Appendix C
FORECAST TECHNICAL REPORT

C.1 Introduction

The purpose of this appendix is to provide more detailed information on the assumptions and methodologies used to develop the forecasts presented in Chapter 3: Forecast. These forecasts are used identify future capacity shortfalls, calculate future costs, estimate future revenue streams, and measure and enhance the overall benefit of aviation to the state.

This appendix is organized as follows: baseline activity levels are established, and parameters that potentially have an impact on air traffic level are discussed. Major forecast assumptions are then discussed. Forecast passenger demand and commercial operations are estimated afterwards. Cargo volume and operations are then projected employing various forecasting techniques. The next section focuses on future GA fleet mix and operations. The last section provides peak hour activity forecasts.

C.2 Base Year Activity Level

Base year passenger enplanements and airline operations were obtained from the FAA TAF, BTS T100 and airport records. The cargo statistics were primarily based on the BTS T100 and airport records. The base year passenger and cargo activity levels were established by compiling data from these data sources. Base year GA data for system airports were provided by the Minnesota Department of Transportation (DOT) through an inventory survey.

In the forecast, the GA aircraft and operations were analyzed for each of the following aircraft categories:

- Single Engine Piston (SEP)
- Multi-Engine Piston (MEP)
- Turboprop (TP)
- Jet (JET)
- Light Sport Aircraft (LSA)
- Military (MIL)
- Other (OTH) such as helicopters and gliders

Data for MSP and the MAC relievers were obtained from the previous Long Term Comprehensive Plans (LTCPs) prepared by HNTB in 2006 and 2009. The based aircraft and operations at the six MAC reliever airports were adjusted to match the state survey results. However, after consulting with MAC staff, the statistics for MSP were kept without adjustment as they are believed to better reflect current operations. Figure C-1 and Figure C-2 illustrate the total base year aircraft and operation statistics at system airports. A detailed based aircraft breakdown is shown in Table C-1 on page C-33.
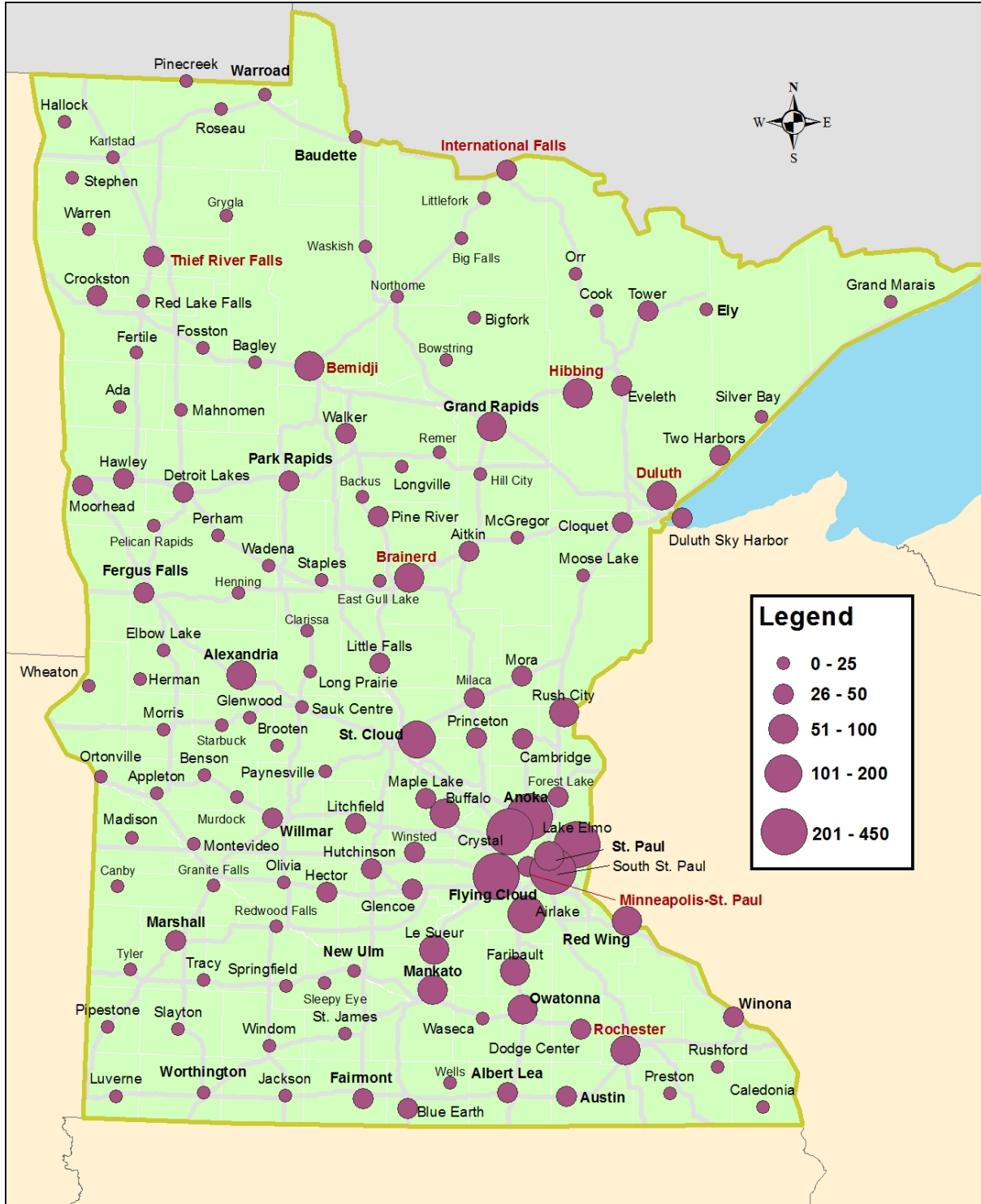
The state inventory survey also provides operations by type (local and itinerant) and purpose (business, leisure and training). To assess facility requirements in the future, it is necessary to estimate operations generated by each aircraft category.

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Figure C-1: Number of Based Aircraft in Minnesota – Base Year 2010

Legend

•	0 - 25
•	26 - 50
●	51 - 100
●	101 - 200
●	201 - 450

Sources: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB analysis

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Figure C-2: Number of GA Operations in Minnesota – Base Year 2010

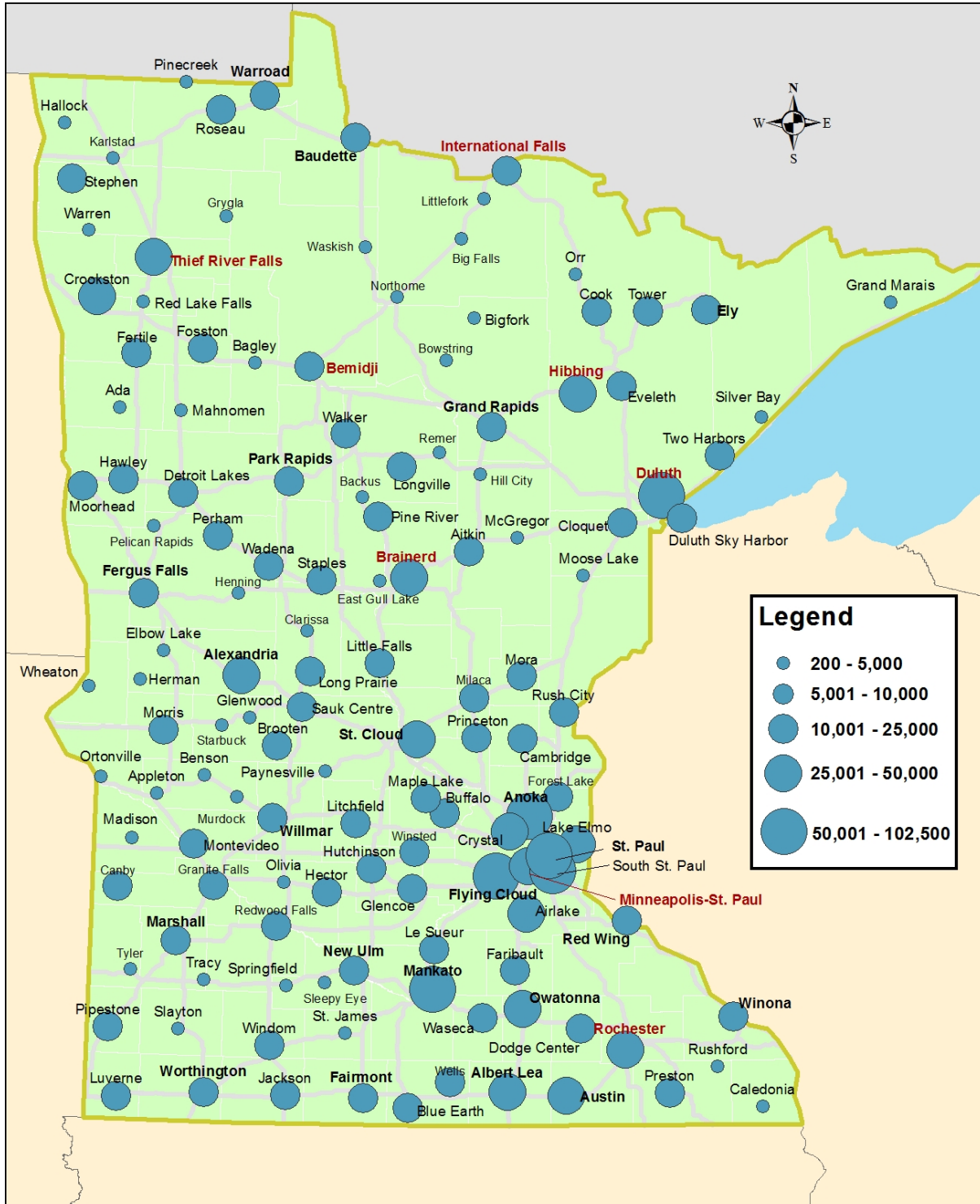

Sources: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB analysis

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To convert the number of based aircraft to operations, an operation rate table was developed. The operation rate is the ratio of operations to based aircraft for each category. The operation rate for each aircraft category was calculated using the Federal Aviation Administration (FAA) General Aviation and Air Taxi Activity survey (GAATA)[i]. This rate was multiplied by the based aircraft to estimate operations. The results were then adjusted proportionally to match the inventory survey operations at each system airport.

Table C-2 on page C-34 demonstrates the baseline operation breakdowns at each system airport. It also includes operations by trip type including local operations and itinerant operations and purpose including business, leisure and training operations.

The inventory survey gathered percentage by trip type and purpose data for most airports. For airports where such information is missing, the following assumptions were made: First, for facilities without based aircraft, all operations were assumed to be itinerant leisure trips. Airports without based aircraft tend to be very small, and usually cannot accommodate the higher performance aircraft favored by business general aviation. Second, the FAA Terminal Area Forecast (TAF)[ii] provides historical and forecast data for airports in the National Plan of Integrated Airport Systems (NPIAS). If the airport in question had local / itinerant operation breakdowns from the FAA TAF, they were used. Finally, if the airport did not have local / itinerant operation breakdowns from the TAF, then the overall average breakdown from the other system airports was applied to the airport.

C.3 Previous Forecasts

C.3.1 2006 State Aviation Systems Plan

The most recent state aviation system plan for Minnesota was completed in 2006[iii]. Since then the aviation industry has witnessed one of the most severe recessions in history. Passenger demand dropped sharply and in turn significantly impacted airlines' profitability. Coupled with record high oil prices, the airlines faced pressure from both weaker demand and higher operating costs. In response, several airlines filed for bankruptcy and completed several mergers that consolidated both legacy and low-cost carriers. Subsequently, their networks were re-evaluated and system wide frequency and route reductions were made. Airlines also turned to additional revenue streams such as baggage, meal, and priority seating assignment fees. As a result, most major airlines were able to weather the most recent recession.

Due to the factors mentioned above, the 2006 Systems Plan markedly overestimated passenger enplanements in 2010 compared to actual 2010 enplanements.

C.3.2 Metropolitan Airport Council (MAC) Regional Aviation System Plan

GA activity and airline service were also forecasted in the MAC Regional Aviation System Plan[iv] for MSP, six MAC administrated reliever airports, as well as South St. Paul, Surfside Seaplane Base, and Wipline Seaplane Base.

Forecasts on MSP and other six MAC administrated reliever airports were adopted from the MAC Long Term Comprehensive Plans (LTCPs). Other GA airports forecasts applied a bottom-up approach for each individual airport after reviewing existing Master Plans, FAA TAF, and State Aviation Systems Plan. The LTCPs for the reliever airports were updated in two phases. The first study that includes Crystal, Airlake, and Lake Elmo was completed in 2006. Anoka County, Flying Cloud and St. Paul downtown were analyzed in the second report in 2009.

The first report was written before the oil price hike, the financial market crash, and the subsequent recession. At the height of a long expansion, the U.S. economic outlook was optimistic in 2006. Oil prices

were on the rise but below $80 per barrel. As a result, the 2006 report over estimates the aviation activity level at most airports.

When the second study was completed in 2009, the recession was ending and oil prices were well below the historical peak in 2008. However, the U.S. economic recovery has been slower than anticipated since the technical end of the recession. Oil prices climbed to more than $80 per barrel again in 2010 after dropping to around $40 per barrel in April 2009[v]. All the factors above contributed to an optimistic based aircraft and operations forecast in the LTCPs.

C.4 Passenger Enplanements and Commercial Operations Forecast

Passenger enplanements and operations at airline service airports are influenced by local socio-economics, airport service characteristics, airline strategy, and other external factors including convenience and security. A combination of these factors was considered in the Plan to examine the potential correlation between passenger enplanements and independent factors.

C.4.1 Relevant Factors

Key factors determining air passenger activity are the economy which determines the size of the potential market and the cost of the service which determines how much of the potential demand is actually realized. Other important factors are competition, whether from other airports, other transportation modes, or other options for the expenditure of discretionary dollars. Finally, adequate infrastructure is needed, both at the airport and to provide access to the airport, so that the demand can be accommodated. This section focuses on the following factors: demographic and socioeconomic factors, fuel prices, air fares, ancillary fees, high speed rail, airline consolidations and out-of-state airports.

Demographic and Socioeconomic Factors

Historical records and future forecasts of Minnesota state population are available from both the Minnesota State Demographer's Office[vi] and Woods & Poole's Complete Economic and Demographic Data Source (CEDDS) database[vii]. Figure C-3 shows two data sources have perfectly aligned historical figures and slightly different forecasts. The Minnesota State Demographer's Office predicts higher growth in the near term whereas the CEDDS produces higher forecasts in the long run. The forecast from the Minnesota State Demographer's Office is adopted in this study as the state agency processes better knowledge on local trends and constraints. The average annual growth rate from 2011 to 2030 from both forecasts is around 0.96%.

The Demographer's Office only produces forecasts on population and labor force. Therefore other key socio-economic parameters such as total income, per capita income and employment were obtained from the Woods & Poole CEDDS database and the Bureau of Economic Analysis (BEA)[viii]. The Woods & Poole data is adjusted with the latest BEA statistics at the base year and horizon years. Figure C-4 and Figure C-5 show the CEDDS historical and projected total income and employment information for Minnesota. From 2011 to 2030, state personal income is expected to grow at an average of 2.18% each year according to the Woods & Poole forecasts. For the same planning period, the state employment figure is projected to increase by an average rate of 1.17% annually.

Historically, the state enjoyed a higher than average employment growth rate than the U.S. average (1.84% annually compared with U.S. average of 1.63% from 1970 to 2010). This trend is expected to continue according to Woods & Poole, whose forecasts estimate the state employment growth rate to be slightly higher than average. Meanwhile, the state total income growth rate is projected to be

slightly lower than the overall U.S. average, consistent with historical trends. Population growth, however, has trailed the U.S. overall pace from 1970 to 2010; U.S. population grew 1.05% annually whereas the state grew 0.83% each year. Based on the Woods & Poole CEDDS, the U.S. population

increase will slow to an annual rate of 0.94% while the state will accelerate to 0.96%.

Historical and projected socioeconomic growth by county is shown in Figure C-23 to Figure C-28 beginning on page C-43 Two areas are projected to experience the fastest development in the state.

Figure C-3: Historical and Projected Population in the State of Minnesota
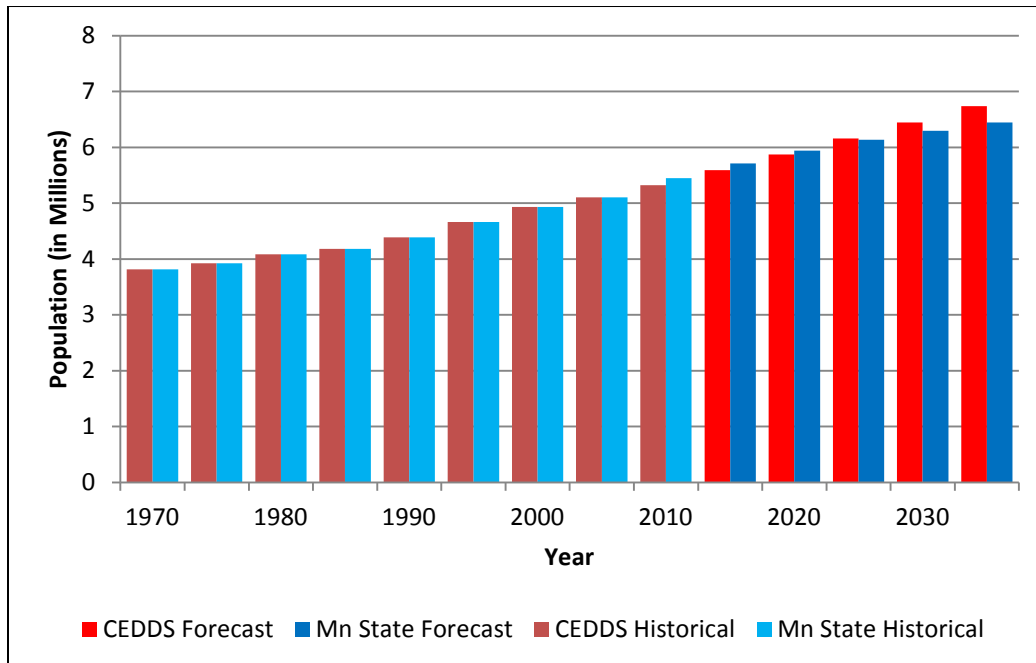
Sources: Woods & Poole CEDDS, BEA, and MN State Demographer's Office & HNTB Analysis

Figure C-4: Historical and Projected Total Personal Income in the State of Minnesota (in 2010 Dollars)
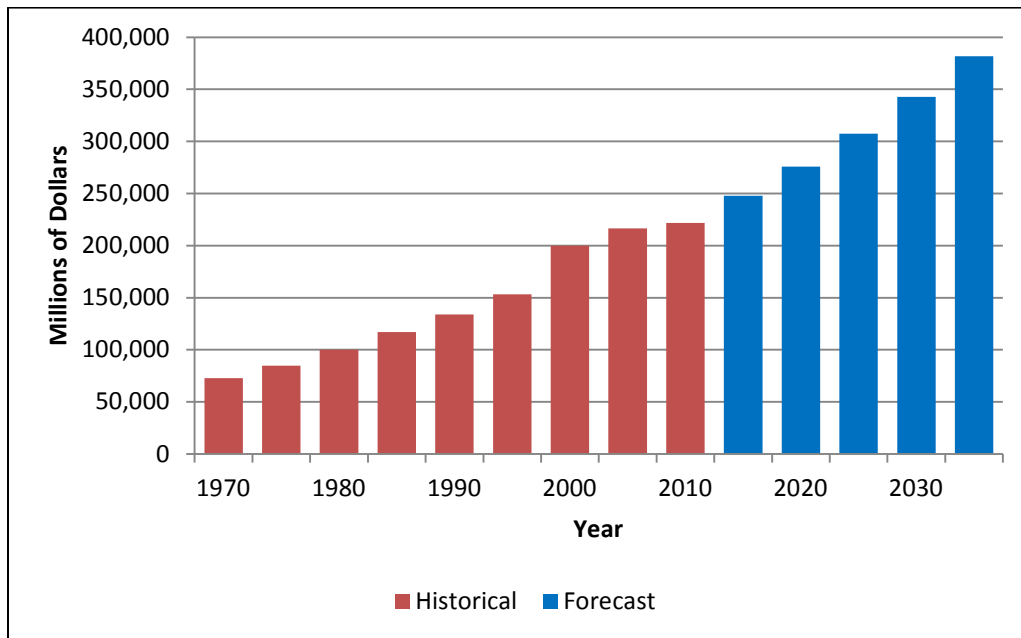
Sources: Woods & Poole CEDDS and BEA & HNTB Analysis

Figure C5-: Historical and Projected Employment in the State of Minnesota
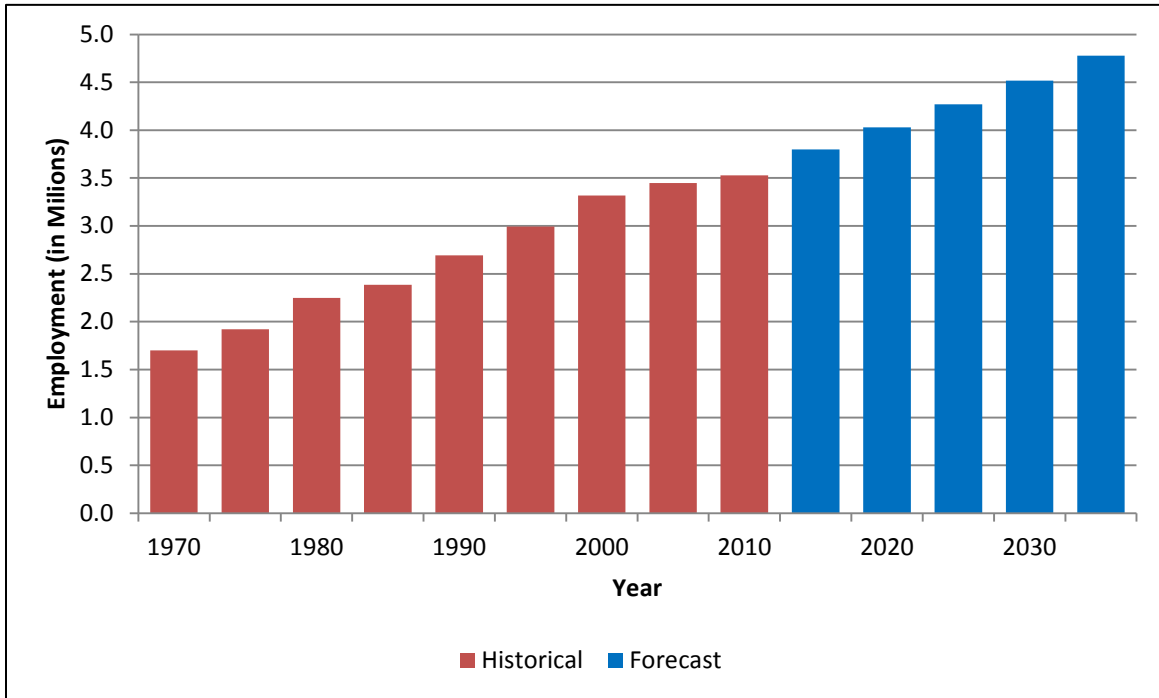
Sources: Woods & Poole CEDDS and BEA & HNTB Analysis

The first area encompasses suburban counties surrounding the Twin Cities area including Carver, Scott, Dakota, Washington, Chisago, Isanti, Sherburne, and Wright counties. These counties also comprise part of the Minneapolis – St. Paul – Bloomington Metropolitan Statistical Area (MSA). The more urban counties including Hennepin, Anoka and Ramsey are expected to experience more moderate growth. The second area consists of the Brainerd Micropolitan Statistical Area including Cass and Crow Wing counties. Thanks to rich natural resources, tourism and low county taxes[ix], these two counties are projected to witness the fastest growth in the outstate area.

