation system for parking and commuting to work.

In Florida, several second and third Tier airports within 60-75 miles of major airports are discussing rail connections of one kind or another to the major airports. The program they are investigating includes landside passenger services and processing, baggage processing, and passenger security screening at the local airport followed by transporting the passenger via secure trains to the major airport. The benefit to the local airport is that they retain most of the landside activity and revenue while providing a valuable service to passengers. The benefit to the major airport is reduced congestion and increased overall airport capacity. Also, there would be an environmental benefit from eliminating thousands of vehicle trips, thus improving air quality and decongesting roadways.

There has been some discussion of connecting major locations in Minnesota with high speed rail. Depending on the routes and level of service, it may be possible to link some of Minnesota's Tier 2 airports with Minneapolis-Saint Paul International Airport and create a synergistic transportation system to the traveling public.

Aviation Education

There is an approaching national shortage of mechanics and pilots estimated at about 100,000 to support existing aviation requirements. The Viet Nam era military-trained mechanics and pilots are beginning to retire. The military pool from which pilots and mechanics have been traditionally recruited has been dramatically reduced over the years. Many believe that this situation is providing opportunities for airports to partner with local educational institutions to provide aviation education and training facilities. Aviation education and training activities would improve airport utilization and increased activity.

Commercial Development Center

Today most airports are trying to increase non-aeronautical airport revenue to reduce the airport user charge burden on the airlines. On-airport non-aeronautical commercial development is the most lucrative source of non-aeronautical revenue. One of the most effective approaches to developing commercial potential at an airport is to create a public-private partnership with private sector developers for the transformation of land (in excess of the aviation requirements) to commercial use. The private sector developer offers the airport sponsor the financial, industrial/commercial leasing expertise necessary to successfully develop airport land. The key is to partner with the private sector developer and retain an equity position so the airport gets both land-owner rents and an appropriate share of the profits of the development.

The ultimate goal for the airport sponsor is to put developable land to the highest and best use and thus maximize non-aeronautical revenues. In Rochester there is the beginning of a commercial development center. The Rochester International Airport, in association with a third party developer, has developed a hotel and a restaurant on its airport as well as air cargo facilities. This activity serves, supports, and complements the airport sponsor's core business activity.

Most airport locations provide opportunities for a mix of land development as is the case in Rochester. Usually an airport can offer a mix of retail, commercial, and industrial opportunities. A series of airports have retail activity as diverse as convenience stores (Seven-Eleven's and SuperAmerica's), restaurants (fine, fast-food, and specialty), Kmart's, banks, and service businesses. Commercial development at airports can include office campuses, combination office and hangar facilities for corporate users, industrial parks, and warehousing-distribution and logistics facilities. Industrial facilities can include aircraft manufacturing facilities as at Duluth, Savannah and Wichita, and general manufacturing facilities as at Sarasota and Great Falls.

Minnesota DOT Logistics Center

The Tier 2 airports could provide land for the Minnesota Department of Transportation to create logistics centers for MnDOT highway maintenance and operations. Airport sites could be used for maintenance and storage of heavy equipment.

Special Event Center

Airports are considering the development of special event centers to host such activities as large public gatherings, fairs, automobile and motor cycle racing, rodeos, and air shows.

Business Enterprises Incubator

A number of airport sponsors are working with local economic development agencies to recruit business, facilitate the growth of existing local business, and assist entrepreneurs launch businesses. The airport sponsor usually participates in the strategic planning of activities and assists in the recruitment and/or promoting of the enterprise. Further, with many of the enterprise opportunities the airport sponsor provides land to these enterprises in a manner that is consistent with the Federal Aviation Administration's Airport Sponsor's Assurances.

Minneapolis-Saint Paul International Airport Divestiture

Minneapolis-Saint Paul International Airport (MSP) is focused on (1) serving as a national large hub airport providing facilities and services for national connectivity for its hubbing airline, and (2) increasing international passenger and cargo activity to evolve its role as

a major international gateway. There are no second major airports being planned for the Minneapolis-Saint Paul area. As Minneapolis-Saint Paul International Airport evolves, there will be spin-off business opportunities that are less lucrative to Metropolitan Airports Commission or that can not be accommodated due to constraints (land availability, capacity, and congestion). These opportunities present interesting possibilities for the Tier 2 airports. The key to exploiting these types of opportunities is for the Tier 2 airports to (1) maintain a forum with the Metropolitan Airports Commission so that as opportunities manifest themselves, action can be taken, (2) have appropriate infrastructure in place, and (3) have a rich palette of incentives to help recruit opportunities.

8.4 BENEFITS AND INCENTIVES

To evolve into an Airport Economic Activity Center an airport sponsor must be a part of an economic development team. The Economic Development Team should have broad community support and participation. These teams are generally comprised of representatives of the local economic development agency, chambers of commerce, city/county commissions, large local employers, and the local airport sponsor.

The Economic Development Team would identify opportunities and target recruitment opportunities. For each opportunity a development plan would be prepared to guide the recruitment or development. These should include a series of appropriate economic and financial benefits and incentives in the proposal to the prospective business. The benefits and incentives would differ for each prospect depending on need and competitive factors.

The following sections will discuss some typical financial and economic incentives that are necessary to (1) facilitate the development of an airport as an "Airport Economic Activity Center," and (2) be competitive with other communities. It should be noted that some incentives and benefits should be considered in cooperation and partnership with various governmental jurisdictions and may require assistance from the respective community's legislative delegation. Airport Economic Activity Centers should offer the same benefits and incentives that are typically provided an urban enterprise zone. The following is a summary of benefits and incentives that should be considered.

Economic Incentives

The following is a description of economic incentives available in Minnesota. Additional direct financial incentives are available through the State of Wisconsin. Each airport must develop a specific program for recruiting and developing business activity.

Inventory Tax Abatement

A taxpayer will receive a credit against the taxpayer's personal property tax liability equal to the personal property tax on all inventory located in the Airport Economic Activity Center on the assessment date.

Gross Income Tax Exemption

Companies within the Airport Economic Activity Center are exempt from Gross Income Tax to the extent of any increase in the Airport Economic Activity Center qualified gross income received for a defined period.

Wage Tax Credit

Employers are allowed an annual credit, after application of all other state tax credits, against their economic activity center state tax liability, either gross income tax or adjusted gross income tax arising from zone activities.

Investment Credit

Individuals or trusts purchasing an ownership interest in a business located in the development zone may be eligible for an investment credit, up to a defined percentage of the purchase price, against their state tax.

Individual Wage Exemption

All qualified employees' wages will be exempt from state individual income tax (if any) for a defined period.

Real Estate Tax Abatement

As designated by the appropriate city or county government, specific areas receive reduced tax assessment.

Financial Incentives

There are a series of financial benefits and incentives that are within the airport sponsor's prerogative to create. Among the effective are:

Rents and Fees Abatement

To attract airport tenants some airport sponsors offer a period during which rents and fees are reduced or abated as an incentive for the tenant to locate on the airport. The philosophy is to get the tenant for its economic impact value and defer rents and fees to a later time (5 or 10 year future) when the tenant is well established at the airport. It is important that rents and fees abatement incentives be packaged appropriately to avoid revenue diversion issues with the Federal Aviation Administration.

Facilities Financing and Development

To secure a new tenant in many situations, an airport sponsor should be prepared to assist with the financing and development of facilities. The airport sponsor can offer the option of financing tenant facilities with special purpose facilities bonds for which the tenant is responsible for paying debt service. For some important tenants, the airport sponsor should be prepared to provide facilities on a "turn-key" basis—that is finance and construct facilities.

Infrastructure Development

Sometimes it is essential that the airport sponsor construct the infrastructure necessary for a tenant to locate on the airport. At Indianapolis International Airport, the airport sponsor invested about \$12 million in site grading, drainage, utilities and access. In the succeeding ten years, the airport was able to recruit several major aircraft maintenance facilities, airline reservations facilities, university facilities, and United State Post Office facilities with thousands of new jobs. The secret of Indianapolis' success was that they could offer immediately "build-able" sites to prospective tenants. Having build-able sites meant a savings in time and money for the prospective tenants.

State Of Minnesota Business Assistance Programs

The State of Minnesota, through its Minnesota Department of Trade & Economic Development, offers business assistance and financing programs to promote economic development in the state. The following are just some of the programs available that the Tier 2 airport sponsor should consider incorporating into their incentives program.

Capital Access Program

For private lenders seeking additional backing to enhance the credit worthiness of their loan recipients.

Enterprise Zone Program

Companies adding jobs in an Enterprise Zone may be eligible for tax credits.

Minnesota Investment Fund

For businesses acquiring "fixed assets" (such as equipment, buildings, and land) and adding new workers as a result. This program provides companies below-market financing. Virtually all types of businesses are eligible, excluding retail enterprises.

Minnesota Job Skills Partnership

Provides State grants to educational institutions for the development of training programs that meet specific business needs.

Minnesota Pathways Program

Provides state grants to educational institutions for the development of training programs for individuals transitioning from public assistance to work. The training programs, which must include the active participation of private employers, are designed to meet specific business needs.

Rural Challenge Grant Program

Provides fixed asset and working capital financing for companies located outside the seven-county Twin Cities metropolitan area.

Small Business Development Loan Program

For established manufacturers with fixed asset expansion costs in excess of \$1 million and adding a substantial number of new jobs. Through industrial development bonds, the Agricultural and Economic Development Board can support a loan at below market interest rates.

Tourism Loan Program

Provides low-interest loans to tourism-related businesses to upgrade or develop new facilities.

8.5 EVOLVING AIRPORT ROLES

The importance of Tier 2 airport sponsors proactively promoting the evolution is crucial to the long-term success of these airports. The four airports that are the subject of this study are already involved in developing some of these special functions and services. The following sections will (1) discuss special functions and services for each of the airports

based upon information obtained during meetings at the airports, and (2) identify some of the prerequisites to developing the activity.

St. Cloud Regional Airport

St. Cloud Regional Airport is the newest of the Tier 2 airports and it is located in one of the fastest growing parts of the State. In the course of this project, the study team participated in a discussion group with representatives from the St. Cloud area. The group considered the future role and potential for the airport. Numerous comments were received that the airport has the potential of evolving into the second commercial airport serving the Minneapolis-Saint Paul area.

Figure 8- 3 shows the strategic position of the Airport in relation to the Twin Cities. To realize this potential a series of tasks should be accomplished as soon as possible:

- Initiate an independently-conducted visioning process to determine what is important to the community and constituents of the St. Cloud region.
- Update the airport master plan to identify future requirements and what must be done to protect the future capacity of the Airport.
- Prepare a development plan that will provide direction for development of the Airport and the pursuit of economic development through special functions and service.