Jet Fuel Prices

Fuel has become the largest expense category for airlines, as a result of the recent price spike. Figure C-6 illustrates jet fuel prices in the past and FAA forecasts for the future (in 2010 dollars)[x]. Jet fuel prices rose from 2000 to 2008. Particularly in 2008, oil prices spiked and thus substantially increased airline operating costs. The latest FAA forecast predicts jet fuel prices to fluctuate between 220 cents/gallon to 260 cents/gallon. At the time this report was written, the market price was 305 cents/gallon[xi], well above the FAA's forecast.

The fuel price comprises a significant operating cost component for both commercial and general aviation and thus was tested as an independent forecast variable in the subsequent forecast analysis.

Air Fares

One-way Air fares were gathered from the BTS Airline Origin and Destination Survey (OD1A)[xii] for the Greater Minnesota airports. It is a 10% sample of airline tickets sold and is collected by the Office of Airline Information of the BTS. Figure C-7 shows air fares from 1990 to 2010 in 2010 dollars. Generally speaking, average one-way domestic air fares in Minnesota declined from around $300 in 1990 to

$175 in 2010. Recently average air fares rebounded due to airline consolidation, reduced frequency and routes, and the need to cover higher operating costs.

Air fares play an important role in passenger's transportation mode choice and were tested as a candidate forecast variable in passenger forecast. It is worth noting the air fares are no longer the sole out-of-pocket expenses for passengers. Additional charges such as ancillary fees are discussed in the next section.

Ancillary Fees

Airlines have turned to additional revenue streams such as baggage fees, reservation change fees, seat assignment fees and on-board sale of food and drink. The new ancillary fees substantially benefit the airline bottom line. On the other hand, it increases the out-of-pocket cost for passengers. It is usually considered as part of the air travel costs to passengers while making travelling mode choices.

Out-of-State Airports

Some Minnesota passengers use out-of-state airports. Therefore, the current status and forecasts of several out-of-State airports that historically served Minnesota passengers are examined. Figure C-8 shows the out-of-state airports considered in this study.

Three airports, including Grand Forks International, Fargo Hector International, and Sioux Falls Regional – Joe Foss Field, are located west of the state. The relative proximity between Grand Forks and Thief River Falls indicates potential service area overlap. The Grand Forks airport holds an advantage in terms of facilities and air service frequency with Delta serving MSP and Allegiant Air serving Las Vegas and Phoenix/Mesa. The other two out-of-state airports are relatively far from other Minnesota commercial airports and therefore have less competitive impact. According to published airport master plans, passenger demand at Fargo International is projected

to grow 2.4% annually through 2020[xiii] and 2.5% annually at Sioux Falls Regional Airport[xiv].

Three commercial airports are located southeast of the state. Chippewa Valley Regional Airport in Eau Claire is close to two major airports in the state, Minneapolis – St Paul and Rochester. The only scheduled service currently offered from Eau Claire is from/to Chicago O'Hare by United Express. The limited route and frequency options at Eau Claire are not expected to divert substantial Minnesota passenger traffic away from MSP or Rochester. The La Crosse Municipal Airport, which serves southeast Minnesota counties including Houston, Winona and Fillmore, offers flights to MSP by Delta and Chicago O'Hare by American Airlines. The Mason City Municipal Airport offers two daily commuter flights to MSP via Delta Connection. Delta recently notified Mason City of their intention to suspend service under the Essential Air Service (EAS) contract. At the time this report was written, the US DOT was soliciting EAS interest from other airlines. According to the Iowa Aviation System Plan 2010-2030, operations at the airport are projected to grow 1.25% annually[xv].

In conclusion, only the Grand Forks airport is expected to divert significant passenger demand from the commercial airports in Minnesota. Forecasted passenger demand is adjusted at Thief River Falls as a result.

High Speed Rail

Plans for a high speed rail line connecting the Twin Cities to Chicago along the Mississippi River were recently approved by the Minnesota DOT and the Federal Railroad Administration[xvi]. The proposed 110 mph high-speed rail line is expected to reduce travel time between the Twin Cities and Chicago by more than two hours[xvii]. If the project materializes, it is expected to divert considerable origin-destination passenger demand along the proposed corridor from airline service airports, especially between Minneapolis – St. Paul International airport and Chicago O'Hare / Midway airports.

However, as the national debate over the merit of high-speed rail continues, it is uncertain when the proposed high-speed rail line will be implemented. Due to this uncertainty, it is assumed that high-speed rail will not divert significant traffic from airline service airports in the State.

Airline Consolidations

Several major airline consolidations were completed in the last few years. Northwest Airlines merged with Delta Air Lines to form the world's largest carrier at the time[xviii]. In 2010, Continental Airlines merged with United Airlines to form the current largest airline in the world. In addition to legacy airlines, low cost carriers, Southwest Airlines and AirTran Airways, also merged in 2010. The system wide capacity reduction facilitated by the mergers and economic downturn has resulted in fewer enplanements and operations than previously forecasted at most airline service airports in the State.

Among these mergers, the State of Minnesota is particularly influenced by the Northwest and Delta merger. With their headquarters located in the State, Northwest Airlines operated Minneapolis – St. Paul International airport as an important hub with extensive in-state and out-of-state network. This merger was considered as an influential factor to model passenger enplanements.

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Figure C-6: Jet Fuel Prices
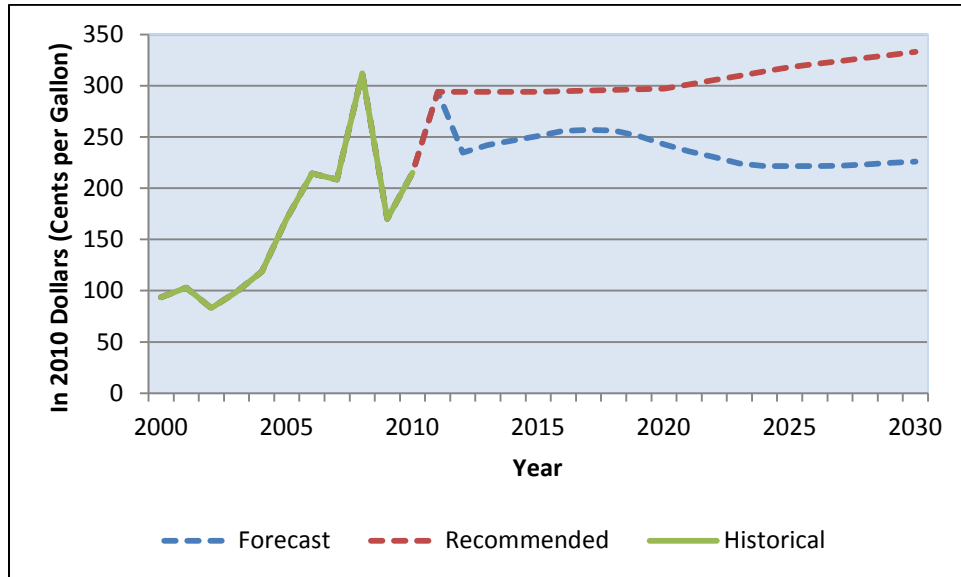
Source: FAA Aerospace Forecast 2011 – 2031

Figure C-7: Historical Air Fare in the State of Minnesota
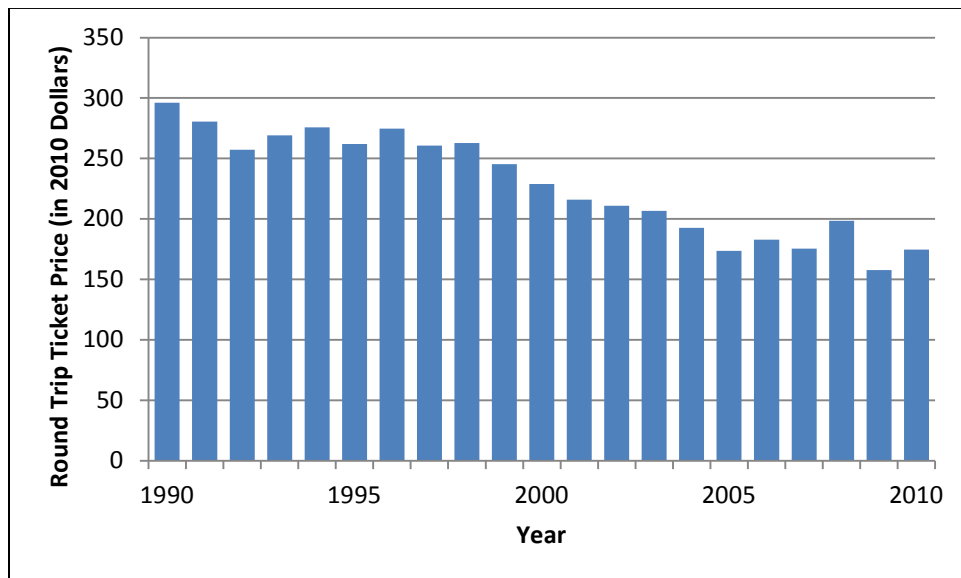
Sources: BTS OD1A & HNTB Analysis

Figure C-8: Out-of-State Airline Service Airports
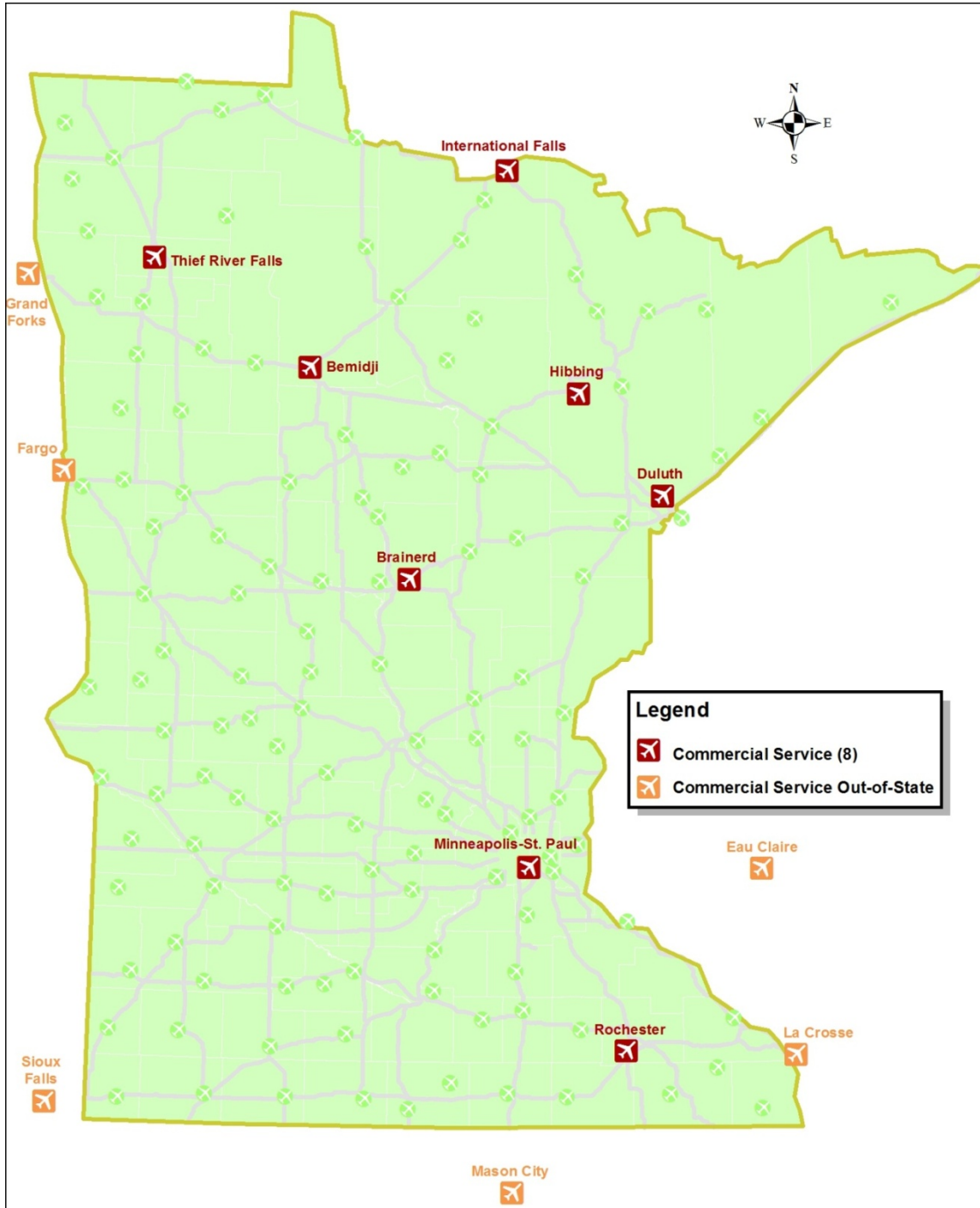
Sources: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB analysis

C.4.2 Assumptions

In addition to the forecast factors discussed above, additional assumptions were prepared to help guide the passenger forecast.

Economic Assumptions

It is assumed that no major economic downturn, such as the Great Depression or Great Recession, will occur in the planning period. The state and the U.S. economy will increase and decrease according to normal business cycle.

Out-of-State Airports

None of the out-of-state airports will divert significant amount of passenger flow from commercial airports in the state except the Grand Forks airport. The airport is expected to attract a substantial share of the passenger traffic from Thief River Falls. Therefore passenger forecasts for Thief River Falls are scaled down based on historical statistics.

National Airspace System

The forecast is developed under the assumption that the National Airspace System (NAS) will accommodate the unconstrained aviation demand. No major bottlenecks affecting Minnesota airports will develop either en-route or in the terminal area.

Airline Consolidation and Strategy

No further airline consolidation is assumed in the study. Airlines serving the commercial airports in the state will continue to operate their current flight networks. As a baseline forecast, it is assumed no new routes will be established or new airline service airports will be developed. No radical changes in airline strategy as how to serve and compete in markets are assumed.

National and Local Policy

Commercial airports that operate under the Essential Air Service agreement will continue to offer federal subsidized air service. It is also assumed no new

environmental concerns will impact traffic characteristics in the state.

C.4.3 Passenger Enplanements and Operations Forecast

Several airports in the state of Minnesota currently offer airline service including:

- Minneapolis-St. Paul International
- Duluth International
- Rochester International
- Bemidji Regional
- Brainerd Lakes Regional (Brainerd, MN)
- Ranger Regional (Hibbing, MN)
- Falls International (International Falls, MN)
- Thief River Falls Regional

Passenger traffic at MSP was analyzed in the LTCP and thus not in the scope of this report. Historical passenger traffic at system airports was obtained from the Air Carrier Statistics T100[xix] from the Bureau of Transportation Statistics (BTS).

Regression analysis was employed to estimate future passenger enplanements. Regression analysis is a statistical tool used to investigate correlations between two sets of variables. The first set of variables, commonly referred as dependent variables, represents what need to be estimated. The second set of variables, commonly referred as independent variables, represents known factors. To use regression analysis in forecasting, projections of independent variables should be available. A correlation analysis should be conducted to investigate the relationship between casual effect of independent variables and dependent variables. If such the relationship in the historical data is statistically significant, a regression equation can be constructed reflecting the correlation between two sets of variables. Assuming this correlation continues in the future, dependent variables can be estimated using forecasts of independent variables. Sometimes

dummy variables are introduced as independent variables. They assume the values of 0 or 1 to represent the absence or presence of certain difficult-to-quantify factors that may shift the outcome.

Four types of independent variables were assessed. Firstly, a set of socioeconomic data within each airport's catchment area was derived from Woods & Poole's CEDDS including population, total income, per capita income and employment. They represent demand side characteristics. Secondly, supply side parameters such as scheduled flights from OAG[xx], number of aircraft departures recorded by T100, fare samples from the BTS OD1A and jet fuel prices from FAA were collected. The third group consists of other events that have important impacts on passenger activity in the state. This category includes Northwest Airline's bankruptcy filing in 2005 and Sep-11 terrorist attack in 2001. Lastly, a group of intercept shift dummy variables for each airport were also incorporated (see **Figure C-29** on page C-49).

Airport catchment areas were established for each commercial airport based on driving time. To determine this, 2010 census data was imported into GIS and linked to the Minnesota road network system. The borders of the catchment area show where the population would have an equal drive time between two airports. The areas highlighted in **Figure C-9** depict the "catchment area" for each SASP commercial airport. **Figure C-9** shows the catchment areas for the eight airline service airports, as well as the six airline service airports in adjacent states. Airline service airports were assumed to only draw out-of-state population within 100 miles. Note that the catchment areas in **Figure C-9** are based on drive time only. Other factors, notably the availability of air service, also influence which airport a passenger will use. Because of MSP's superior air service options relative to other Minnesota airports, many passengers from outside MSP's catchment area drive to MSP.

A stepwise regression analysis was conducted to evaluate potential relationships between passenger flow and a subset of the factors mentioned above. One socio-economic factor, total income, and one supply side parameter, frequency, proved to have the strongest correlation with historical passenger flow. Projections of income are available from the Woods & Poole CEDDS.

During the passenger forecast, the study team became aware of an on-going master plan update at the Duluth international airport[xxi]. After contacting the airport authority, it was determined that the data source used in the master plan update was more comprehensive than the T100 numbers. As a result, passenger enplanements and cargo volume at the Duluth International were adjusted. Comparing the base year airport counts and T100 data, an adjustment factor was produced. This adjustment factor was in turn applied to the allocated passenger enplanements and cargo volume at Duluth in the future forecasts.

Since passenger enplanements and service frequency are inter-dependent, an iterative process was built to explore this correlation between supply and demand. Average seat capacity per departure was acquired from the recent T100 data. Future fleet mix was estimated based on a fleet mix forecast that HNTB developed for the MSP Environmental Assessment (EA). Fleet mix for flights to airports other than MSP was based on airline passenger fleet trends and aircraft orders. Load factors were assumed to gradually converge to the FAA regional carrier forecast[10] except for Hibbing and Thief River Falls. The current subsidized operations are assumed to continue in the future which would allow the current relatively low load factors to continue at those two airports. With the projected seat capacity and load factor, the number of commercial aircraft departures can be calculated given the enplanement forecast. The number of aircraft departures in turn helps

determine the passenger flow. This procedure eventually converges to a point where input departures match the output departures. The result is shown in Figure C-10.

After commercial operations were projected, passenger traffic to primary origin and destination markets were estimated based on the current demand and future socio-economic growth within each airport catchment area. The projected total income growth rate from Woods & Poole CEDDS was used as the socio-economic indicator. For airports outside Minnesota, several assumptions regarding relative airport development were made. The relative growth at non-hub airports was assumed to be in pace with the local county income growth. Hub airports were assumed to grow at the same rate as the MSA where the airports are located. The base year originating and terminating passenger flow was collected from the BTS OD1A and multiplied by the relative growth factor. Then the total passengers were compared with the forecast to develop a global adjustment factor. It was applied to adjust the total number of passengers to match the forecast. These procedures were repeated for each of the system airports. Table C-9 to Table C-22, beginning on page C-55, list the major origin and destination breakdowns from commercial airports in the state.