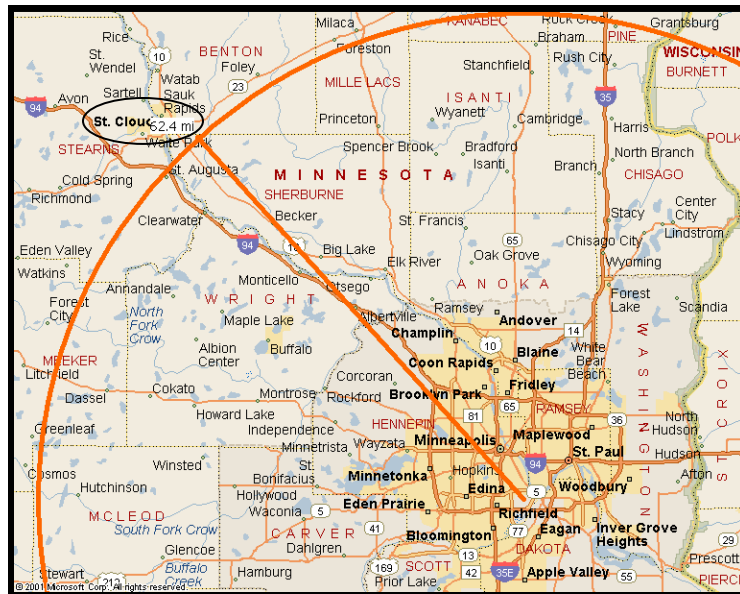


Figure 8- 3. St. Cloud Regional Airport is 65 Air Miles to MSP

St. Cloud — Vision for the Future

What is important to the people of the St. Cloud Region? What does the community want its Airport to be in the 30-year future? What should the role of the Airport be? The only way to authoritatively answer these questions is through an independently conducted visioning process.

If the vision is for the airport to evolve into an airport that supplements Minneapolis-Saint Paul International Airport and become a second major airport serving the Twin Cities

region from the west, it is crucial that this be documented in an “independently conducted visioning process” as soon as possible to guide the planning process.

Airport Master Plan Update

For the St. Cloud Regional Airport to evolve into a major commercial airport, it has to have an airport master plan that will provide for the development of an operationally efficient, high-capacity facility. The master plan update must establish the ultimate geometry of the airport site, identify land that must be acquired, and identify measures necessary to protect the airport from urban encroachment. Airport site geometry and available airport land will be of crucial importance over the years in trying to benefit from Minneapolis-Saint Paul International Airport Divestiture.

St. Cloud Regional Airport has recently completed a master plan and has made certain improvements to its airfield. The geometry of the airfield is based upon (1) a primary air carrier runway capable of serving both regional jets and large jets (B-737, B-757 and smaller Airbus aircraft) and (2) a secondary runway for general aviation. This configuration affects the future opportunities of the airport -- it defines the amount of land required for aviation and non-aviation purposes.

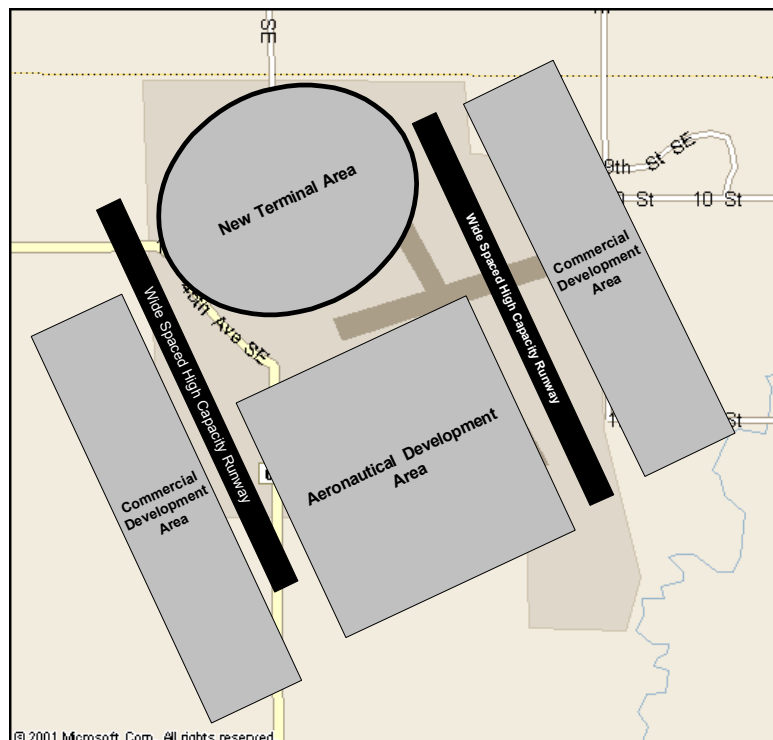


Figure 8- 4. Illustrative 2050 Airport Layout Plan of an Efficient Commercial Airport at St. Cloud

The master plan should project an appropriate airport configuration and facilities requirements for the fifty (50) year future instead of the standard twenty (20) years. Figure 8- 4 shows an operationally efficient, high-capacity airport configuration overlaid on the existing airport. The figure shows wide-spaced parallel runways with a midfield terminal and commercial buffer zones around the airport. The master plan should identify a site geometry similar to the figure and required land, access improvements, and utilities and other infrastructure required to permit the vision to evolve into reality over the years on a demonstrated need basis.

If the vision is to evolve the airport into the second major airport serving the Twin Cities region, the airport master plan must identify and prioritize the steps and action trigger points in the program. This would be a major undertaking requiring the long-term support of federal and state agencies.