From the iterative procedure described above, annual commercial operations were determined. The forecast of enplanements and commercial aircraft departures are shown in Table C-3 to Table C-8 beginning on page C-51.

The average annual growth rate presented in this report is the Compound Annual Growth Rate (CAGR). It assumes the growth during the planning period follows an exponential growth model:

$$X_{FUTURE} = X_{BASE} * (1 + CAGR)^{Planning\ Period}.$$

Therefore, the CAGR can be calculated as

investments at MSP and current MSP forecasts indicate that they are unlikely to outgrow their facilities there in the near future. These factors, taken together, present a major challenge to any effort to relocate air cargo service from MSP to a smaller airport. The growth rates for individual airports are displayed geographically in **Figure C-30** through **Figure C-35** beginning on page C-93.

C.5.1 Market Share Analysis

Air cargo handled at all system airports as a percentage of total domestic air cargo volume in the US declined from 0.063 percent in 2003 to 0.046 percent in 2010 (see **Figure C-11**). An exponential equation was used to fit the historical trend of the cargo market share and forecast future share. The future ton-miles forecast is then a product of the projected market share and FAA ton-miles estimate published in the annual FAA Aerospace Forecast.

C.5.2 Trend Line

In addition to analyzing cargo demand as a share of the US market, trends in air freight ton-miles were investigated directly. **Figure C-12** shows the air cargo ton-miles reported by BTS T100. Cargo flow at the system airports declined from around 9.9 million ton-miles in 2004 to 5.0 million ton-miles in 2009 and rebounded to 5.8 million in 2010. An exponential function was used to fit the historical trend and forecast future ton-miles.

Figure C-9: Airline Service Airport Catchment Areas
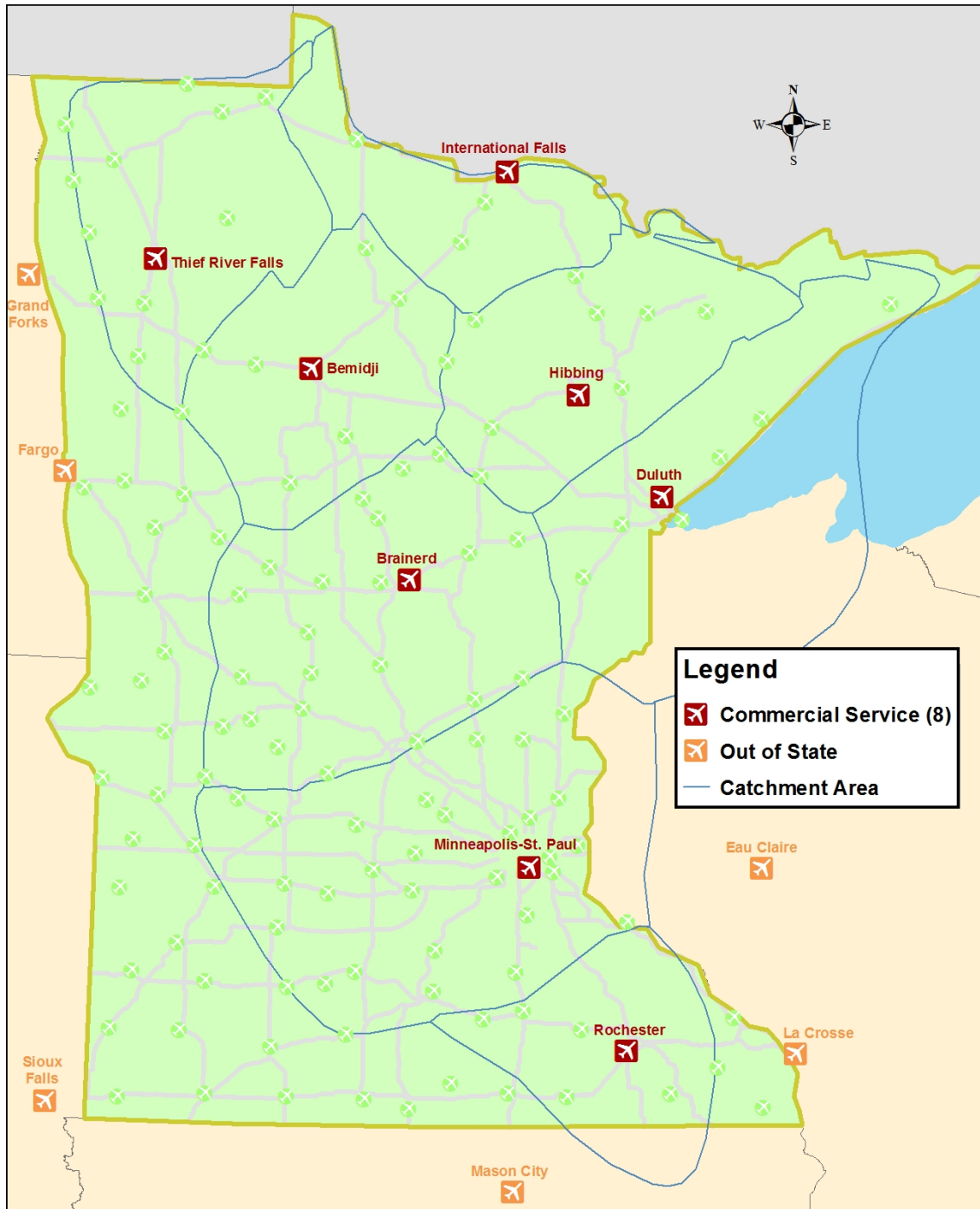
Sources: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB analysis

Figure C-10: Passenger Enplanements Forecast (without MSP)
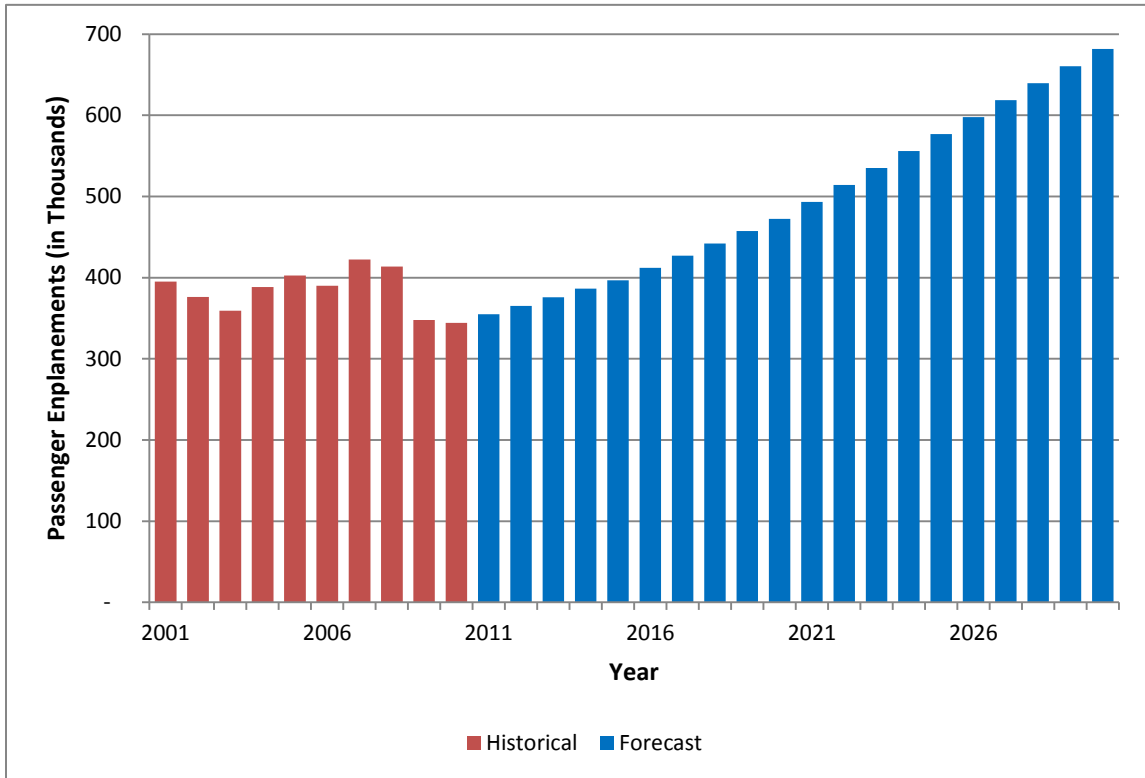
Sources: BTS T100 and Woods & Poole CEDDS & HNTB Analysis

Figure C-11: System Airports Market Share of US Air Cargo Ton-Miles
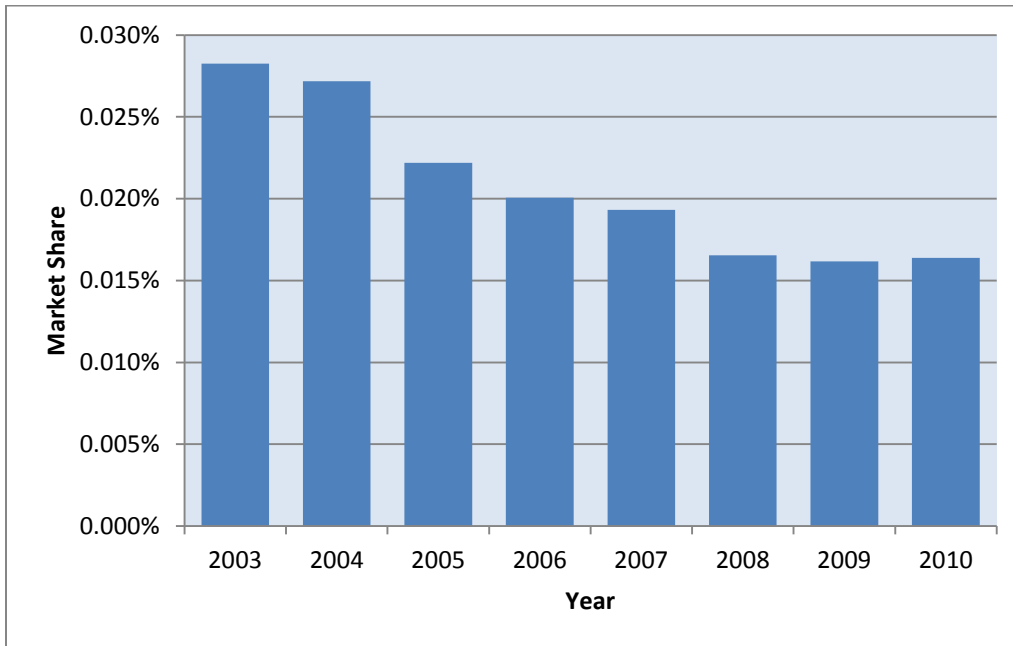
Sources: BTS T100 & HNTB Analysis

Figure C-12: Historical Cargo Ton-Miles Carried by System Airports
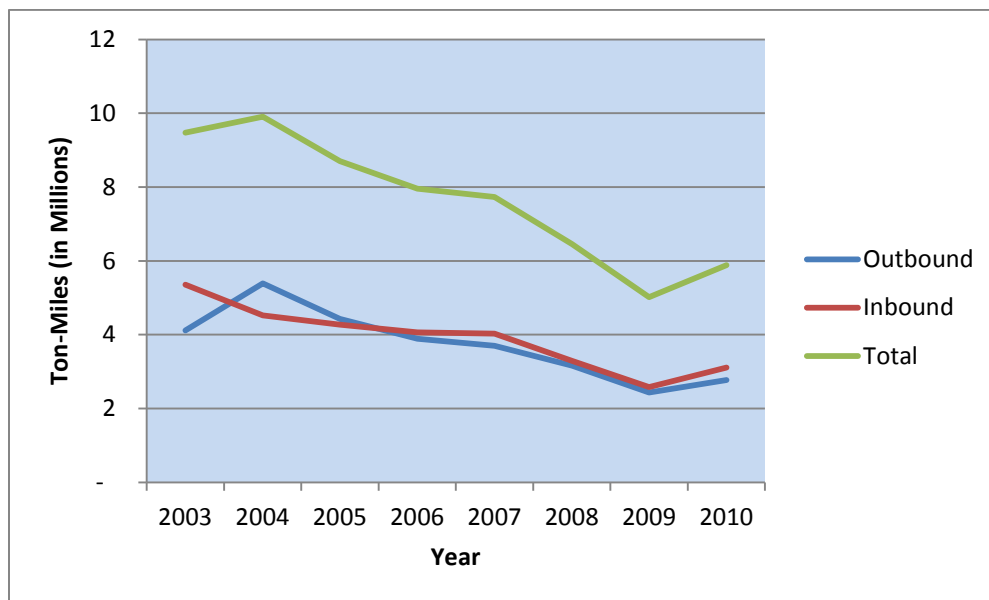
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Sources: BTS T100 & HNTB Analysis

C.5.3 FAA Growth Factor

Each year, FAA publishes an Aerospace Forecast which covers various aspects of the aviation industry. Key forecasts published in this report include available seat-miles, revenue passenger-miles, available ton-miles, revenue ton-miles, general aviation fleet and operations, etc. The forecast of revenue ton-miles was used in this study to project future cargo activity. In the 2011 publication, the FAA estimated annualized future domestic all-cargo ton-miles growth to be 3.5% from 2010 to 2020 and 2.9% from 2010 to 2030. They were used as benchmarks for future air cargo growth in this study.

C.5.4 Preferred Forecast

The results of the above-mentioned methodologies are illustrated in **Figure C-13**. On one hand, both market share and trend line analysis indicate further decline in air cargo in the state. On the other hand, FAA predicts strong growth in air cargo shipments. In addition, the historical data include the aftermath of the September 11, 2001 attacks, Northwest Airline Inc., bankruptcy, and the latest recession, all factors that have negatively affected recent trends. An

average of the three methodologies accounting for both local characteristics and national trends is considered more accurate than a single methodology. The solid line in the **Figure C-13** represents the average of the market share, trend line, and FAA growth factor analysis.

To derive total air cargo tonnage from the ton-miles estimate, it is necessary to study average cargo carrier transport distance. Historical cargo revenue miles were gathered from the BTS T100 database. Historical trends suggest that the average length of haul for air cargo is increasing as shown in **Figure C-14**. Increased competition from other modes such as truck and rail, has generated a tough market for short-haul cargo. Cargo airlines have been turning to longer haul and time sensitive express cargo to take advatange of their speed. Using a linear regression equation, future cargo transport distance can be estimated.

Based on the revenue ton-miles forecast and the revenue miles forecast, total revenue tonnage is projected and shown in **Figure C-15**.

Figure C-13: Cargo Ton-Miles Forecasts
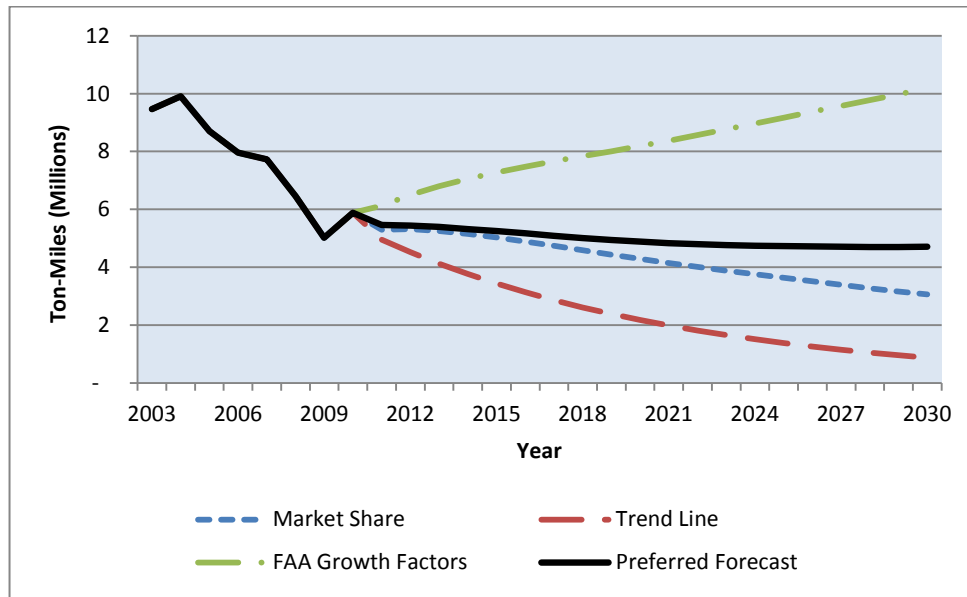
Sources: BTS T100 & HNTB Analysis

Figure C-14: Cargo Revenue Miles Trend for Minnesota Commercial Airports (without MSP)
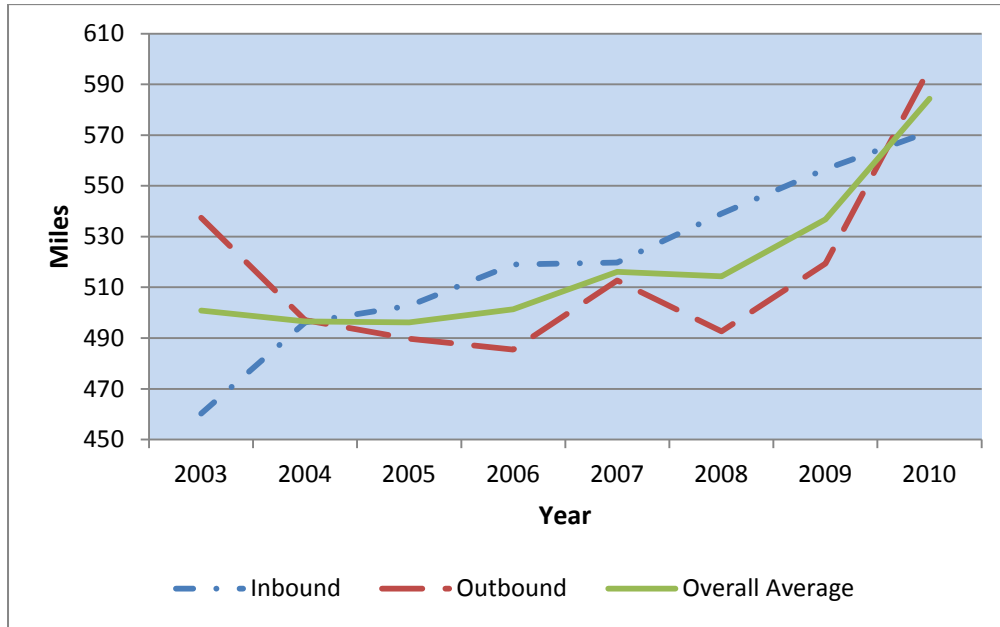
Sources: BTS T100 & HNTB Analysis

Figure C-15: Air Cargo Revenue Tonnage Forecast for Minnesota Commercial Airports (without MSP)
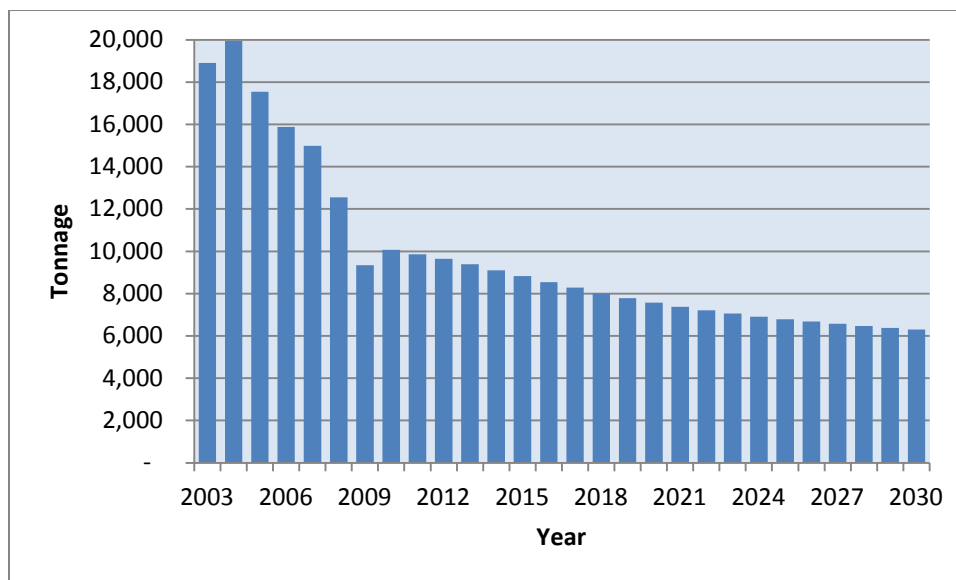
Sources: FAA TAF, FAA Aerospace Forecast, and BTS T100 & HNTB Analysis

Once the total revenue tonnage was projected, it was allocated to each cargo airport based on the current distribution and future economic growth. The Geographic Information System (GIS) catchment area analysis from the passenger forecast was applied to associate future cargo volume growth with socio-economic development. The total income forecast provided by Woods & Poole, adjusted by the most recent Bureau of Economic Analysis data, was employed as the basic socio-econmoic indicator for future cargo growth. The current cargo tonnage was multiplied by the catchment area total income growth at each system airport. Then the total for the individual airports were compared with the forecast system total and an adjustment factor was calculated. This factor was used to calibrate future cargo volume to match forecasts.

After cargo is allocated to individual airports, the number of all-cargo operations can be estimated. Cargo shipments are carried by both all-cargo aircraft and passenger aircraft. An assessment of historical belly cargo and all-cargo breakdown, depicted in **Figure C-16**, shows dominance of all-cargo operations in transporting payload. It also revealed that cargo processed at the International Falls and Hibbing Airports was only carried by passenger aircraft as the demand was too low to warrant an all-cargo operation. It was assumed that all cargo at these two airports will continue to be carried by passenger aircraft in the future.

The future all-cargo fleet composition needs to be evaluated to forecast all-cargo aircraft operations. According to its fleet plan, FedEx is expected to replace Airbus A310 and Boeing 727-200F aircraft with Boeing 757-200F aircraft. The average capacity increase from an A310 to a Boeing 757-200 is around 30% and from a Boeing 727-200F to a 757-200F is around 50%. Other smaller aircraft such as Beech 1900 and Cessna 208 are expected to stay in the fleet in the future. However, since cargo volume is projected to decline, the airlines are not expected to increase capacity at routes with lower load factors. Therefore the current tons per operation is assumed to stay the same in the future.

Figure C-16: All Cargo vs. Belly Cargo for the System Airports
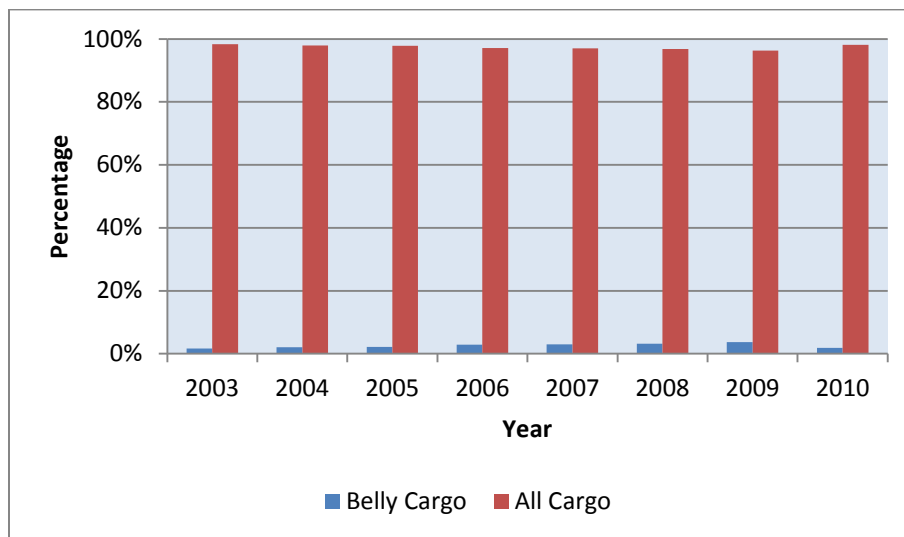
Sources: BTS T100 & HNTB Analysis

HNTB

C.6 General Aviation and Military Activity Forecast

GA refers to all flights other than military, and scheduled and unscheduled passenger and cargo operations. The state aviation plan includes 135 public airports, the majority of which are GA airports that accommodate GA operations with little commercial traffic. A forecast of the future fleet and operation levels is the key to future infrastructure planning. This section describes methodologies applied in forecasting the GA fleet composition and the number of operations by each aircraft category. The inventory survey offers based aircraft counts by category. **Figure C-17** exhibits the current GA fleet composition in the state. Single engine piston aircraft account for almost 85% of the total number of based aircraft, followed by 5% multi engine piston, 2% turboprops, and 1.4% jets.

C.6.1 Market Share

GA based aircraft in Minnesota have gained an increasing share of the U.S. GA market (see Figure C-18). Historical data indicates the percentage of local GA aircraft grew from around 2.0% in 1990 to 2.5% in 2008. A time series analysis was conducted to estimate future market share. Various trend line fitting techniques were employed and an average was calculated. As a result, the market share is expected to increase to 2.63 percent in 2015, 2.70 percent in 2020 and 2.83 percent in 2030. This forecast is used in conjunction with the FAA TAF forecast of total GA aircraft to predict future GA fleet.

C.6.2 Trend Line

Historical based aircraft data derived from the Airport Master Records (Form 5010) shows a general expanding trend in the GA fleet (See Figure C-19). The total number of based aircraft grew from less than 3,000 in 1980 to nearly 4,400 in 2009 with the peak number close to 5,000 in 2003. This trend can be interpreted by a linear growth equation. Future fleet size is then extrapolated using this equation.

Figure C-17: GA Fleet Compositions at System Airports

Legend:
- Single Engine Piston
- Multi Engine Piston
- TurboProp
- Business Jet
- Non-Military Helicopter
- Glider
- Ultralight
- Military
- Other
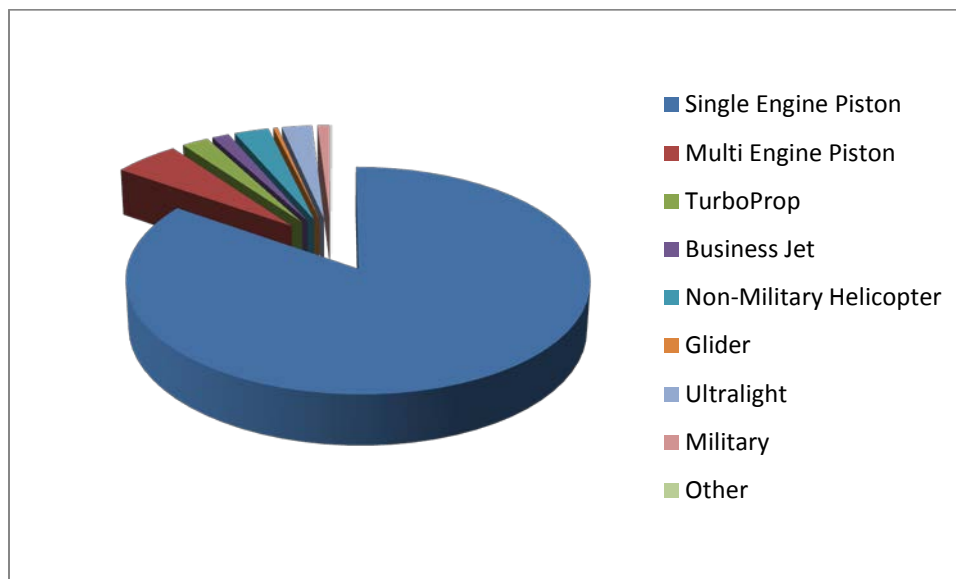
Sources: BTS T100 & HNTB Analysis

Figure C-18: Historical Minnesota General Aviation Based Aircraft Market Share of U.S
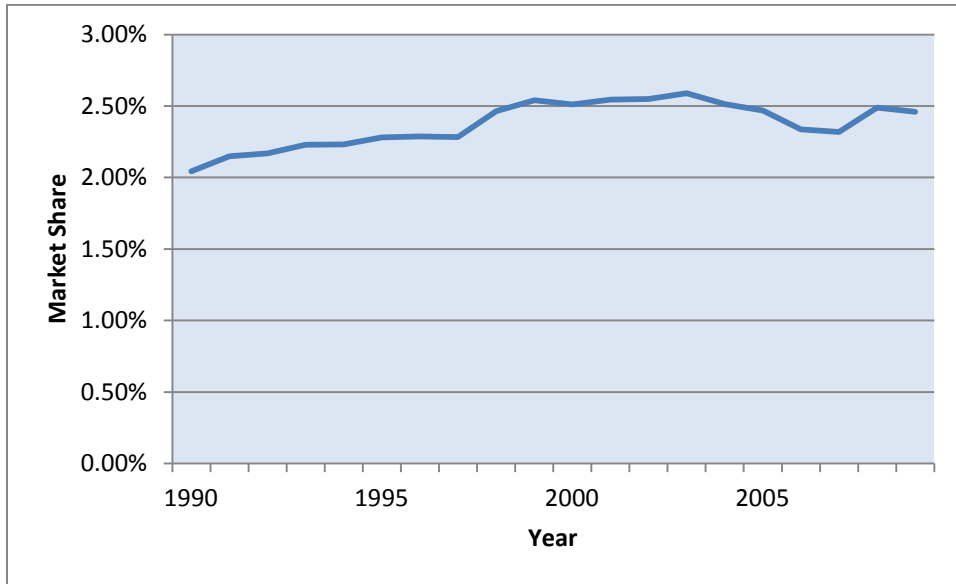
Sources: FAA Master Records (Form 5010) & HNTB Analysis

Figure C-19: Historical Number of General Aviation Aircraft
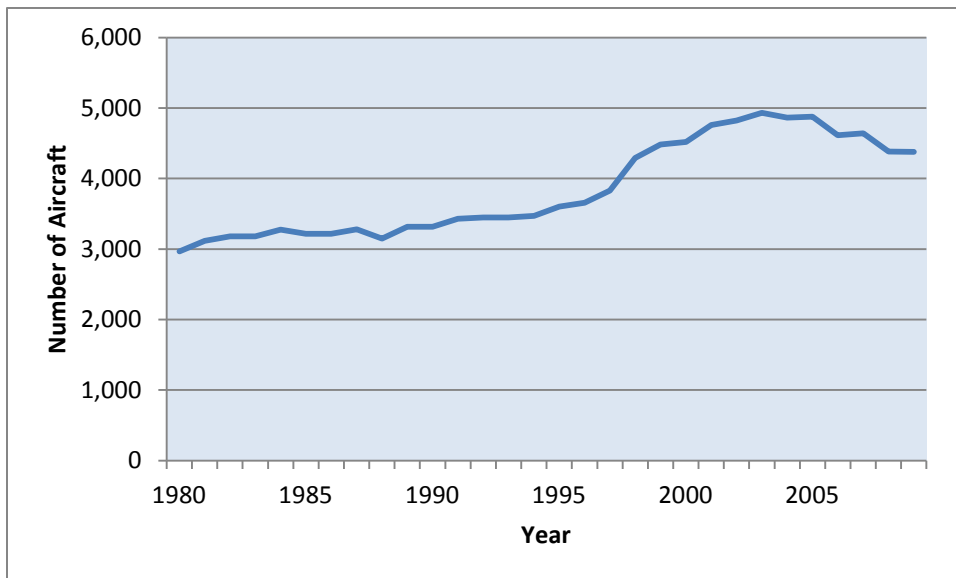
Sources: FAA Master Records (Form 5010) & HNTB Analysis

C.6.3 FAA TAF Forecast

The TAF is the FAA's official forecast for terminal area aviation activities. It incorporates historical and forecast data on based aircraft by aircraft type such as single-engine, multi-engine, and jet as well as amount of operations of air carrier, air taxi, general aviation and military. The TAF forecast of based aircraft in the state of Minnesota was used as one of the forecast alternatives.

C.6.4 Preferred Forecast

An average of the above-mentioned forecasts was selected as the preferred forecast. **Figure C-20** illustrates the results of the various techniques used and the preferred forecast.

After the total number of GA aircraft is estimated, it is necessary to allocate them to each airport. Two primary factors were considered during the allocation process. The first one focused on local socio-economic development. The total income forecasts of the airport service area were collected from the Woods & Poole CEDDS data based on the airport catchment area. The second factor took into account of growth rate of each aircraft category based on the FAA TAF forecast for Minnesota.

Besides the traditional aircraft categories, there are two emergent aircraft types that have implication for future infrastructure requirement. The introduction of lighter and quieter micro-jets may bring business travelers to rural airports currently not equipped to accommodate jet traffic. On the leisure side, the fleet of recreational aircraft has enjoyed rapid expansion recently. The LSA, in particular, has drawn much attention. In the FAA Aerospace Forecast, the LSA and Turbojets represent the fastest growing categories. As TAF does not provide an individual forecast of LSA, the FAA Aerospace forecast was used where the national level LSA forecast is available. It is assumed that LSA activity in the state will follow the national pace.

Figure C-20: General Aviation Aircraft Fleet Forecast
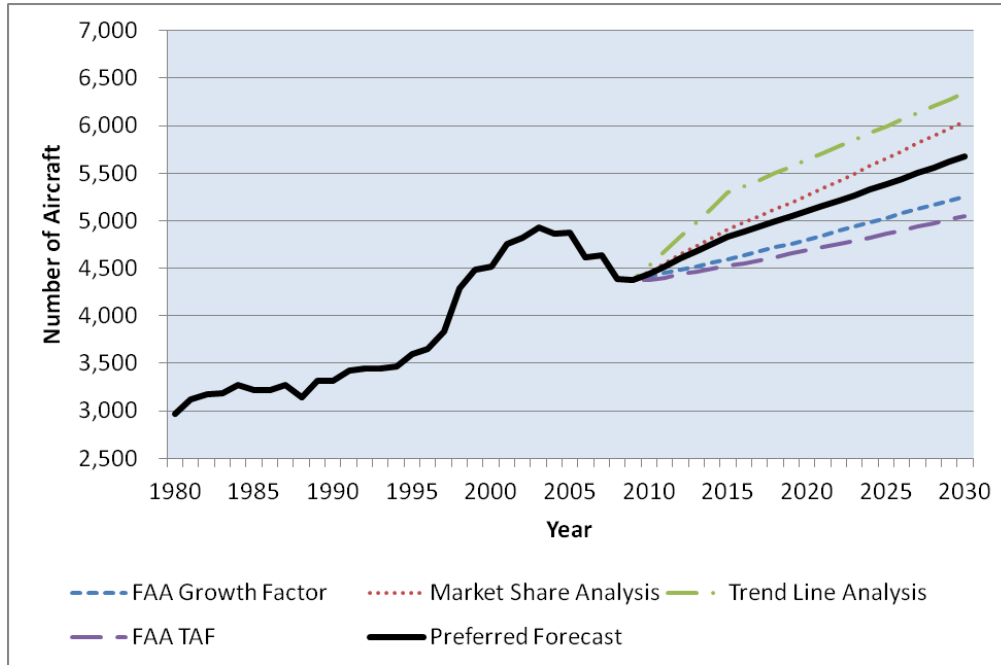
Sources: FAA TAF, FAA Aerospace Forecast, FAA GAATA, FAA Airport Master Records, MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB analysis

Figure C-21: General Aviation Airport Catchment Area
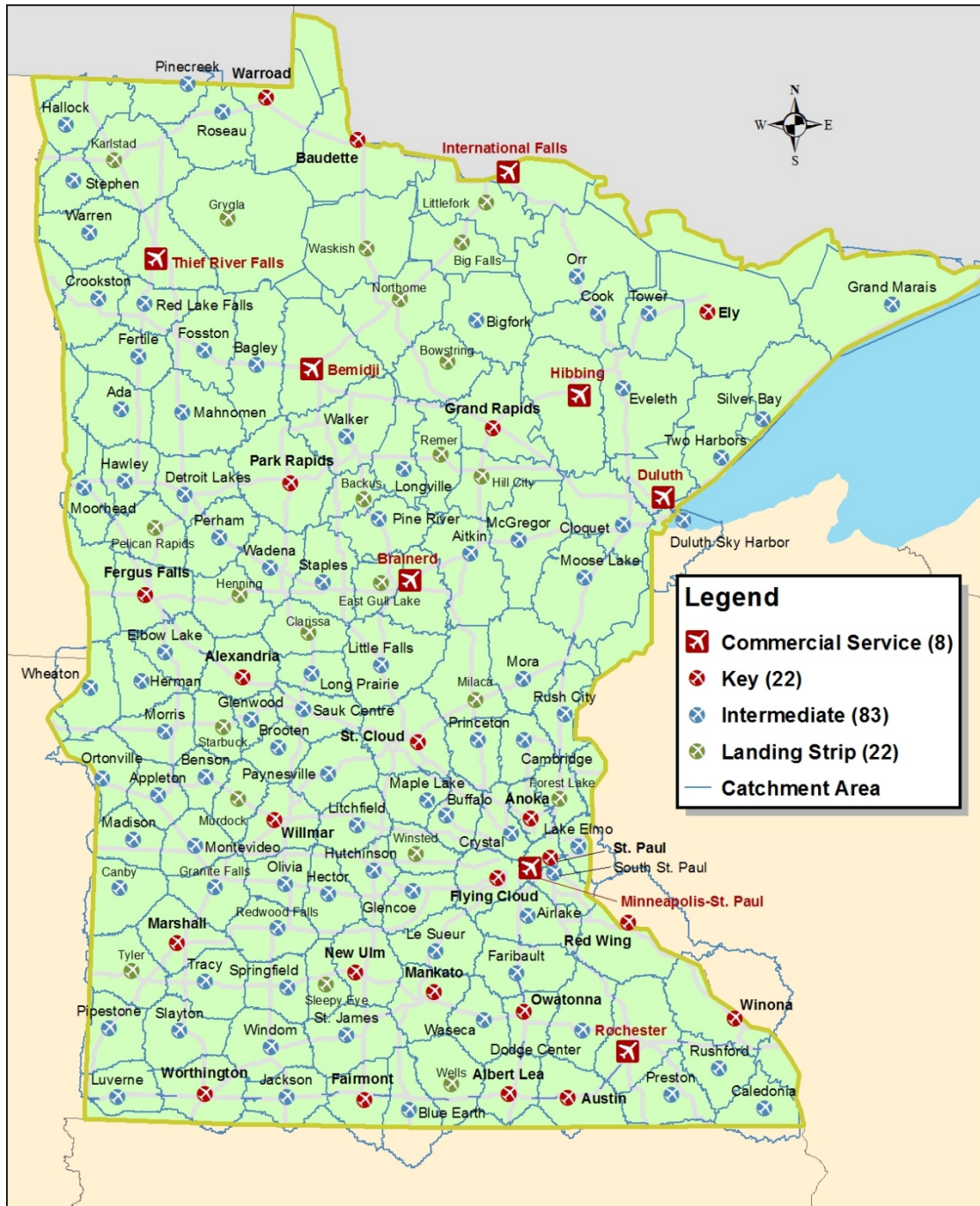
Sources: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB analysis

One micro-jet, an Eclipse E500, was identified from the Minnesota registered aircraft database. The database also showed 88 LSA based in Minnesota according to the FAA LSA aircraft list[xxii]. An effort was made to separate LSA aircraft from other aircraft in the inventory list. The number of LSA based in the state and the current fast growth warrant an individual forecast in addition to traditional aircraft categories.

The allocation procedure is similar to the passenger origin and destination assignment. The baseline based aircraft were assumed to grow at the same pace as the catchment area (see Figure C-21) total income growth. During this step, an additional growth factor derived from the FAA TAF forecast was employed to account for relative growth of each aircraft category. Then the total was compared with the forecast total to develop a global adjustment factor. This factor was applied to match the forecast total.

The GA fleet at MAC airports was adopted from the MAC LTCP plans. The LTCP forecasts were adjusted by applying the ratio of actual based aircraft from the inventory to projected 2010 based aircraft from the LTCP forecasts to the LTCP forecast numbers. Due to facility constraints, based aircraft at MSP are assumed to be capped at 30 in the future.

C.6.5 General Aviation Operations Forecast

The number of operations per aircraft type was derived from the GAATA number of landings by aircraft type divided by number of aircraft. This rate was applied to inventory based aircraft to estimate operations by each category. The total at each airport was compared with reported operations at the base year to calculate an adjustment factor for each airport. These factors were applied to the horizon years 2015, 2020 and 2030. The numbers were also adjusted by

utilization rate for each aircraft category, which comes from the number of hours flown from the FAA Aerospace forecast.

GA operations were also estimated based on trip type and purpose. Trip type includes local and itinerant flights. Operation purpose consists of business, leisure and training. The Minnesota state DOT aviation inventory supplies such breakdowns for some system airports. These percentages were applied to calculate operation breakdowns by trip type and purpose and assumed to remain constant in the future. A general percentage distribution of operation by type and purpose was formulated from airports that submitted such information. It was used to estimate activity at airports that did not submit this information to the inventory survey. The inventory shows around 60% of GA operations to be local and 40% to be itinerant. In terms of flight purpose, about 40% of trips are business related, 40% to be leisure and 20% to be training.

Similar to the based aircraft forecast for MAC airports, the operations forecast was based on the previous LTCP forecast. The LTCP forecast growth rates were applied to the 2010 base year totals from the inventory.

C.6.6 Military Activity Forecast

Military operations in Minnesota declined from about 30,000 operations in 1991 to 19,000 in 2010. The FAA TAF forecasts near constant military operations from 2010 to 2030. An alternative forecast assumes the decreasing trend continues into the future. The average of the two forecasts was chosen as the preferred forecast for future military operations (shown in Figure C-22).