The master planning process will identify the land that the airport sponsor, with the assistance of the federal and state grants in aid programs, must acquire or land bank to preserve the vision for the future. It is important that land sufficient to accommodate wide spaced parallel runways—a contemporary commercial airport layout—begin to be protected as soon as possible.

Development Plan

The master plan will identify the land that can be developed for commercial uses that complement airport activity. The master plan would designate land for special functions and services and could include a generalized development plan that could be used for economic development and to focus on accommodating special functions and services.

The development plan would identify the infrastructure requirements necessary to develop designated portions of the Airport for the special function and services discussed below. The development plan would provide planning, development, financial, and operation guidance for implementing special functions and services.

Management Framework

The airport should develop a business plan similar to what a private sector organization utilizes. The purpose is to focus business decisions and provide organizational direction.

Also, the airport should have a formal property management program guide management. The property management program should consist of lease and concession policies, development and performance standards, and a standardized lease program.

St. Cloud Regional Airport— Special Functions and Services

Based upon information provided during meetings and throughout the course of this study, this airport should pursue over the next five years:

Minneapolis-Saint Paul International Airport Divestiture

As Minneapolis-Saint Paul International Airport evolves, there will be spin-off business opportunities that are less lucrative to the Metropolitan Airports Commission or that can not be accommodated due to constraints (land availability, capacity, and congestion). St. Cloud can be well positioned to take on these opportunities. The key to exploiting these types of opportunities is for the St. Cloud Airport management to (1) maintain a forum of communication with the Metropolitan Airports Commission (MAC) so that as opportunities manifest themselves, action can be taken, (2) have appropriate infrastructure in place, and (3) have a rich palette of incentives to help recruit opportunities.

Military Aviation

Near-term the airport is suited to military aviation activity. Military aviation would increase activity and utilization of the Airport. There have been decisions between the military and the airport sponsor concerning locating some missions at the airport. It is suggested that the airport sponsor continue to pursue the recruitment of military activity.

Operational Triage Center

The airport's location to the west of the Twin Cities region makes it ideal to serve as an operational triage center for the region. It is suggested that the airport sponsor consider the scope of this activity, develop an outline plan and open a dialog with local, state, and federal agencies concerning establishing this center at the airport.

Commercial Development Center

Land that is in excess of aeronautical requirements can be commercially developed for uses described above. The airport sponsor may have to invest in infrastructure such as access, utilities, grading and drainage to make commercial activity viable. The first step in developing commercial activity would be for the airport sponsor to prepare (1) a property management program that describes the "rules of the road" concerning the leasing practices and procedures of the airport sponsor, as well as establish on what basis and to what extent partnering with private sector developers would occur, and (2) a development plan (preliminary market analysis and development plans, standards, and development criteria) that establishes development patterns compatible with the long-term development of the airport.

Cargo/Cargo Distribution

The airport location on highway networks makes it a potential site for a cargo/cargo distribution center for the region. It is recommended that the airport sponsor work in association with Minneapolis-Saint Paul International Airport to migrate relocatable cargo activity to St. Cloud International Airport

Special Event Center

Depending on the availability of airport land, a special event center would be a sound interim (10-20 years) use of airport land. It is suggested that airport management sponsor a one- or two-day workshop with its Economic Development Team or its equivalent to evaluate and prioritize these opportunities and to prepare a plan and schedule for their pursuit.

Immediate Action Plan—St. Cloud Regional Airport

The following are the elements of the "Immediate Action Plan" we recommend for St. Cloud Regional Airport:

- Initiate an independently-conducted visioning process (surveys, community meetings, workshops, and meetings with regional organizations and agencies) to determine the community's vision and aspirations for the airport. This is an inclusive process to determine what is important to the airport's constituents.
- Initiate a master plan update to incorporate the results of the visioning process and provide a plan to guide the long-term development of the airport in accordance with documented community and constituent wishes. Also, in the context of the master plan update, specific plans can be prepared to facilitate the pursuit of military aviation, multimodal transportation facilities, operation triage center opportunities, commercial development activity, and a special events center.
- As an element of the master plan update, prepare a development plan that will provide for the implementation of high-probability special functions and services discussed above.
- The airport should prepare a detailed business plan to guide the development of each sector of the airport's activities (financial planning, revenue development, marketing, operations development, capital development, etc.).
- The airport should have a property management program prepared that includes a lease and concession policy and standardized leasing program. This will facilitate the tenant recruitment process and put airport management in the

position of being able to authoritatively answer the questions of prospective tenants on a timely basis.

Rochester International Airport

Rochester International Airport recently completed a new airport master plan. The new airport master plan shows Rochester International Airport evolving to an airport with wide-spaced parallel runways with a midfield passenger terminal complex. This master plan defines the long-term geometry of the airport site and identifies the land necessary to develop the master plan airport layout.

Rochester International Airport — Vision for the Future

From the airport master plan and meetings in Rochester, the community's vision of the airport as an efficient airport facility and economic development center is apparent. The master plan for the Rochester International Airport will provide for a wide variety of growth scenarios and provides a sound basis for the future of the airport.

Also, there appears to be an economic development plan evolving. The airport has been successful at recruiting Federal Express to operate a regional air cargo operation. Urban development growing toward the airport in Rochester is enhancing the commercial value of airport real estate. This is demonstrated with the airport's recent successes with the development of a hotel and restaurant on the airport. From these successes, it can be concluded that, in addition to the community's vision of the airport as a transportation center, there is a commercial center component to the community's vision for the airport.