Figure C-22: Military Operations Forecast
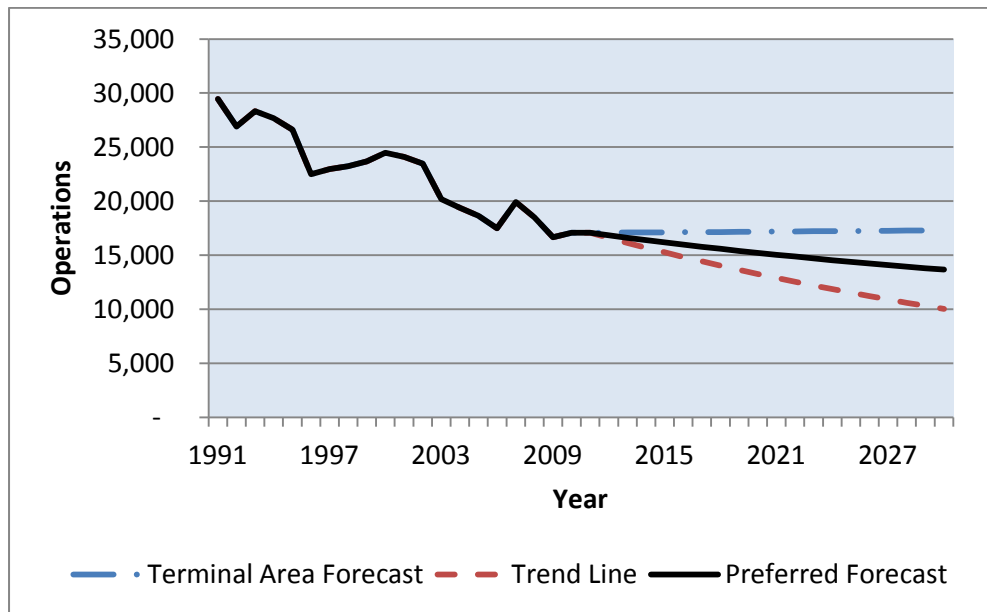
Sources: FAA TAF & HNTB Analysis

C.7 Peak Hour Activity Level

Peak hour activity was projected for MAC airports in the previous LTCP studies. The average peak month operations were based on the tower observations. Peak hour operations were assumed to be a percentage of average day operations in the peak month. This percentage, which varies from airport to airport, was adopted in this study. It is also assumed that this percentage will stay constant for forecast years. For outstate airports, towered and non-towered facilities were processed differently. For airports with a control tower, including Rochester, Duluth and St. Cloud, hourly operations distributions provided by the FAA Distributed OPSNET[xxiii] in 2010 was gathered. The peak Month for each airport was identified for each airport. Then the day with operations closest to the peak month average was determined. By analyzing the hourly operation distribution pattern of that day, the peak hour activity level was established.

Dividing the peak hour activity level by total annual operations provided a peak-hour ratio that was assumed to stay constant in the planning period. The projections of future peak hour operations at the towered airport are the product of this ratio and annual operation forecast.

For non-towered airports, a formula was employed that uses a 240 day year to determine the average day activity level and assumes that 15 percent of the average day activity occurs in the peak hour. This ratio has been used by the Office of Aeronautics and previous systems plans.

Peak hour operations obtained from the above-mentioned methodologies are exhibited in Table C-29 beginning on page C-99.

C.8 Summary

First, Minnesota inventory survey results were processed to provide a baseline for forecasts. Forecasts from the previous MAC LTCP were adjusted to reflect the current operation level. The total operations were allocated by aircraft categories, operation types and operation purposes. There are an estimated total of 5,092 based aircraft with 1,761,944 GA and military operations.

Passenger enplanements at outstate commercial airports were projected by correlating socio-economic factors, i.e. total income, and supply side parameter, i.e. scheduled flights, with passenger flow. Since enplanements and scheduled flights are inter-dependent, an iterative process was developed to explore the correlation between demand and supply. Passenger forecasts for MSP were adopted from the Environmental Assessment (EA) study. Enplanements for Minnesota commercial airports are projected to grow at an average annual growth rate of 2.17% for the near term. In terms of midterm growth from 2010 to 2020, the average growth rate increases to 2.46%. The long term annual growth is projected to be 2.61% through 2030. From 2010 to 2015, commercial flight frequency increases at 0.12% each year. It increases to 1.04% from 2010 to 2020. The long term growth rate was estimated to be 1.36%. This growth rate trails the FAA aerospace forecast for commercial and regional passenger enplanements in both the midterm and long term. The FAA projects annual growth of commercial passenger traffic to be 3.2% in the midterm and 2.5% in the long term. The FAA projections of regional carriers' growth are similar at 3.4% in the midterm and 2.8% in the long term.

Cargo tonnage and operations were evaluated based on revenue ton-miles and haul distance trend analysis. Cargo forecasts at MSP were adopted from the EA. Cargo tonnage and operations are forecasted to increase at MSP while declining at outstate airports. In the short term, cargo tonnage is projected to grow at an annual rate of 1.85%. In the mid-term and long term, cargo tonnage growth is expected to be lower at 0.84% and 0.35% respectively. All-cargo operations are expected to decrease slightly as cargo airlines upgrade to larger freighters.

The General Aviation section includes based aircraft and operation forecasts. The LTCP forecasts for MAC airports were used with adjustments to match baseline numbers. The short term growth of based aircraft (average 1.42% annually) is higher than the long term (average 0.94% annually) growth. Meanwhile, the total number of operations fluctuates: increasing at 1.40% annual rate during the first five years, 1.25% annually from 2010 to 2020, and 1.56% from 2010 to 2030. To put it in perspective, the FAA Aerospace Forecast 2010 projects future GA fleet to add 0.6% annually in the midterm, compared with 1.15% in Minnesota, and 0.91% in the long term, similar to the projected 0.96% in Minnesota.

Lastly, peak hour operations were estimated to facilitate infrastructure planning in the subsequent section. For towered airports, radar records were used. For non-towered airports, a formula was applied to calculate peak hour operations.

A summary of the main forecast results and Average Annual Growth Rates are summarized on the following page.

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Aviation Activity Forecast Summary

Year	Passenger		Cargo		General Aviation and Military	
	Enplanements	Departures	Tonnage	All-Cargo Operations	Based Aircraft	Operations
2010	16,612,035	211,243	236,737	14,778	5,092	1,761,944
2015	18,498,403	212,532	259,401	14,555	5,465	1,888,731
2020	21,180,802	234,271	257,343	14,422	5,698	1,995,493
2030	27,786,958	276,848	253,725	14,306	6,135	2,403,658

Average Annual Growth Rate Summary

Average Annual Growth Rate	Passenger		Cargo		General Aviation and Military	
	Enplanements	Departures	Tonnage	All-Cargo Operations	Based Aircraft	Operations
(2010 – 2015)	2.17%	0.12%	1.85%	-0.30%	1.42%	1.40%
(2010 – 2020)	2.46%	1.04%	0.84%	-0.24%	1.13%	1.25%
(2010 – 2030)	2.61%	1.36%	0.35%	-0.16%	0.94%	1.56%

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C.9 Supporting Figures and Tables

Table C-1: Number of Based Aircraft (2010)

Baseline Based Aircraft (2010)								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Crystal Airport	MIC	195	1	13	1	1	-	7
Airlake Airport	LVN	133	-	10	1	2	-	1
Lake Elmo Airport	21D	205	-	11	-	9	-	5
St. Paul Downtown Airport - Holman Field	STP	23	52	8	9	1	-	6
Anoka County/Blaine Airport - Janes Field	ANE	346	15	48	7	6	-	11
Flying Cloud Airport	FCM	310	29	35	20	3	-	7
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	-	27	-	-	-	-	-
Hawley Municipal Airport	04Y	26	-	1	-	2	-	2
Henning Municipal Airport	05Y	11	-	-	-	-	-	2
Herman Municipal Airport	06Y	4	-	-	-	-	-	-
Hill City-Quadna Mountain Airport	07Y	2	-	-	-	-	-	-
Winsted Municipal Airport	10D	32	-	1	-	-	-	12
Tower Municipal Airport	12D	38	1	3	-	1	-	3
Le Sueur Municipal Airport	12Y	21	-	1	-	2	-	48
Littlefork Municipal Airport - Hanover Airport	13Y	2	-	-	-	1	-	-
Long Prairie Municipal Airport - Todd Field	14Y	15	-	1	-	1	-	-
Perham Municipal Airport	16D	11	1	-	1	-	-	1
Milaca Municipal Airport	18Y	28	-	-	-	-	-	-
Hector Municipal Airport	1D6	35	-	-	-	1	-	4
Karlstad Municipal Airport	23D	-	-	-	-	-	-	-
Murdock Municipal Airport	23Y	-	-	-	-	-	-	-
Forest Lake Airport	25D	31	-	1	-	1	-	1
Grygla Municipal Airport - Mel Wilkens Field	3G2	2	-	-	-	-	-	-
Mahnomen County Airport	3N8	19	-	-	-	-	-	-
Northome Municipal Airport	43Y	1	-	-	-	-	-	-
Pelican Rapids Municipal Airport - Lyon's Field	47Y	16	-	-	-	-	-	-
Piney-Pinecreek Border Airport	48Y	-	-	-	-	-	-	-
Remer Municipal Airport	52Y	3	-	-	-	-	-	1
Rushford Municipal Airport	55Y	8	-	-	-	2	-	-
Tyler Municipal Airport	63Y	5	-	-	-	-	-	-
Wells Municipal Airport	68Y	8	-	-	-	-	-	-

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Baseline Based Aircraft (2010)								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Brooten Municipal Airport	6D1	5	-	-	-	-	-	2
Backus Municipal Airport	7Y3	7	-	1	-	-	-	-
Bagley Municipal Airport	7Y4	5	-	-	-	-	-	-
Big Falls Municipal Airport	7Y9	2	-	-	-	-	-	1
Clarissa Municipal Airport	8Y5	1	-	-	-	-	-	-
Bowstring Airport	9Y0	7	-	-	-	-	-	-
East Gull Lake Airport	9Y2	2	-	-	-	-	-	-
Waseca Municipal Airport	ACQ	23	-	-	-	-	-	-
Wadena Municipal Airport	ADC	9	-	-	-	-	-	-
Albert Lea Municipal Airport	AEL	33	2	3	-	-	-	8
Aitkin Municipal Airport - Steve Kurtz Field	AIT	35	-	2	2	1	-	-
Appleton Municipal Airport	AQP	6	-	-	4	-	-	-
Austin Municipal Airport	AUM	25	2	1	1	-	-	-
Alexandria Municipal Airport - Chandler Field	AXN	48	-	2	2	-	-	-
Benson Municipal Airport - Veterans Field	BBB	13	-	4	2	-	-	1
Baudette International Airport	BDE	13	-	1	-	1	-	-
Willmar Municipal Airport - John L. Rice Field	BDH	40	1	3	-	-	-	-
Silver Bay Municipal Airport - Wayne Johnson	BFW	4	-	-	-	-	-	2
Bemidji Regional Airport	BJI	20	-	23	12	-	-	1
Brainerd Lakes Regional Airport	BRD	65	1	6	2	3	-	8
Cambridge Municipal Airport	CBG	39	-	1	-	4	-	2
Buffalo Municipal Airport	CFE	61	-	2	-	2	-	-
Houston County Airport	CHU	13	-	1	-	-	-	-
Grand Marais-Cook County Airport	CKC	13	-	-	-	1	-	-
Crookston Municipal Airport - Kirkwood Field	CKN	47	-	-	3	-	-	-
Canby Municipal Airport - Myers Field	CNB	20	-	5	-	-	-	-
Cloquet-Carlton County Airport	COQ	41	-	-	1	1	-	-
Cook Municipal Airport	CQM	18	-	-	1	-	-	1
Norman County/Ada/Twin Valley Airport	D00	7	-	-	-	-	-	-
Fertile Municipal Airport	D14	3	-	-	-	-	-	-
Starbuck Municipal Airport	D32	3	-	-	-	-	-	-
Warren Municipal Airport	D37	6	-	-	2	-	-	-
Sauk Centre Municipal Airport	D39	12	-	1	-	-	-	2
Stephen Municipal Airport	D41	7	-	-	1	-	-	1

Baseline Based Aircraft (2010)								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Springfield Municipal Airport	D42	3	-	-	-	1	-	-
Red Lake Falls Municipal Airport	D81	6	-	-	-	-	-	-
Duluth International Airport	DLH	51	2	11	-	1	22	1
Detroit Lakes Municipal Airport - Wething Field	DTL	24	2	-	4	-	-	2
Slayton Municipal Airport	DVP	4	-	-	-	-	-	1
Lac Qui Parle County Airport - Bud Frye Field	DXX	7	-	-	-	-	-	2
Duluth Sky Harbor Airport	DYT	29	-	3	-	-	-	-
Ely Municipal Airport	ELO	20	-	2	-	1	-	-
Wheaton Municipal Airport	ETH	4	-	-	-	-	-	-
Eveleth-Virginia Municipal Airport	EVM	36	-	1	1	1	-	1
Faribault Municipal Airport	FBL	64	-	6	-	1	-	9
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	46	-	1	1	2	-	-
Preston - Fillmore County Airport	FKA	22	-	-	-	1	-	2
Bigfork Municipal Airport	FOZ	4	-	-	-	-	-	-
Fairmont Municipal Airport	FRM	28	2	2	-	-	-	-
Fosston Municipal Airport	FSE	9	-	1	-	-	-	1
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	13	2	2	-	-	-	-
Glenwood Municipal Airport	GHW	11	-	-	-	-	-	-
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	74	1	3	-	2	-	-
Glencoe Municipal Airport - Vernon Perschau Field	GYL	29	-	1	-	-	-	5
Hutchinson Municipal Airport - Butler Field	HCD	38	-	3	1	2	-	2
Hallock Municipal Airport	HCO	11	-	-	2	-	-	-
Range Regional Airport	HIB	44	-	2	-	1	-	6
McGregor - Isedor Iverson Airport	HZX	13	-	-	-	-	-	1
Falls International Airport	INL	26	-	-	-	7	-	-
Moorhead Municipal Airport	JKJ	34	-	5	-	-	-	-
Mora Municipal Airport	JMR	25	-	-	-	3	-	1
St. James Municipal Airport	JYG	11	-	-	-	1	-	-
Litchfield Municipal Airport	LJF	27	-	1	-	-	-	2
Little Falls-Morrison County Airport	LXL	28	-	1	-	-	-	-
Luverne Municipal Airport - Quentin Aanenson Field	LYV	18	-	-	-	-	-	1
Maple Lake Municipal Airport	MGG	43	-	4	-	-	-	-
Jackson Municipal Airport	MJQ	19	-	-	-	-	-	1
Mankato Regional Airport - Sohler Field	MKT	54	3	8	3	2	-	5

Baseline Based Aircraft (2010)								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Southwest Minnesota Regional-Marshall/Ryan Field	MML	19	5	3	5	-	-	1
Morris Municipal Airport - Charlie Schmidt Field	MOX	11	-	4	2	1	-	1
Montevideo-Chippewa County Airport	MVE	22	-	1	-	-	-	2
Windom Municipal Airport	MWM	15	-	1	-	-	-	-
Moose Lake-Carlton County Airport	MZH	10	-	-	-	-	-	3
Winona Municipal Airport - Max Conrad Field	ONA	32	2	5	1	1	-	2
Orr Regional Airport	ORB	8	-	-	-	-	-	-
Worthington Municipal Airport	OTG	21	-	3	-	-	-	-
Olivia Regional Airport	OVL	8	-	-	-	-	-	5
Owatonna Degner Regional Airport	OWA	48	-	2	-	-	-	2
Paynesville Municipal Airport	PEX	22	-	1	-	-	-	1
Park Rapids Municipal Airport - Konshok Field	PKD	26	-	3	-	-	-	-
Princeton Municipal Airport	PNM	44	-	2	-	1	-	-
Pipestone Municipal Airport	PQN	17	-	1	-	-	-	-
Pine River Regional Airport	PWC	38	1	2	1	-	-	2
Red Wing Regional Airport	RGK	55	5	3	1	-	-	-
Rush City Regional Airport	ROS	56	-	1	-	1	-	1
Roseau Municipal Airport - Rudy Billberg Field	ROX	16	-	-	-	-	-	2
Warroad International Memorial Airport	RRT	16	1	1	3	-	-	1
Rochester International Airport	RST	57	3	3	-	1	-	1
Redwood Falls Municipal Airport	RWF	11	-	3	-	1	-	3
Staples Municipal Airport	SAZ	17	-	1	-	-	-	2
Blue Earth Municipal Airport	SBU	26	-	-	2	1	-	-
South St. Paul Municipal Airport - Fleming Field	SGS	217	-	10	12	3	-	6
St. Cloud Regional Airport	STC	82	8	5	-	-	12	-
Tracy Municipal Airport	TKC	7	-	-	-	-	-	-
Dodge Center Municipal Airport	TOB	39	-	-	-	1	-	4
Thief River Falls Regional Airport	TVF	21	3	1	1	-	-	1
Two Harbors Municipal - Richard B. Helgeson Field	TWM	36	-	1	-	1	-	6
New Ulm Municipal Airport	ULM	20	-	4	1	-	-	-
Ortonville Municipal Airport - Martinson Field	VVV	3	-	-	-	-	-	-
Waskish Municipal Airport	VWU	1	-	-	-	-	-	-
Longville Municipal Airport	XVG	15	-	1	-	-	-	-
Walker Municipal Airport	Y49	23	-	2	-	4	-	-

Baseline Based Aircraft (2010)								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Sleepy Eye Municipal Airport	Y58	6	-	-	1	1	-	3
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	17	-	-	-	-	-	1

Table C-1 Notes

[1] SEP: Single-Engine Piston
[2] JET: Turbojet
[3] MEP: Multi-Engine Piston
[4] TP: Turboprop
[5] LSA: Light Sport Aircraft
[6] MIL: Military
[7] OTH: Other aircraft including helicopter, ultra-light and glider.
Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

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Table C-2: Baseline Number of GA Operations (2010)

Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Crystal Airport	MIC	36,510	1,139	3,528	1,376	36	-	1,641	23,675	20,554	18,410	17,225	8,595
Airlake Airport	LVN	32,266	490	1,746	987	78	-	95	7,133	28,529	14,844	13,888	6,930
Lake Elmo Airport	21D	32,034	25	1,225	296	377	-	417	13,389	20,985	14,308	13,387	6,680
St. Paul Downtown Airport - Holman Field	STP	33,321	15,635	16,238	5,974	79	-	17,748	58,031	30,964	37,043	34,658	17,294
Anoka County/Blaine Airport - Janes Field	ANE	52,719	4,552	15,035	2,788	590	-	3,905	43,828	35,761	33,128	30,995	15,466
Flying Cloud Airport	FCM	66,720	5,868	10,214	5,002	256	-	6,184	55,126	39,118	39,228	36,702	18,314
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	-	27,921	-	-	-	2,145	-	26,082	-	25,821	261	-
Hawley Municipal Airport	04Y	7,527	-	305	-	434	-	334	4,644	3,956	3,580	3,349	1,671
Henning Municipal Airport	05Y	3,259	-	-	-	-	-	341	2,124	1,476	720	2,520	360
Herman Municipal Airport	06Y	2,400	-	-	-	-	-	-	1,440	960	960	1,200	240
Hill City-Quadna Mountain Airport	07Y	1,400	-	-	-	-	-	-	826	574	583	545	272
Winsted Municipal Airport	10D	8,807	-	290	-	-	-	1,904	8,030	2,970	1,100	7,700	2,200
Tower Municipal Airport	12D	6,305	260	524	-	124	-	287	6,000	1,500	375	6,975	150
Le Sueur Municipal Airport	12Y	5,880	-	295	-	420	60	7,746	5,760	8,640	2,880	8,640	2,880
Littlefork Municipal Airport - Hanover Airport	13Y	1,745	-	-	-	655	-	-	1,200	1,200	-	2,280	120
Long Prairie Municipal Airport - Todd Field	14Y	6,240	-	438	-	312	10	-	1,860	5,140	1,400	4,900	700
Perham Municipal Airport	16D	5,108	726	-	1,097	-	-	268	5,040	2,160	720	5,760	720
Milaca Municipal Airport	18Y	11,000	-	-	-	-	-	-	6,491	4,509	4,579	4,284	2,138
Hector Municipal Airport	1D6	6,990	-	-	-	150	-	460	1,086	6,514	3,163	2,960	1,477
Karlstad Municipal Airport	23D	1,000	-	-	-	-	-	-	-	1,000	-	1,000	-
Murdock Municipal Airport	23Y	1,000	-	-	-	-	-	-	-	1,000	800	100	100
Forest Lake Airport	25D	8,554	-	290	-	207	-	159	5,526	3,684	1,842	5,526	1,842
Grygla Municipal Airport - Mel Wilkens Field	3G2	1,400	-	-	-	-	-	-	826	574	583	545	272
Mahnomen County Airport	3N8	4,800	-	-	-	-	-	-	4,560	240	4,080	672	48
Northome Municipal Airport	43Y	1,200	-	-	-	-	-	-	120	1,080	120	960	120
Pelican Rapids Municipal Airport - Lyon's Field	47Y	2,800	-	-	-	-	-	-	1,400	1,400	-	2,800	-
Piney-Pinecreek Border Airport	48Y	1,800	-	-	-	-	-	-	1,062	738	612	1,188	-
Remer Municipal Airport	52Y	1,510	-	-	-	-	-	290	1,800	-	-	1,620	180
Rushford Municipal Airport	55Y	1,684	-	-	-	316	-	-	1,200	800	200	600	1,200
Tyler Municipal Airport	63Y	1,500	-	-	-	-	-	-	1,350	150	750	750	-
Wells Municipal Airport	68Y	5,200	-	-	-	-	-	-	4,160	1,040	4,160	780	260
Brooten Municipal Airport	6D1	4,876	-	-	-	-	-	1,124	4,800	1,200	3,000	2,400	600
Backus Municipal Airport	7Y3	2,260	-	340	-	-	-	-	2,574	26	26	260	2,314
Bagley Municipal Airport	7Y4	2,100	-	-	-	-	-	-	2,100	-	874	818	408

Baseline GA Operations (2010)												
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Big Falls Municipal Airport	7Y9	1,242	-	-	-	-	-	358	1,200	400	400	800	400
Clarissa Municipal Airport	8Y5	1,200	-	-	-	-	-	-	648	552	499	467	233
Bowstring Airport	9Y0	1,900	-	-	-	-	-	-	950	950	380	1,330	190
East Gull Lake Airport	9Y2	1,400	-	-	-	-	-	-	826	574	-	1,400	-
Waseca Municipal Airport	ACQ	5,800	-	-	-	-	-	-	4,640	1,160	580	4,930	290
Wadena Municipal Airport	ADC	5,394	-	-	-	-	6	-	1,403	3,997	2,248	2,103	1,049
Albert Lea Municipal Airport	AEL	19,452	1,844	1,860	-	-	300	2,718	21,202	4,973	10,895	10,194	5,086
Aitkin Municipal Airport - Steve Kurtz Field	AIT	16,439	-	988	2,220	352	-	-	14,600	5,400	1,000	18,000	1,000
Appleton Municipal Airport	AQP	777	-	-	1,223	-	-	-	2,000	-	1,780	200	20
Austin Municipal Airport	AUM	20,051	2,509	844	1,895	-	120	-	21,607	3,813	10,168	2,542	12,710
Alexandria Municipal Airport - Chandler Field	AXN	22,266	-	976	2,193	-	300	-	16,225	9,510	10,712	10,022	5,001
Benson Municipal Airport - Veterans Field	BBB	2,888	-	935	1,050	-	-	128	4,500	500	4,750	250	-
Baudette International Airport	BDE	9,595	-	776	-	554	75	-	1,100	9,900	2,750	7,150	1,100
Willmar Municipal Airport - John L. Rice Field	BDH	15,921	623	1,256	-	-	50	-	5,250	12,600	7,430	6,952	3,469
Silver Bay Municipal Airport - Wayne Johnson	BFW	2,562	-	-	-	-	-	738	1,650	1,650	165	2,805	330
Bemidji Regional Airport	BJI	2,234	-	2,703	3,168	-	500	64	2,601	6,068	6,935	1,300	433
Brainerd Lakes Regional Airport	BRD	27,261	656	2,647	1,982	944	400	1,934	10,663	25,161	14,911	13,951	6,961
Cambridge Municipal Airport	CBG	15,018	-	405	-	1,155	100	444	8,177	8,945	7,127	6,668	3,327
Buffalo Municipal Airport	CFE	21,257	-	733	-	523	220	-	15,913	6,820	2,273	18,186	2,273
Houston County Airport	CHU	3,238	-	262	-	-	-	-	3,150	350	2,450	1,050	-
Grand Marais-Cook County Airport	CKC	3,025	-	-	-	175	-	-	960	2,240	640	2,240	320
Crookston Municipal Airport - Kirkwood Field	CKN	24,287	-	-	3,663	-	50	-	14,000	14,000	5,600	2,800	19,600
Canby Municipal Airport - Myers Field	CNB	5,321	-	1,399	-	-	-	-	3,360	3,360	5,040	1,344	336
Cloquet-Carlton County Airport	COQ	9,201	-	-	530	168	100	-	9,000	1,000	3,000	3,000	4,000
Cook Municipal Airport	CQM	5,115	-	-	672	-	-	164	2,975	2,975	1,785	4,165	-
Norman County/Ada/Twin Valley Airport	D00	2,400	-	-	-	-	-	-	2,160	240	240	1,920	240
Fertile Municipal Airport	D14	9,600	-	-	-	-	-	-	9,600	-	-	9,600	-
Starbuck Municipal Airport	D32	1,600	-	-	-	-	-	-	944	656	666	623	311
Warren Municipal Airport	D37	1,342	-	-	1,058	-	-	-	1,416	984	999	935	466
Sauk Centre Municipal Airport	D39	4,953	-	434	-	-	30	476	4,420	1,473	4,420	1,473	-
Stephen Municipal Airport	D41	3,718	-	-	1,255	-	-	306	5,280	-	5,280	-	-
Springfield Municipal Airport	D42	1,936	-	-	-	484	-	-	484	1,936	1,452	968	-
Red Lake Falls Municipal Airport	D81	3,040	-	-	-	-	-	-	1,824	1,216	1,216	1,216	608
Duluth International Airport	DLH	26,455	1,623	6,003	-	389	7,983	299	11,543	31,209	36,339	2,138	4,275
Detroit Lakes Municipal Airport - Wething Field	DTL	10,240	1,335	-	4,033	-	100	492	5,400	10,800	6,743	6,309	3,148

Baseline GA Operations (2010)												
Airport Name	ID	Aircraft Type						Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Slayton Municipal Airport	DVP	2,098	-	-	-	-	-	302	1,416	984	999	935	466
Lac Qui Parle County Airport - Bud Frye Field	DXX	1,717	-	-	-	-	-	283	1,400	600	800	1,000	200
Duluth Sky Harbor Airport	DYT	12,536	-	1,364	-	-	-	-	10,981	2,919	417	13,205	278
Ely Municipal Airport	ELO	7,176	-	755	-	269	-	-	3,280	4,920	6,970	820	410
Wheaton Municipal Airport	ETH	1,800	-	-	-	-	-	-	1,800	-	1,800	-	-
Eveleth-Virginia Municipal Airport	EVM	7,069	-	207	464	147	-	113	7,600	400	7,200	640	160
Faribault Municipal Airport	FBL	15,524	-	1,531	-	182	100	1,258	13,017	5,579	930	13,017	4,649
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	8,538	-	195	439	278	100	-	3,248	6,302	3,975	3,719	1,856
Preston - Fillmore County Airport	FKA	5,983	-	-	-	204	-	313	4,550	1,950	2,275	2,600	1,625
Bigfork Municipal Airport	FOZ	2,400	-	-	-	-	-	-	480	1,920	960	1,440	-
Fairmont Municipal Airport	FRM	6,007	671	451	-	-	100	-	3,615	3,615	5,423	1,808	-
Fosston Municipal Airport	FSE	7,790	-	911	-	-	-	499	5,612	3,588	920	8,004	276
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	3,922	944	635	-	-	-	-	2,475	3,025	3,300	1,650	550
Glenwood Municipal Airport	GHW	4,900	-	-	-	-	-	-	1,715	3,185	980	2,940	980
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	18,074	382	771	-	366	60	-	9,827	9,827	11,792	3,931	3,931
Glencoe Municipal Airport - Vernon Perschau Field	GYL	9,347	-	339	-	-	-	929	4,246	6,369	1,592	7,961	1,062
Hutchinson Municipal Airport - Butler Field	HCD	9,962	-	827	620	393	45	302	6,683	5,468	5,057	4,732	2,361
Hallock Municipal Airport	HCO	3,357	-	-	1,443	-	-	-	3,120	1,680	4,752	48	-
Range Regional Airport	HIB	23,636	-	1,130	-	403	100	1,858	8,138	18,989	18,989	5,425	2,713
McGregor - Isedor Iverson Airport	HZX	3,830	-	-	-	-	-	170	2,360	1,640	1,665	1,558	777
Falls International Airport	INL	13,278	-	-	-	2,682	100	-	4,818	11,242	2,730	12,848	482
Moorhead Municipal Airport	JKJ	7,794	-	1,206	-	-	-	-	6,030	2,970	3,746	3,505	1,749
Mora Municipal Airport	JMR	8,445	-	-	-	760	-	195	2,460	6,940	3,913	3,661	1,827
St. James Municipal Airport	JYG	4,494	-	-	-	306	-	-	3,840	960	960	3,840	-
Litchfield Municipal Airport	LJF	8,321	-	324	-	-	-	355	4,500	4,500	900	6,300	1,800
Little Falls-Morrison County Airport	LXL	9,011	-	339	-	-	50	-	1,709	7,691	3,913	3,661	1,827
Luverne Municipal Airport - Quentin Aanenson Field	LYV	10,562	-	-	-	-	-	338	4,360	6,540	3,270	3,270	4,360
Maple Lake Municipal Airport	MGG	8,562	-	838	-	-	-	-	8,742	658	1,880	2,350	5,170
Jackson Municipal Airport	MJQ	5,814	-	-	-	-	10	176	1,800	4,200	6,000	-	-
Mankato Regional Airport - Sohler Field	MKT	70,093	6,092	10,924	9,203	1,947	500	3,741	69,700	32,800	20,500	30,750	51,250
Southwest Minnesota Regional-Marshall/Ryan Field	MML	10,201	4,199	1,694	6,344	-	100	309	8,682	14,166	17,136	3,427	2,285
Morris Municipal Airport - Charlie Schmidt Field	MOX	3,053	-	1,168	1,312	208	6	160	4,725	1,181	5,020	591	295
Montevideo-Chippewa County Airport	MVE	10,889	-	521	-	-	20	571	6,000	6,000	10,800	960	240
Windom Municipal Airport	MWM	7,756	-	544	-	-	-	-	4,150	4,150	4,150	3,320	830
Moose Lake-Carlton County Airport	MZH	4,178	-	-	-	-	-	722	2,205	2,695	1,960	1,470	1,470

Baseline GA Operations (2010)												
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Winona Municipal Airport - Max Conrad Field	ONA	7,491	732	1,231	553	176	25	270	8,383	2,096	6,287	2,096	2,096
Orr Regional Airport	ORB	2,500	-	-	-	-	-	-	1,000	1,500	750	1,750	-
Worthington Municipal Airport	OTG	8,286	-	1,245	-	-	509	-	4,016	6,024	5,020	5,020	-
Olivia Regional Airport	OVL	2,676	-	-	-	-	-	964	2,148	1,492	1,515	1,418	707
Owatonna Degner Regional Airport	OWA	27,907	-	1,223	-	-	250	670	14,469	15,581	12,508	11,703	5,839
Paynesville Municipal Airport	PEX	4,655	-	223	-	-	-	122	3,350	1,650	500	4,000	500
Park Rapids Municipal Airport - Konshok Field	PKD	14,001	-	1,699	-	-	25	-	7,863	7,863	6,545	6,124	3,056
Princeton Municipal Airport	PNM	11,269	-	539	-	192	300	-	6,150	6,150	1,845	9,225	1,230
Pipestone Municipal Airport	PQN	7,694	-	476	-	-	30	-	4,100	4,100	8,200	-	-
Pine River Regional Airport	PWC	9,251	381	512	575	-	-	281	6,600	4,400	1,100	8,250	1,650
Red Wing Regional Airport	RGK	10,744	1,528	617	462	-	700	-	4,215	9,835	10,538	2,810	703
Rush City Regional Airport	ROS	21,155	-	397	-	283	10	218	11,032	11,032	2,206	8,826	11,032
Roseau Municipal Airport - Rudy Billberg Field	ROX	8,395	-	-	-	-	-	605	900	8,100	8,100	900	-
Warroad International Memorial Airport	RRT	5,296	518	348	2,347	-	-	191	6,090	2,610	6,960	1,305	435
Rochester International Airport	RST	27,210	2,240	1,507	-	358	233	275	18,457	13,366	25,458	4,773	1,591
Redwood Falls Municipal Airport	RWF	9,274	-	2,661	-	632	300	1,458	9,741	4,584	4,298	9,741	287
Staples Municipal Airport	SAZ	8,498	-	526	-	-	-	576	4,800	4,800	1,920	6,720	960
Blue Earth Municipal Airport	SBU	11,564	-	-	2,102	334	-	-	10,500	3,500	6,300	6,300	1,400
South St. Paul Municipal Airport - Fleming Field	SGS	51,432	-	2,493	6,721	533	-	820	40,300	21,700	23,560	34,100	4,340
St. Cloud Regional Airport	STC	28,628	4,369	1,836	-	-	2,876	-	28,283	9,428	11,313	7,542	18,855
Tracy Municipal Airport	TKC	3,040	-	-	-	-	-	-	1,824	1,216	1,216	1,520	304
Dodge Center Municipal Airport	TOB	8,161	-	-	-	157	-	482	2,200	6,600	2,640	2,640	3,520
Thief River Falls Regional Airport	TVF	20,995	4,692	1,052	2,363	-	100	576	10,124	19,653	8,933	5,955	14,889
Two Harbors Municipal - Richard B. Helgeson Field	TWM	7,678	-	224	-	160	-	738	5,280	3,520	880	6,160	1,760
New Ulm Municipal Airport	ULM	7,519	-	1,582	888	-	10	-	7,500	2,500	7,000	2,000	1,000
Ortonville Municipal Airport - Martinson Field	VVV	5,000	-	-	-	-	-	-	1,500	3,500	2,500	2,000	500
Waskish Municipal Airport	VWU	200	-	-	-	-	-	-	130	70	30	170	-
Longville Municipal Airport	XVG	6,284	-	441	-	-	-	-	2,354	4,371	336	6,389	-
Walker Municipal Airport	Y49	7,619	-	697	-	994	-	-	6,517	2,793	1,862	7,448	-
Sleepy Eye Municipal Airport	Y58	1,217	-	-	480	152	-	351	1,298	902	916	857	428
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	4,062	-	-	-	-	-	138	1,400	2,800	1,748	1,636	816

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

FORECAST TECHNICAL REPORT

Figure C-23: Population Growth (Historical Figure from 1970 to 2010)

Growth Factor

-1.50% - -0.10%
-0.09% - -0.05%
-0.04% - 0.00%
0.01% - 1.00%
1.01% - 2.00%
2.01% - 5.00%

Source: BTS T100 Data & HNTB Analysis

HNTB

FORECAST TECHNICAL REPORT

Figure C-24: Population Growth (Forecast from 2011 to 2030)

Source: BTS T100 Data & HNTB Analysis

Appendix C

FORECAST TECHNICAL REPORT

HNTB

Figure C-25: Employment Growth (Historical Figure from 1970 to 2010)

Growth Factor

- -0.40% - 0.00%
- 0.01% - 0.50%
- 0.51% - 1.00%
- 1.01% - 2.00%
- 2.01% - 4.00%
- 4.01% - 6.00%
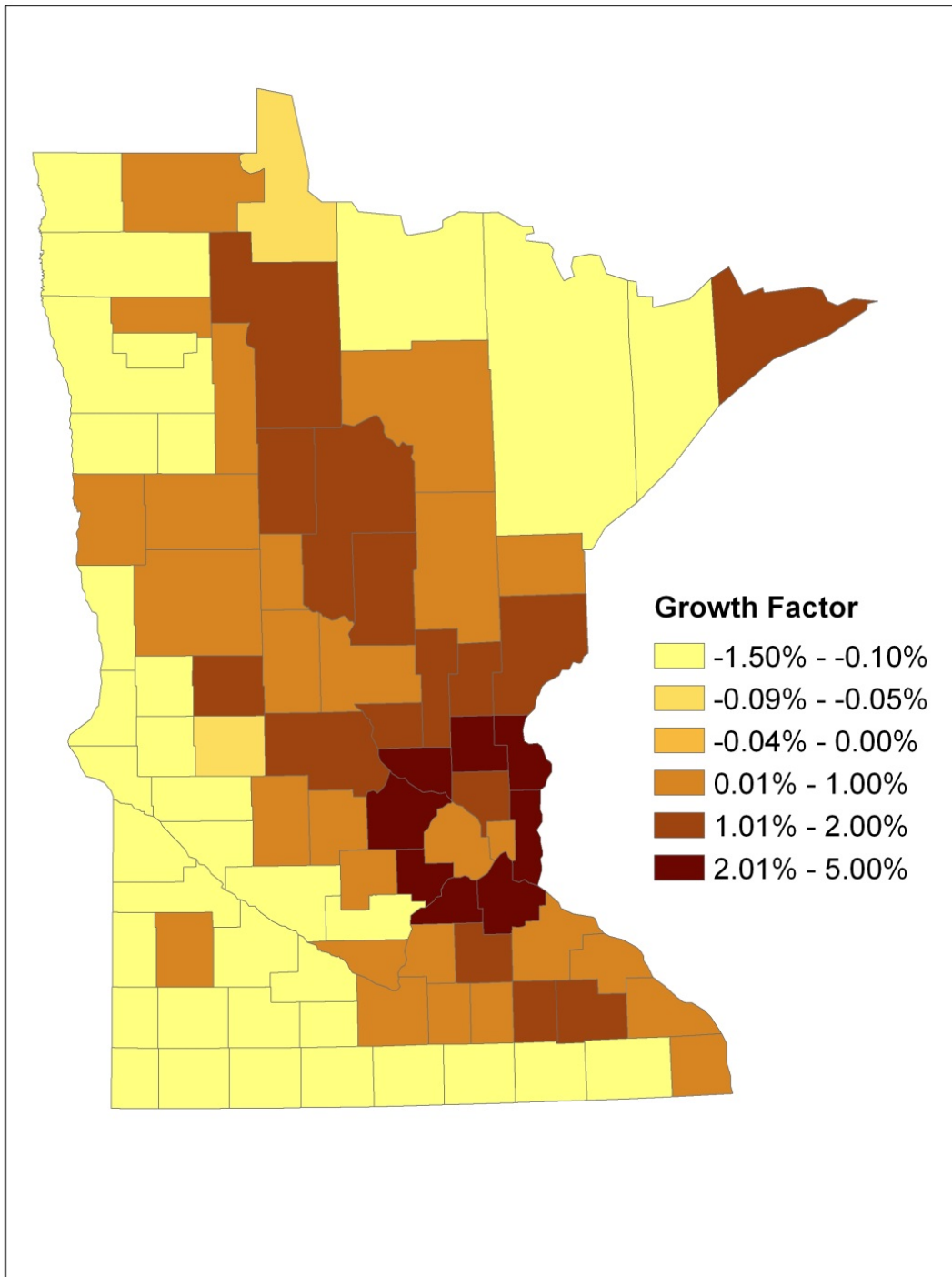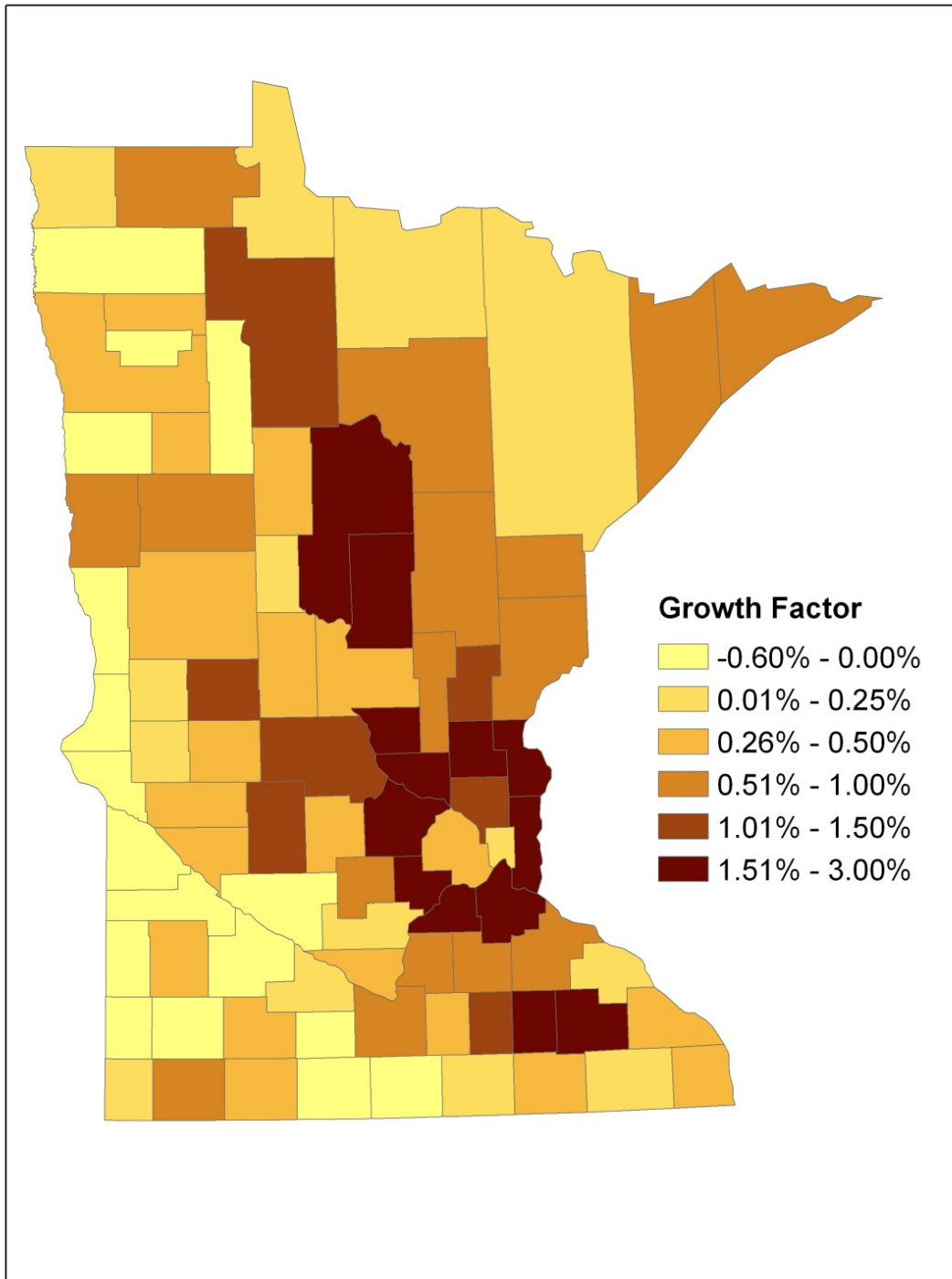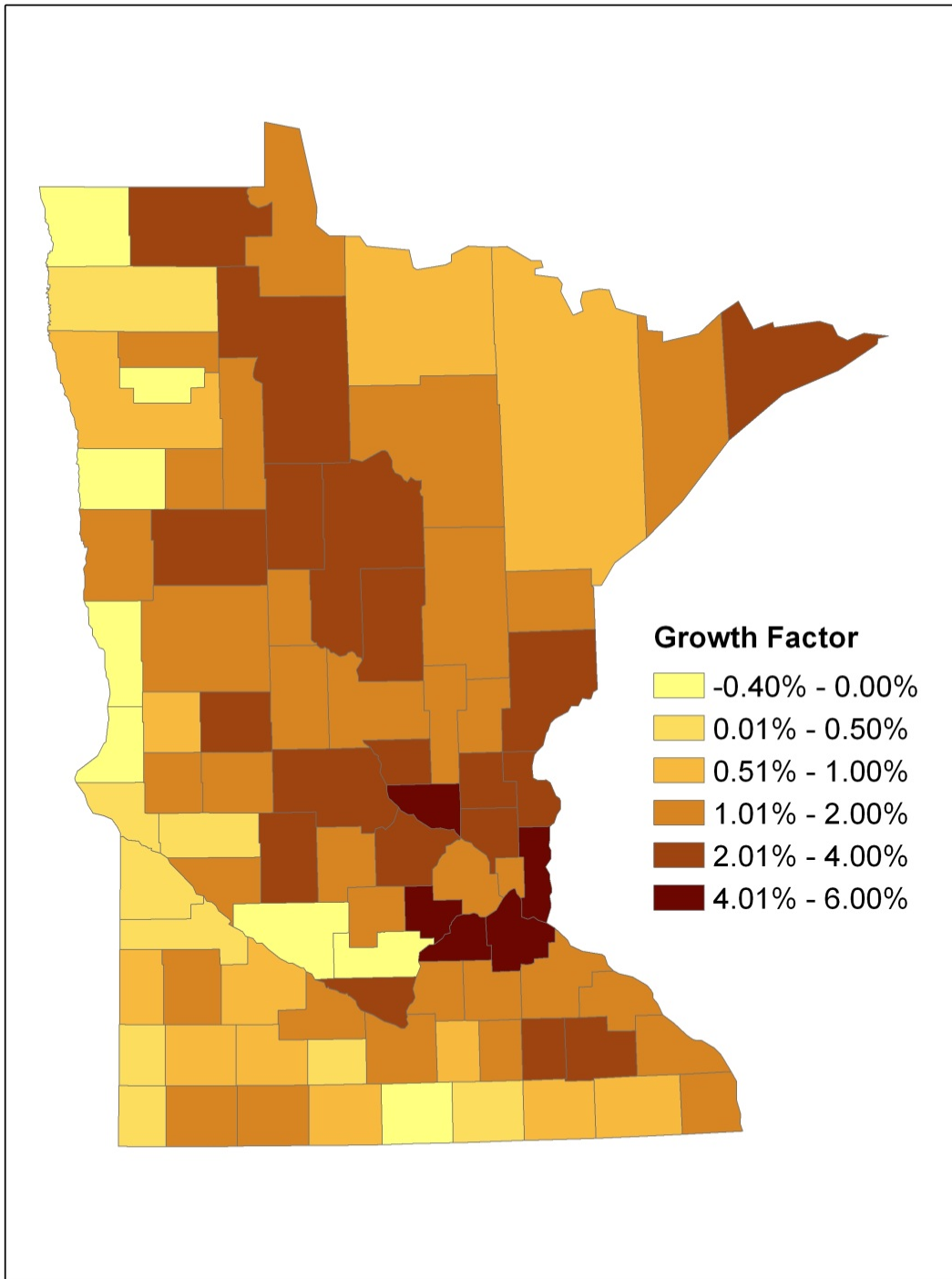
Source: BTS T100 Data & HNTB Analysis