Development Plan

To promote and facilitate continued economic and commercial development, Rochester International Airport should prepare a development plan for commercial non-aeronautical and aeronautical land from the master plan's generalized land use plan. The development plan would provide a subdivision plan that identifies lease lots, permitted uses, prohibited uses, and development standards. Also, the development plan would identify necessary infrastructure (access, utilities, drainage and grading), plans for financing infrastructure development, and development triggers.

The development plan is a comprehensive tool necessary to put airport land to its "highest and best" use. The development plan would focus on facilitating the implementation of the special functions and services discussed below and continued commercial development.

Management Framework

Today airports are business enterprises and need the same tools as any efficient private sector business. Therefore, the airport should develop a business plan similar to what a private sector organization would utilize. The business plan would define goals, objectives, missions, activities, and services. It would provide a plan for management (and management succession), financial management, capital development, marketing, competition management, revenue development, determining and re-determining rents-fees-charges. The business plan would provide a framework for periodic review and update of the airport sponsor's policies and procedures. Business plans really are road maps to success with the purpose of aligning goals and objectives with business decisions and providing management focus and organizational direction.

Over the next few years, the challenge for Rochester International Airport is going to be to fulfill its fiduciary obligation to get the highest and best financial return for its non-aeronautical commercially developable land. The way to assure that the financial arrangements and terms and conditions reflect contemporary airport business practices

is to develop a formal airport property management program to guide airport management in developing opportunities and dealing with tenant issues. The property management program should consist of lease and concession policies (defining terms, conditions, procedures, and competitive basis of leasing airport land), development and performance standards, and a standardized lease program. Most quality commercial tenants appreciate airports that have formal property management program because it protects their investments and assures of a defined quality of development and investment by others.

Rochester International Airport — Special Functions and Services

Based upon information provided during meetings and throughout the course of this study, over the 5-year future this airport should pursue:

Cargo/Cargo Distribution

The airport's location on highway networks makes it ideal to serve as a cargo/cargo distribution center for the region. It is recommended that the airport sponsor work in association with Minneapolis-Saint Paul International Airport to migrate relocatable cargo activity to Rochester International Airport.

Operational Triage Center

The airport's location to the southeast of the Twin Cities region makes it ideal to serve as an operational triage center for the region. It is suggested that the airport sponsor consider the scope of this activity, develop an outline plan and open a dialog with local, state, and federal agencies concern establishing this center at the airport.

Commercial Development Center

Land that is in excess of aeronautical requirements can be commercially developed for uses described above. The airport sponsor may have to invest in infrastructure such as access, utilities, grading and drainage to make commercial activity viable. The first step in developing commercial activity would be for the airport sponsor to prepare a (1) a property management program that describes the "rules of the road" concerning the leasing practices and procedures of the airport sponsor as well as establishing on what basis and to what extent partnering with private sector developers would occur, and (2) a development plan (preliminary market analysis and development plans, standards, and development criteria) that establishes development patterns that are compatible with the long-term development of the airport.

Special Event Center

Depending on the availability of airport land, a special event center would be a sound interim (10-20 years) use of airport land.

It is suggested that airport management sponsor a one- or two-day workshop with its Economic Development Team or its equivalent to evaluate and prioritize these opportunities and to prepare a plan and schedule for their pursuit.

Immediate Action Plan – Rochester International Airport

The following are the elements of the "Immediate Action Plan" we recommend for Rochester International Airport:

- Prepare a development plan that will facilitate implementation of high-probability special functions and services discussed above.
- The airport should prepare a detailed business plan that will guide the development of each sector of the airport's activities (financial planning, revenue development, marketing, operations development, capital development, etc.).
- The airport should have a formal property management program prepared that includes a lease and concession policy and standardized leasing program. This will facilitate the tenant recruitment process and put airport management in the

position of being able to authoritatively answer the questions of prospective tenants on a timely basis.

Duluth International Airport

The Airport is evolving from a governmentally-operated transportation center to an entrepreneurially-operated air transportation and business activity center in the region.

Impressive successes such as (1) the Northwest Airlines aircraft maintenance facility and (2) Cirrus Designs demonstrate the airport's ability to attract and retain quality business. The airport's ability to continue such success will, in part, be determined by its ability to provide land, facilities and infrastructure in the future on a systematic basis within the context of an overall business plan.

Duluth International Airport — Vision for the Future

From meetings in Duluth it was determined that the community's vision for the airport is that of an air transportation center and an engine for economic development and job creation in the region.

The Cirrus Design success, along with other successes, demonstrates the economic development potential of the airport. The availability of land for commercial activities plus a positive atmosphere toward business at the airport is great for both large and small enterprises locating on the airport.

Development Plan

To promote and facilitate continued economic and commercial development, Duluth International Airport should prepare a development plan for commercial non-aeronautical and aeronautical land from the master plan's generalized land use plan. The development plan would provide a subdivision plan that identifies lease lots, permitted uses, prohibited uses, and development standards. Also, the development plan would identify necessary infrastructure (access, utilities, drainage and grading), plans for financing infrastructure development, and development triggers.

The development plan is a comprehensive tool necessary to put airport land to its "highest and best" use. The development plan would focus on facilitating the implementation of the special functions and services discussed below and continued commercial development.