Figure C-26: Employment Growth (Forecast from 2011 to 2030)

Source: BTS T100 Data & HNTB Analysis

HNTB

FORECAST TECHNICAL REPORT
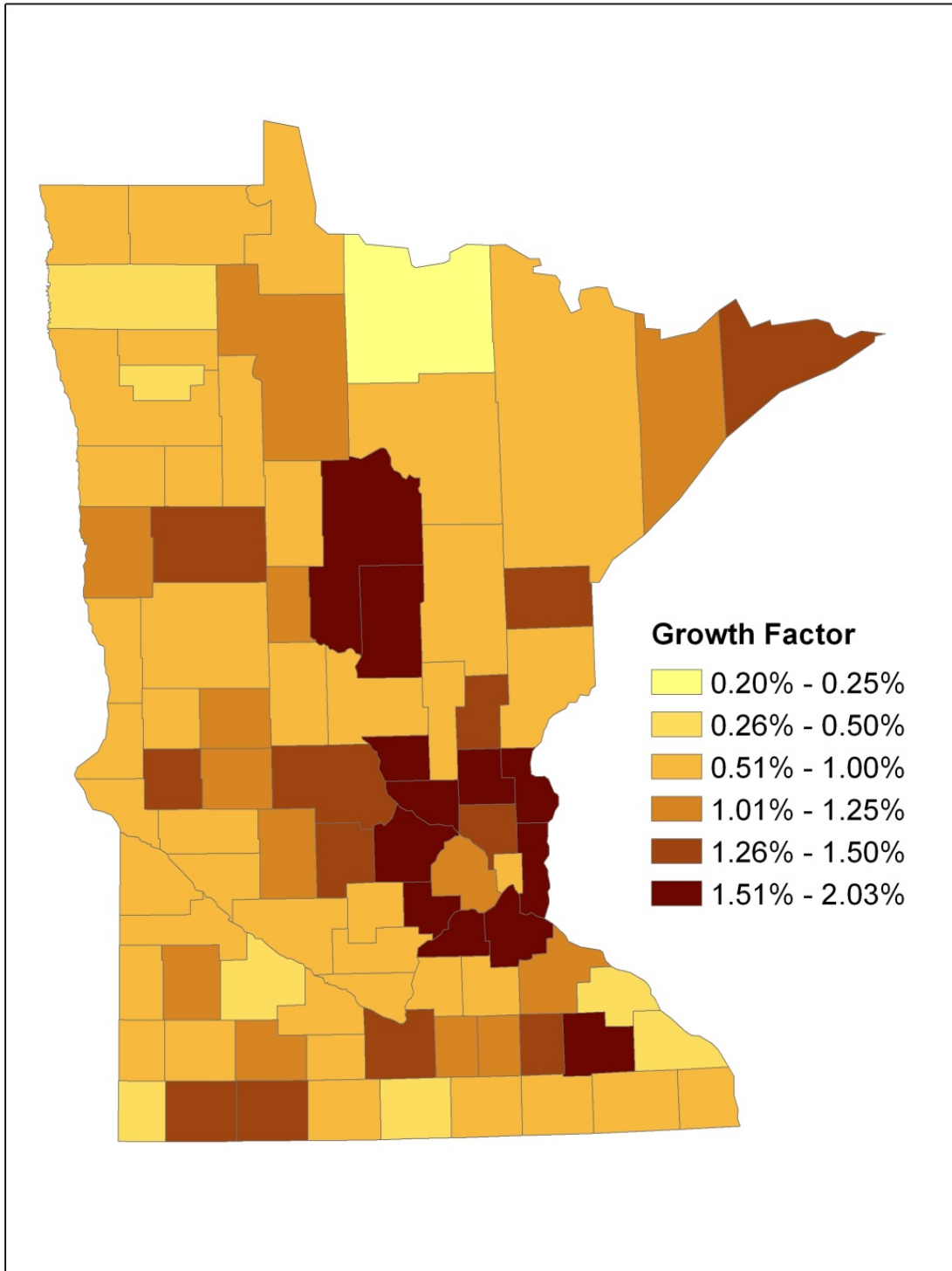
Figure C-27: Total Income Growth (Historical Figure from 1970 to 2010)

Growth Factor

- 0.84% - 1.50%
- 1.51% - 2.00%
- 2.01% - 2.50%
- 2.51% - 3.00%
- 3.01% - 4.00%
- 4.01% - 5.70%
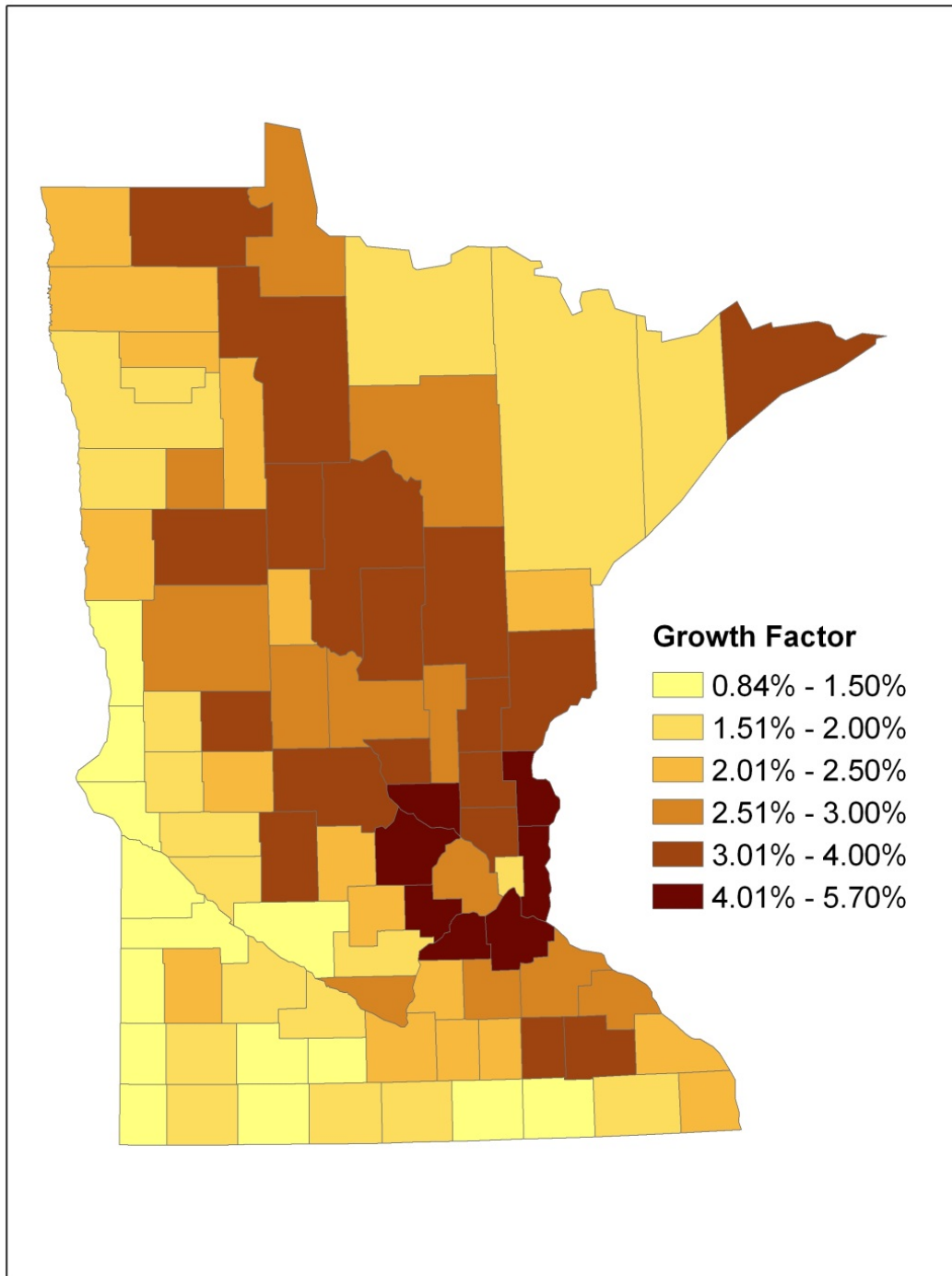
Source: BTS T100 Data & HNTB Analysis

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Figure C-28: Total Income Growth (Forecast from 2011 to 2030)

Growth Factor
- 0.59% - 1.00%
- 1.01% - 1.50%
- 1.51% - 1.75%
- 1.76% - 2.00%
- 2.01% - 2.50%
- 2.51% - 3.12%

Source: BTS T100 Data & HNTB Analysis

FORECAST TECHNICAL REPORT
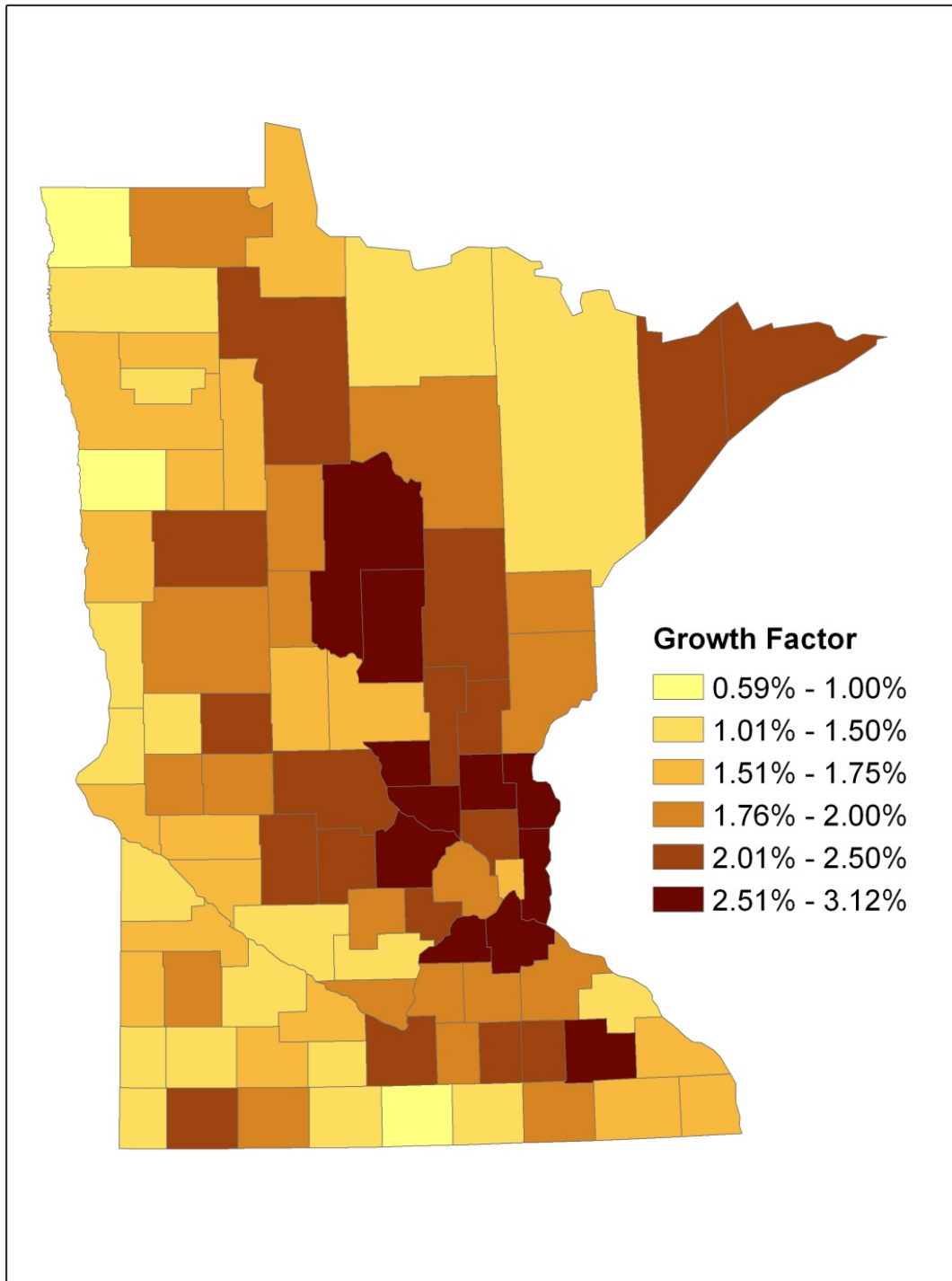
Figure C-29: Regression Equations Used

Log_{10}(Passenger) = -2.97 + 0.495 * Log_{10}(Schedule) + 1.6 * Log_{10}(Total Income) + 0.214 * BJI − 0.988 * BRD − 0.347 * HIB + 1.289 * INL − 0.272 * RST

R-Square: 0.9868; Adjusted R-Square: 0.9738

Passenger: annual passenger enplanements

Schedule: OAG annual scheduled passenger aircraft departures

Total Income: millions of dollars in 2010 prices within airport catchment area

BJI: dummy variable, equals 1 when the airport is Bemidji Regional, 0 otherwise

BRD: dummy variable, equals 1 when the airport is Brainerd Lakes Regional, 0 otherwise

HIB: dummy variable, equals 1 when the airport is Hibbing Range Regional, 0 otherwise

INL: dummy variable, equals 1 when the airport is Falls International, 0 otherwise

RST: dummy variable, equals 1 when the airport is Rochester International, 0 otherwise

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Appendix C

HNTB

FORECAST TECHNICAL REPORT

Table C-3: Commercial Fleet Forecast for Bemidji Regional Airport

Airline	Equipment	Seats	2010 Departures	Fleet Mix				Seats / Departure			
				2010	2015	2020	2030	2010	2015	2020	2030
Bemidji Airlines	BEECH QUEEN AIR	9	51	4.0%	4.0%	4.0%	0.0%	0.4	0.4	0.4	0.0
	BEECH 99	12	117	9.2%	9.2%	9.2%	13.2%	1.1	1.1	1.1	1.6
	BEECH C99	12	86	6.8%	6.8%	6.8%	6.8%	0.8	0.8	0.8	0.8
Delta	SAAB-FAIRCHD 340/B	34	891	70.0%	0.0%	0.0%	0.0%	23.8	0.0	0.0	0.0
	CANAD RJ-200ER/RJ440	50	125	9.8%	79.8%	53.8%	59.8%	4.9	39.9	26.9	29.9
	Canadair CR-7	70		0.0%	0.0%	26.0%	20.0%		0.0	18.2	14.0
USA Jet Airlines- Inc.	DOUGLAS DC-9-15F	50	2	0.2%	0.0%	0.0%	0.0%	0.1	0.0	0.0	0.0
	MCDON MD-80,1,2,3,7,	150			0.2%	0.2%	0.2%	0.0	0.3	0.3	0.3
Total			1,272	100%	100%	100%	100%	31.1	42.5	47.7	46.6

Source: BTS T100 Data & HNTB Analysis

Table C-4: Commercial Fleet Forecast for Brainerd Lakes Regional Airport

Airline	Equipment	Seats	2010 Departures	Fleet Mix				Seats / Departure			
				2010	2015	2020	2030	2010	2015	2020	2030
Bemidji Airlines	BEECH QUEEN AIR	9	5	0.6%	0.6%	0.6%	0.6%	0.1	0.1	0.1	0.1
	BEECH 99	12	2	0.2%	0.2%	0.2%	0.2%	0.0	0.0	0.0	0.0
	BEECH C99	12	2	0.2%	0.2%	0.2%	0.2%	0.0	0.0	0.0	0.0
Delta	SAAB-FAIRCHD 340/B	34	841	94.5%	32.8%	0.0%	0.0%	32.1	11.2	0.0	0.0
	CANAD RJ-200ER/RJ440	50	28	3.1%	65.0%	97.7%	87.5%	1.6	32.5	48.9	43.8
	Canadair CR-9	76					10.0%	0.0	0.0	0.0	0.0
	EMBRAER-175	76	2	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
Sun Country Airlines	BOEING 737-800	162	10	1.1%	1.2%	1.3%	1.5%	1.8	1.9	2.1	2.4
Total			890	99.8%	100%	100%	100%	35.6	45.7	51.1	53.9