Management Framework

Today airports are business enterprises and need the same tools as any efficient private sector business. Therefore, the airport should develop a business plan similar to what a private sector organization would utilize. The business plan would define goals, objectives, missions, activities, and services. It would provide a plan for management (and management succession), financial management, capital development, marketing, competition management, revenue development, determining and re-determining rents-fees-charges. The business plan would provide a framework for periodic review and update of the airport sponsor's policies and procedures. Business plans really are road maps to success with the purpose of aligning goals and objectives with business decisions and providing management focus and organizational direction.

Over the next few years, the challenge for Duluth International Airport is going to be to fulfill its fiduciary obligation to get the highest and best financial return for its non-aeronautical commercially developable land. The way to assure that the financial arrangements and terms and conditions reflect contemporary airport business practices

is to develop a formal airport property management program to guide airport management in developing opportunities and dealing with tenant issues. The property management program should consist of lease and concession policies (defining terms, conditions, procedures, and competitive basis of leasing airport land), development and performance standards, and a standardized lease program. Most quality commercial tenants appreciate airports that have formal property management program because it protects their investments and assures of a defined quality of development and investment by others.

Duluth International Airport — Special Functions and Services

Based upon information provided during meetings and throughout the course of this study, over the 5-year future this airport should pursue:

Aviation Education

It is recommended that the airport sponsor coordinate with educational institutions and aviation employers to determine the feasibility of creating an aviation educational center. The education programs could be in the fields of aircraft maintenance and/or flight training. Additionally, the programs could be primary education or recurring professional education.

Military Aviation

The airport is well suited to military aviation activity. Military aviation sustains the airport's activity level. The military has said that they are considering moving additional activity to the airport. It is suggested that the airport sponsor maintain open dialog with the military in pursuit of additional military activity.

Operational Triage Center

The airport's location in the northern part of the State makes it ideal to serve as an operational triage center for the region. It is suggested that the airport sponsor consider the scope of this activity, develop an outline plan and open a dialog with local, State, and federal agencies concerning establishing this center at the airport.

Commercial Development Center

Land that is in excess of aeronautical requirements can be commercially developed for uses described above. The airport sponsor may have to invest in infrastructure such as access, utilities, grading and drainage to make commercial activity viable. The first step in developing commercial activity would be for the airport sponsor to prepare (1) a property management program that describe the "rules of the road" concerning the leasing practices and procedures of the airport sponsor, as well as establishing on what basis and to what extent partnering with private sector developers would occur, and (2) a development plan (preliminary market analysis and development plans, standards, and development criteria) that establishes development patterns that are compatible with the long-term development of the airport.

Business Enterprises Incubator

The interest and desire of the Duluth Region to promote economic development was manifest during workshops conducted in Duluth. This desire could be organized into a business enterprise incubator to recruit business, facilitate the growth of existing local business, and assist entrepreneurs launch business. The airport sponsor usually participates in the strategic planning of activities and assists in the recruitment and/or promoting of the enterprise. With land available and a willing community, a business enterprise incubator could produce material economic activity on the airport.

Special Event Center

Depending on the availability of airport land, a special event center would be a sound interim (10-20 years) use of airport land.

It is suggested that airport management sponsor a one- or two-day workshop with its Economic Development Team or its equivalent to evaluate and prioritize these opportunities and to prepare a plan and schedule for their pursuit.

Immediate Action Plan – Duluth International Airport

The following are the elements of the "Immediate Action Plan" we recommend for Duluth International Airport:

- The airport should prepare a development plan that will facilitate implementation of high-probability special functions and services discussed above.
- The airport should prepare a detailed business plan that will guide the development of each sector of the airport's activities (financial planning, revenue development, marketing, operations development, capital development, etc.).
- To take the airport to the next level as a business activity center will require the development and adoption of a formal contemporary property management program, non-aeronautical revenue development program, and development of policies and procedures to support and promote the evolution of the airport. The overall goals of these activities are to (1) enhance opportunities for economic development, (2) grow non-aeronautical revenue to reduce reliance on airline revenues, and (3) create a stronger environment (low cost) for the airport sponsor to grow airline service to the airport.
- The airport should have a formal property management program prepared that includes a lease and concession policy and standardized leasing program. This will facilitate the tenant recruitment process and put airport management in the position of being able to authoritatively answer the questions of prospective tenants on a timely basis.

Chippewa Valley Regional Airport

The airport is located in an urbanized setting with material encroachment. Ultimately, this factor limits the activities that can be accommodated and affects the future role of the airport. At its current site, the airport is best suited to serve as a general and corporate aviation center with air service utilizing regional aircraft.

Eau Claire is the headquarters city of Menards, a major building materials retailer. Menards is a major corporate aviation user of the airport. Menards operates a fleet of high performance aircraft to transport their staff to and from headquarters. In addition, Menards maintains hangars and aircraft maintenance facilities at the airport. Menards' aviation activities provide local jobs and valuable airport activity; and at the same time, establishes the potential for creating a regional corporate aircraft maintenance operation at the airport.

Chippewa Valley Regional Airport — Vision for the Future

Chippewa Valley Regional Airport recently completed an airport master plan that shows the airport being brought into compliance with federal standards and recommends incremental improvements to the airport to be constructed over the twenty-year future. This master plan is credible for continuing to operate the airport in its current mode and direction.

It may be important for airport management to explore with local constituents possible futures for the airport. It is important that the airport know the answers to key questions such as: Who are the important to the users of the airport? What does the community want its airport to be in the 30-year future? What should the role of the airport be? Can the airport at the current site satisfy the needs and aspirations of the community for the

long-term future? The only way to authoritatively answer these questions is through an independently-conducted visioning process. As such, airport management may want to consider such a process to document expectations of important users of the airport.

The current vision as depicted in the master plan is that the airport will continue in its current mode with incremental increases in activity and facilities constructed through the years to accommodate growth.

Management Framework

The Chippewa Valley Regional Airport should develop a business plan similar to what a private sector organization would utilize. The business plan would define goals, objectives, missions, activities, and services. It would provide a plan for management (and management succession), financial management, capital development, marketing, competition management, revenue development, determining and re-determining rents-fees-charges. The business plan would provide a framework for periodic review and update of the airport sponsor's policies and procedures. Business plans really are road maps to success with the purpose of aligning goals and objectives with business decisions and providing management focus and organizational direction.

Also, Chippewa Valley Regional Airport should have a formal property management program to guide airport management. The way to assure that the financial arrangements and terms and conditions reflect contemporary airport business practices is to develop a formal airport property management program to guide airport management in developing opportunities and dealing with tenant issues. The property management program should consist of lease and concession policies (defining terms, conditions, procedures, and competitive basis of leasing airport land), development and performance standards, and a standardized lease program. Most quality commercial tenants appreciate airports that have formal property management program because it protects their investments and assures of a defined quality of development and investment by others.

Chippewa Valley Regional Airport — Special Functions and Services

Based upon information provided during meetings and throughout the course of this study, over the 5-year future this airport should pursue:

Aircraft Maintenance Center - Corporate

The critical mass of corporate activity at the airport, with Menards corporate activity and Heartland Aviation, provides a rich base upon which to develop partnerships and strategic alliances to develop a corporate aircraft maintenance center with regional draw. The key is partnering with the on-airport corporate interests and agreeing on a business plan that will lead to recognition as a corporate aircraft maintenance center.

Commercial Development Center

Land that is in excess of aeronautical requirements can be commercially developed for uses described above. The airport sponsor may have to invest in infrastructure such as access, utilities, grading and drainage to make commercial activity viable.

Special Event Center

Depending on the availability of airport land, a special event center would be a sound interim (10-20 years) use of airport land.

It is suggested that airport management sponsor a one- or two-day workshop with its Economic Development Team or its equivalent to evaluate and prioritize these opportunities and to prepare a plan and schedule for their pursuit.

Immediate Action Plan – Chippewa Valley Regional Airport

The following are the elements of the "Immediate Action Plan" we recommend for Chippewa Valley Regional Airport:

- Initiate an independently-conducted visioning process (surveys, community meetings, workshops, and meetings with regional organizations and agencies) to determine the community's long-term vision and aspirations for the airport. This is an inclusive process to determine what is important to the airport's constituents.
- Prepare a detailed business plan that will guide the development of each sector of the airport's activities (financial planning, revenue development, marketing, operations development, capital development, etc.).
- Prepare a formal property management program that includes a lease and concession policy and standardized leasing program.
- Conduct a one- or two-day workshop with its Economic Development Team or its equivalent to evaluate and prioritize the opportunities presented above and to prepare a plan and schedule for their pursuit.

Chapter 9 - Air Service Incubator

9.1 AIR SERVICE INCUBATOR MISSION

An air service “incubator” is a group of airports working together for common air service goals. The group pools their collective influence with airlines and with others to accomplish these goals. The philosophy behind an incubator is that the participating parties will accomplish more working together than working separately. Working together in a spirit of perpetual optimism will serve as a “force multiplier” and will produce greater air service results. The endeavors of the Incubator Working Group will either succeed or fail – depending upon the individuals involved and the level of participation, optimism and enthusiasm brought to the tasks at hand.

An air service incubator is proposed to assist the states of Minnesota and Wisconsin Departments of Transportation, the Metropolitan Airport Commission, the Metropolitan Council, Duluth International Airport, Rochester International Airport, St. Cloud Regional, and Chippewa Valley Regional Airport (the Incubator Working Group) in achieving the respective parties’ goals for air service.

Specifically, the mission of the Incubator Working Group is to work together in a mutually supportive, collaborative environment to create economic development and air service synergies for each member airport and the system of perimeter airports that surround Minneapolis-St. Paul. The following is a proposal for implementation of the incubator.

Goals of the Parties

The states of Minnesota and Wisconsin, through their respective Departments of Transportation, are interested in optimizing air service and the economic potential of the Tier 2 airports. The Departments are looking to the incubator to assist Tier 2 airports in realizing their respective potential and to promote and develop air service based on an inter-regional model of air transport in the metropolitan area.

The Metropolitan Airport Commission, operator of the Minneapolis-St. Paul International Airport, is also interested in assisting the Tier 2 airports improve air service to and from other primary hubs such as those at Denver, Chicago, Detroit, Cincinnati, Cleveland and possibly St. Louis. Improving air service in this manner at the Tier 2 airports will also benefit Minneapolis-St. Paul International Airport by reducing the number of operations by smaller aircraft during peak periods to and from the Tier 2 airports and Minneapolis-St. Paul International Airport. Reducing the number of operations by smaller aircraft frees capacity at Minneapolis-St. Paul International Airport for larger, long-haul aircraft which in turn serves to generate a greater economic impact on the Twin Cities and the states of Minnesota and Wisconsin overall.

The Metropolitan Council, planning agency for the Minneapolis-St. Paul metropolitan area, wants to explore development of Tier 2 airports to decrease diversion and relieve highway congestion. From a planning perspective, an inter-regional system of airports has the potential to make fuller and more efficient use of existing airport capacity at MSP and Tier 2 airports. An inter-regional plan for airports is also a logical way to set priorities and to enable multiple airports to finance aviation projects.

The Tier 2 airports share the common goal of desiring improved air service in the form of (1) improved access to the national air transportation system, (2) competitive air fares, and (3) convenient flight schedules. The Tier 2 airports recognize that individually they have limited leverage and influence over airline service decisions. As such, the Tier 2

airports' goals are to work together to pool and leverage appropriate resources and influence in order to achieve positive changes in service.

9.2 ROLES OF THE PARTIES

The State of Minnesota's Department of Transportation would serve as sponsor of the incubator program (with Wisconsin's DOT assent). In this capacity, the State will coordinate activities of the Incubator Working Group including the scheduling of meetings, agendas, and facilitation.

The Metropolitan Airport Commission and the Met Council will support and participate in the activities of the Incubator Working Group including participation in the integration of air service needs that are consistent with the common goals of the member airports. An important role that MAC can fill is providing access to the airlines, interfacing with the airlines, and aviation industry sponsorship. Further, the MAC can assist Tier 2 airports in identifying appropriate elements for their individual air service development plans. The MAC will function as a mentor to the Tier 2 airports and will provide assistance with gaining entrée to the airlines for purposes of positioning air service proposals, requests and receiving feedback.

The role of the Tier 2 Airports will be to come to the Incubator Working Group with prepared independent air service development plans. The individual airport plans must include specific air service goals that can be reviewed by the Incubator Working Group and integrated into an overall Incubator Working Group plan for prioritization and implementation.

The Incubator Working Group will be assisted by an independent air service consultant/facilitator. The independent party will help to establish useful meetings, work with the incubator group to assist with facilitating discussions, providing access to data required for air service proposals, providing assistance in the production of presentation materials and similar support duties. The consultant will be available during the Incubator Working Group meetings to provide general advice and guidance to the member airports and will assist with follow-up activities related to matters that arise during the meetings. The air service consultant will also be available to assist the Tier 2 airports with preparation of their individual air service development plans.

9.3 INCUBATOR OPERATING PLAN

The proposed process or operating plan through which the Incubator Working Group's mission will be accomplished is described below.

The Incubator Working Group should have calendar-driven meetings at which specific goals are developed, plans established, and necessary actions identified and planned. The meetings should be scheduled in advance at a predefined location and time. Members should make attendance and participation at the Incubator Working Group a priority and, as such, identify one or more individuals who will routinely represent their airport or organization. Agendas should be prepared and distributed to each member in advance of each meeting to ensure that all members come prepared and the time is used effectively. Meeting minutes should be prepared within 3 days of each meeting and should be distributed to each member of the Incubator Working Group. The meeting minutes should include a summary of action items, the party or parties responsible for that action item, and a running status report on each action item. The facilitator should maintain an atmosphere of open interaction while ensuring that the tasks at hand are kept at the front of the group's attention. Momentum should be protected through adequate meeting facilitation and follow up.

The forum would provide members with assistance in dealing with air service issues. The collective wisdom of the group can be leveraged to assist with positioning each airport for dealing with issues such as air fares, trip completion, schedule departure times, etc. In addition, the forum would provide an opportunity to share industry intelligence on evolving issues and situations.

Each member airport should independently develop its own air service plan to bring forward to the Incubator Working Group. Each airport's air service plan should take into consideration the adequacy of its existing service, air fares, schedules, passenger routing, total travel times and market "bleed."

The Incubator Working Group will review the independently prepared plans to identify overlapping, synergistic or common goals. Once the commonality has been determined, the Incubator Working Group will develop and execute action plans (including identification of opportunities and resources needed to capitalize on those opportunities) to further the goals and objectives of the member airports. The goal of this effort is to develop a series of air service proposals designed to satisfy common goals. The air service proposals will then be presented to the airlines at events and meetings scheduled by the State of Minnesota's Department of Transportation and arranged by the Metropolitan Airport Commission.

The Incubator Working Group will serve as a forum for state DOT's, Met Council, and MAC members to provide assistance to the Tier 2 airports to resolve their air service development issues – essentially these entities will serve as a support group for the proper development of each of the Tier 2 member airports.

It is important to note, however, that the Incubator Working Group initiatives are intended to *supplement not replace* each member airport's own air service development program.

9.4 IMMEDIATE INCUBATOR ACTION PLAN FOR 2003

The following actions are proposed for the Incubator Working Group's initial year.

- Member airports independently develop their individual airport air service plans.
- The Incubator Working Group meets to interface the air service plans of each of the member airports (i.e. identify overlapping, synergistic or common goals).
- Identify air service initiatives for each airport that all members can support.
- Gather the data and develop the information sets containing the local data that the airlines are looking for in order to support air service proposals.
- Develop specific air service proposals and presentation materials, as appropriate, to accomplish the common goals of the Incubator Working Group.
- Identify opportunities to leverage the ability of the state DOT's and the MAC to provide "friendly persuasion" to the airlines to receive visits and proposals from the Tier 2 airports and from the Incubator Working Group.
- Identify other means by which the Department of Transportation and the Metropolitan Airport Commission can assist the Tier 2 airports in recruiting air service and/or economic development.
- Develop initial milestones for 2003 which could include, for example:
 - Scheduling an "Airline Air Service Summit" in Minnesota for key airlines at which the Incubator Working Group "rolls out" a consolidated air service plan.
 - Scheduling a "Minnesota Day" at target carriers.
 - Further define and describe the concept of an inter-regional air system.



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