Source: BTS T100 Data & HNTB Analysis

HNTB

Table C-5: Commercial Fleet Forecast for Duluth International Airport

Airline	Equipment	Seats	2010 Departures	Fleet Mix				Seats / Departure			
				2010	2015	2020	2030	2010	2015	2020	2030
Casino Express	BOEING 737-400	146	8	0.2%	0.2%	0.2%	0.2%	0.3	0.3	0.3	0.3
Delta	SAAB-FAIRCHD 340/B	34	202	5.2%				1.8	0.0	0.0	0.0
	CANADAIR RJ-100/ER	50	123	3.2%				1.6	0.0	0.0	0.0
	CANAD RJ-200ER/RJ440	50	3,114	80.4%	52.0%	52.0%	31.5%	40.2	26.0	26.0	15.8
	CANADAIR RJ 700	70			10.5%			0.0	7.4	0.0	0.0
	CANADAIR RJ 900	76	1	0.0%	10.7%	21.2%	31.5%	0.0	8.1	16.1	23.9
	EMBRAER-175	76	102	2.6%	10.5%	10.5%	10.2%	2.0	8.0	8.0	7.8
	AIRBUS A319	124	2	0.1%	10.5%		10.5%	0.1	13.0	0.0	13.0
	DOUGLAS DC-9-50	125	34	0.9%				1.1	0.0	0.0	0.0
	MCDON MD-80,1,2,3,7,	149				10.5%			0.0	15.6	0.0
	AIRB A320-100/200	148	1	0.0%				0.0	0.0	0.0	0.0
	MCDONNELL D-90	150	1	0.0%				0.0	0.0	0.0	0.0
	Boeing 737-800	160					10.5%		0.0	0.0	16.8
	BOEING 757-200	183	1	0.0%				0.0	0.0	0.0	0.0
	BOEING 757-300	224	1	0.0%				0.1	0.0	0.0	0.0
Allegiant Air	MCDON MD-80,1,2,3,7,	150	194	5.0%	5.0%	5.0%	5.0%	7.5	7.5	7.5	7.5
Other	CITATION X CE750X	8	2	0.1%	0.1%	0.1%	0.1%	0.0	0.0	0.0	0.0
	BAE HS-125	8	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	AIRBUS A-318	19	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
Sun Country Airlines	BOEING 737-800	162	21	0.5%	0.5%	0.5%	0.5%	0.9	0.8	0.8	0.8
United	EMBRAER-146	50	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	BOEING 747-400	374	1	0.0%	0.0%	0.0%	0.0%	0.1	0.0	0.0	0.0
USA Jet Airlines- Inc.	DOUGLAS DC-9-15F	50	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	MCDON MD-80,1,2,3,7,	150						0.0	0.0	0.0	0.0
	DOUGLAS DC-9-30	100	58	1.5%	0.0%	0.0%	0.0%	1.5	0.0	0.0	0.0
Southwest Airlines	BOEING 737-300	137	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
Total			3,871	100%	100%	100%	100%	57.3	71.1	74.3	85.9

Source: BTS T100 Data & HNTB Analysis

Table C-6: Commercial Fleet Forecast for Chisholm / Hibbing Municipal – Range Regional Airport

Airline	Equipment	Seats	2010 Departures	Fleet Mix				Seats / Departure			
				2010	2015	2020	2030	2010	2015	2020	2030
Delta	SAAB-FAIRCHD 340/B	34	1,568	99.1%	99.0%	78.9%		33.7	33.7	26.8	0.0
	CANAD RJ-200ER/RJ440	50				20.0%	98.7%	0.0	0.0	10.0	49.4
Sun Country Airlines	BOEING 737-800	162	14	0.9%	1.0%	1.1%	1.3%	1.4	1.6	1.8	2.1
Total			1,582	100%	100%	100%	100%	35.1	35.3	38.6	51.5

Source: BTS T100 Data & HNTB Analysis

Table C-7: Commercial Fleet Forecast for Falls International Airport

Airline	Equipment	Seats	2010 Departures	Fleet Mix				Seats / Departure			
				2010	2015	2020	2030	2010	2015	2020	2030
Delta	SAAB-FAIRCHD 340/B	34	791	97.4%	65.7%	32.7%		33.1	22.3	11.1	0.0
	CANAD RJ-200ER/RJ440	50	10	1.2%	32.8%	65.6%	98.0%	0.6	16.4	32.8	49.0
Allegiant Air	MCDON MD-80,1,2,3,7,	162	2	0.2%	0.3%	0.4%	0.6%	0.4	0.5	0.6	1.0
Other	GULFSTREAM G150	9	1	0.1%	0.1%	0.1%	0.1%	0.0	0.0	0.0	0.0
	GULFSTREAM G450	14	2	0.2%	0.2%	0.2%	0.2%	0.0	0.0	0.0	0.0
Sun Country Airlines	BOEING 737-800	162	6	0.7%	0.8%	0.9%	1.0%	1.2	1.3	1.5	1.6
Total			812	100%	100%	100%	100%	35.4	40.6	46.1	51.6

Source: BTS T100 Data & HNTB Analysis

HNTB

Table C-8: Commercial Fleet Forecast for Rochester International Airport

Airline	Equipment	Seats	2010 Departures	Fleet Mix				Seats / Departure			
				2010	2015	2020	2030	2010	2015	2020	2030
American Airlines	EMBRAER-135	37	10	0.2%				0.1	0.0	0.0	0.0
	EMBRAER-140	44	877	21.0%				9.3	0.0	0.0	0.0
	EMBRAER-145	50	937	22.5%	33.0%	19.0%		11.2	16.5	9.5	0.0
	CANADAIR RJ 700	70			11.0%	22.0%	33.0%	0.0	7.7	15.4	23.1
	Boeing 737-800	160				3.0%	11.0%	0.0	0.0	4.8	17.6
Casino Express	BOEING 737-400	144	2	0.0%	0.0%	0.0%	0.0%	0.1	0.0	0.0	0.0
Delta	BOEING 757-200	182	1	0.0%				0.0	0.0	0.0	0.0
	Airbus 319	124					10.8%		0.0	0.0	13.4
	DOUGLAS DC-9-30	100	1	0.0%				0.0	0.0	0.0	0.0
	EMBRAER-175	76	2	0.0%				0.0	0.0	0.0	0.0
	CANADAIR RJ-100/ER	50	4	0.1%				0.0	0.0	0.0	0.0
	DOUGLAS DC-9-50	125	4	0.1%				0.1	0.0	0.0	0.0
	CANADAIR RJ 700	70				10.9%			0.0	7.6	0.0
	CANADAIR RJ 900	76	29	0.7%			10.8%	0.5	0.0	0.0	8.2
	SAAB-FAIRCHD 340/B	34	99	2.4%				0.8	0.0	0.0	0.0
	CANAD RJ-200ER/RJ440	50	2,151	51.6%	54.6%	43.5%	32.4%	25.8	27.3	21.8	16.2
Allegiant Air	MCDON MD-80,1,2,3,7,	150	13	0.3%	0.4%	0.5%	0.7%	0.5	0.6	0.8	1.1
Other	CESSNA 206/207/209	9	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	BOEING 777-200/ER	400	1	0.0%	0.1%	0.1%	0.1%	0.1	0.4	0.4	0.4
	CESSNA CITATION II	8	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	CITATION III 650/550	7	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	GULFSTREAM G-200	8	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	GULFSTREAM G150	9	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	GULFSTREAM G450	16	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	AIRBUS A319	124	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	DASSAULT FALCON 7X	15	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	BOEING 747SP	300	1	0.0%	0.0%	0.0%	0.0%	0.1	0.0	0.0	0.0
	GULFSTREAM G-IV	15	2	0.0%	0.2%	0.2%	0.2%	0.0	0.0	0.0	0.0
Sun Country Airlines	BOEING 737-700/LR	128	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	BOEING 737-800	175	21	0.5%	0.6%	0.7%	0.9%	0.9	1.1	1.2	1.6
US Airways	AIRBUS A321	183	3	0.1%	0.1%	0.1%	0.1%	0.1	0.2	0.2	0.2
Total			4167	100.0%	100.0%	100.0%	100.0%	49.8	53.8	61.7	81.7

Source: BTS T100 Data & HNTB Analysis

Table C-9: Top 30 Origin Market of Bemidji Regional Airport

Inbound Passenger to Bemidji Regional Airport						
Destination	Origin	Origin Name	2010	2015	2020	2030
BJI	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	1,311	1,380	1,631	2,881
BJI	ORD	Chicago, IL: O Hare	931	990	1,175	2,085
BJI	PHX	Phoenix, AZ: Sky Harbor International	825	854	1,006	1,775
BJI	LAX	Los Angeles, CA: Los Angeles International	677	731	878	1,596
BJI	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	635	674	807	1,460
BJI	DCA	Washington, DC: Washington National	592	628	740	1,303
BJI	MCO	Orlando, FL: Orlando International	550	580	692	1,248
BJI	DEN	Denver, CO: Denver International	571	592	699	1,243
BJI	ATL	Atlanta, GA: Hartsfield-Jackson	560	586	694	1,236
BJI	DTW	Detroit, MI: Detroit Metro Wayne County	476	529	636	1,156
BJI	LAS	Las Vegas, NV: McCarran International	476	498	600	1,112
BJI	SEA	Seattle, WA: Seattle/Tacoma International	497	522	615	1,082
BJI	PHL	Philadelphia, PA: Philadelphia International	423	463	558	1,023
BJI	BOS	Boston, MA: Logan International	412	449	536	964
BJI	MDW	Chicago, IL: Chicago Midway	423	450	534	948
BJI	IAH	Houston, TX: Houston Intercontinental	423	440	520	927
BJI	PDX	Portland, OR: Portland International	423	442	521	921
BJI	EWR	Newark, NJ: Newark Liberty International	381	417	496	888
BJI	MKE	Milwaukee, WI: General Mitchell Field	338	363	434	784
BJI	SFO	San Francisco, CA: International	338	356	423	756
BJI	ABQ	Albuquerque, NM: Albuquerque International	317	338	401	717
BJI	LGA	New York, NY: La Guardia	307	336	400	715
BJI	STL	St. Louis, MO: Lambert International	307	330	395	712
BJI	ANC	Anchorage, AK: Anchorage International	307	330	388	682
BJI	BWI	Baltimore, MD: Baltimore/Washington International	296	317	376	670
BJI	SAN	San Diego, CA: San Diego International Lindbergh Field	286	300	354	626
BJI	TPA	Tampa, FL: Tampa International	254	268	319	573
BJI	IND	Indianapolis, IN: Indianapolis International	254	268	317	560
BJI	FLL	Fort Lauderdale, FL: Fort Lauderdale International	233	247	296	535
BJI	RSW	Ft. Myers, FL: Southwest Florida International Airport	222	234	283	530
Percent of Total			65.13%	64.95%	64.91%	64.85%

Source: BTS OD1A Data & HNTB Analysis

Appendix C

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FORECAST TECHNICAL REPORT

Table C-10: Top 30 Destination Market of Bemidji Regional Airport

Origin	Destination	Destination Name	2010	2015	2020	2030
		Outbound Passenger from Bemidji Regional Airport				
BJI	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	1,201	1,264	1,494	2,639
BJI	ORD	Chicago, IL: O Hare	884	941	1,116	1,982
BJI	PHX	Phoenix, AZ: Sky Harbor International	863	893	1,052	1,857
BJI	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	611	650	777	1,407
BJI	LAX	Los Angeles, CA: Los Angeles International	590	637	765	1,390
BJI	DCA	Washington, DC: Washington National	600	637	750	1,322
BJI	DTW	Detroit, MI: Detroit Metro Wayne County	513	570	685	1,247
BJI	LAS	Las Vegas, NV: McCarran International	524	548	661	1,225
BJI	ATL	Atlanta, GA: Hartsfield-Jackson	546	571	676	1,204
BJI	SEA	Seattle, WA: Seattle/Tacoma International	546	573	675	1,188
BJI	MCO	Orlando, FL: Orlando International	513	541	646	1,165
BJI	IAH	Houston, TX: Houston Intercontinental	459	477	564	1,005
BJI	PHL	Philadelphia, PA: Philadelphia International	415	454	548	1,003
BJI	DEN	Denver, CO: Denver International	459	475	561	998
BJI	MDW	Chicago, IL: Chicago Midway	404	430	510	905
BJI	PDX	Portland, OR: Portland International	404	422	498	880
BJI	BOS	Boston, MA: Logan International	371	404	483	868
BJI	MKE	Milwaukee, WI: General Mitchell Field	371	398	476	860
BJI	EWR	Newark, NJ: Newark Liberty International	360	394	470	840
BJI	SFO	San Francisco, CA: International	371	390	464	829
BJI	BWI	Baltimore, MD: Baltimore/Washington International	338	362	430	766
BJI	ANC	Anchorage, AK: Anchorage International	338	364	428	752
BJI	SAN	San Diego, CA: San Diego International Lindbergh Field	338	355	420	743
BJI	STL	St. Louis, MO: Lambert International	306	329	394	709
BJI	LGA	New York, NY: La Guardia	295	323	384	688
BJI	ABQ	Albuquerque, NM: Albuquerque International	295	314	372	666
BJI	IND	Indianapolis, IN: Indianapolis International	284	300	355	627
BJI	TPA	Tampa, FL: Tampa International	262	277	329	592
BJI	SMF	Sacramento, CA: Sacramento Metropolitan	273	284	334	590
BJI	MCI	Kansas City, MO: Kansas City International	240	255	303	539
		Percent of Total	64.81%	64.60%	64.53%	64.39%

Source: BTS OD1A Data & HNTB Analysis

Table C-11: Top 30 Origin Market of Brainerd Lakes Regional Airport

		Inbound Passenger to the Brainerd Lakes Regional Airport				
Destination	Origin	Origin Name	2010	2015	2020	2030
BRD	DEN	Denver, CO: Denver International	877	926	1,185	2,011
BRD	PHX	Phoenix, AZ: Sky Harbor International	790	832	1,063	1,789
BRD	ORD	Chicago, IL: O Hare	537	582	748	1,268
BRD	RSW	Ft. Myers, FL: Southwest Florida International Airport	504	541	710	1,267
BRD	DCA	Washington, DC: Washington National	537	580	741	1,245
BRD	LAX	Los Angeles, CA: Los Angeles International	493	543	707	1,225
BRD	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	493	534	692	1,195
BRD	ATL	Atlanta, GA: Hartsfield-Jackson	493	526	675	1,145
BRD	MDW	Chicago, IL: Chicago Midway	450	487	626	1,061
BRD	MCO	Orlando, FL: Orlando International	428	459	594	1,022
BRD	SFO	San Francisco, CA: International	373	399	515	877
BRD	EWR	Newark, NJ: Newark Liberty International	351	391	505	862
BRD	TPA	Tampa, FL: Tampa International	329	354	457	783
BRD	SEA	Seattle, WA: Seattle/Tacoma International	329	352	449	754
BRD	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	318	341	437	736
BRD	LAS	Las Vegas, NV: McCarran International	296	315	412	729
BRD	BOS	Boston, MA: Logan International	263	291	378	648
BRD	DTW	Detroit, MI: Detroit Metro Wayne County	252	285	372	645
BRD	MCI	Kansas City, MO: Kansas City International	263	284	366	622
BRD	IND	Indianapolis, IN: Indianapolis International	263	283	363	612
BRD	LGA	New York, NY: La Guardia	241	269	347	592
BRD	PDX	Portland, OR: Portland International	252	268	343	578
BRD	IAH	Houston, TX: Houston Intercontinental	241	256	328	557
BRD	MKE	Milwaukee, WI: General Mitchell Field	219	240	311	535
BRD	PHL	Philadelphia, PA: Philadelphia International	208	232	304	530
BRD	STL	St. Louis, MO: Lambert International	197	216	280	482
BRD	RDU	Raleigh/Durham, NC: Raleigh Durham	186	204	265	458
BRD	SAN	San Diego, CA: San Diego International Lindbergh Field	186	199	255	431
BRD	CMH	Columbus, OH: Columbus International	175	190	244	414
BRD	PIT	Pittsburgh, PA: Pittsburgh International	154	173	226	397
		Percent of Total	68.68%	68.51%	68.49%	68.48%

Source: BTS OD1A Data & HNTB Analysis

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Table C-12: Top 30 Destination Market of Brainerd Lakes Regional Airport

Outbound Passenger from the Brainerd Lakes Regional Airport						
Origin	Destination	Destination Name	2009	2015	2020	2030
BRD	DEN	Denver, CO: Denver International	893	942	1,215	2,046
BRD	PHX	Phoenix, AZ: Sky Harbor International	850	896	1,155	1,925
BRD	ORD	Chicago, IL: O Hare	581	629	812	1,370
BRD	RSW	Ft. Myers, FL: Southwest Florida International Airport	484	519	669	1,215
BRD	LAX	Los Angeles, CA: Los Angeles International	484	532	686	1,201
BRD	ATL	Atlanta, GA: Hartsfield-Jackson	516	550	709	1,198
BRD	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	484	524	676	1,172
BRD	DCA	Washington, DC: Washington National	462	499	644	1,072
BRD	MCO	Orlando, FL: Orlando International	398	427	551	951
BRD	LAS	Las Vegas, NV: McCarran International	366	389	502	900
BRD	MDW	Chicago, IL: Chicago Midway	366	396	511	863
BRD	SEA	Seattle, WA: Seattle/Tacoma International	355	379	489	813
BRD	SFO	San Francisco, CA: International	344	368	475	809
BRD	EWR	Newark, NJ: Newark Liberty International	312	347	448	766
BRD	TPA	Tampa, FL: Tampa International	312	335	432	742
BRD	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	301	323	416	697
BRD	DTW	Detroit, MI: Detroit Metro Wayne County	269	304	392	688
BRD	MCI	Kansas City, MO: Kansas City International	290	314	405	686
BRD	MKE	Milwaukee, WI: General Mitchell Field	280	306	394	682
BRD	PHL	Philadelphia, PA: Philadelphia International	247	276	355	630
BRD	PDX	Portland, OR: Portland International	247	263	339	567
BRD	BOS	Boston, MA: Logan International	226	250	323	556
BRD	LGA	New York, NY: La Guardia	226	252	325	555
BRD	IND	Indianapolis, IN: Indianapolis International	215	232	299	500
BRD	RDU	Raleigh/Durham, NC: Raleigh Durham	194	211	273	476
BRD	STL	St. Louis, MO: Lambert International	183	200	258	447
BRD	IAH	Houston, TX: Houston Intercontinental	183	194	250	422
BRD	SMF	Sacramento, CA: Sacramento Metropolitan	183	194	250	416
BRD	CMH	Columbus, OH: Columbus International	161	175	226	381
BRD	ANC	Anchorage, AK: Anchorage International	161	177	228	377
Percent of Total			67.84%	67.63%	67.63%	67.55%

Source: BTS OD1A Data & HNTB Analysis

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Table C-13: Top 30 Origin Market of Duluth International Airport

Inbound Passenger to Duluth International Airport						
Destination	Origin	Origin Name	2010	2015	2020	2030
DLH	LAS	Las Vegas, NV: McCarran International	21,223	20,927	25,117	35,472
DLH	PHX	Phoenix, AZ: Sky Harbor International	5,571	5,437	6,376	8,575
DLH	DTW	Detroit, MI: Detroit Metro Wayne County	4,521	4,734	5,666	7,855
DLH	MCO	Orlando, FL: Orlando International	4,285	4,257	5,058	6,953
DLH	ORD	Chicago, IL: O Hare	4,119	4,132	4,878	6,601
DLH	DEN	Denver, CO: Denver International	4,060	3,968	4,661	6,320
DLH	DCA	Washington, DC: Washington National	3,270	3,269	3,831	5,146
DLH	RSW	Ft. Myers, FL: Southwest Florida International Airport	2,644	2,624	3,165	4,509
DLH	SEA	Seattle, WA: Seattle/Tacoma International	2,750	2,721	3,191	4,280
DLH	LAX	Los Angeles, CA: Los Angeles International	2,491	2,536	3,032	4,199
DLH	BOS	Boston, MA: Logan International	2,455	2,518	2,996	4,105
DLH	ATL	Atlanta, GA: Hartsfield-Jackson	2,384	2,351	2,772	3,759
DLH	TPA	Tampa, FL: Tampa International	2,325	2,314	2,743	3,757
DLH	IAH	Houston, TX: Houston Intercontinental	2,384	2,340	2,752	3,737
DLH	MDW	Chicago, IL: Chicago Midway	2,325	2,333	2,754	3,726
DLH	SFO	San Francisco, CA: International	2,302	2,280	2,702	3,676
DLH	LGA	New York, NY: La Guardia	2,172	2,240	2,657	3,622
DLH	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	2,125	2,129	2,534	3,495
DLH	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	2,113	2,096	2,465	3,320
DLH	EWR	Newark, NJ: Newark Liberty International	1,747	1,802	2,137	2,913
DLH	PHL	Philadelphia, PA: Philadelphia International	1,582	1,631	1,959	2,734
DLH	SFB	Sanford, FL: Sanford International	1,676	1,665	1,979	2,720
DLH	PDX	Portland, OR: Portland International	1,653	1,627	1,911	2,572
DLH	SAN	San Diego, CA: San Diego International Lindbergh Field	1,617	1,600	1,881	2,536
DLH	CLE	Cleveland, OH: Hopkins International	1,475	1,520	1,819	2,525
DLH	BWI	Baltimore, MD: Baltimore/Washington International	1,475	1,488	1,759	2,387
DLH	JFK	New York, NY: Kennedy International	1,381	1,424	1,690	2,303
DLH	STL	St. Louis, MO: Lambert International	1,369	1,389	1,654	2,271
DLH	PIT	Pittsburgh, PA: Pittsburgh International	1,251	1,304	1,567	2,195
DLH	IFP	Bullhead City, AZ: Laughlin Bullhead International	1,239	1,247	1,497	2,129
Percent of Total			66.84%	66.65%	66.71%	66.87%

Source: BTS OD1A Data & HNTB Analysis

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Table C-14: Top 30 Destination Market of Duluth International Airport

Origin	Destination	Destination Name	2010	2015	2020	2030
		Outbound Passenger from Duluth International Airport				
DLH	LAS	Las Vegas, NV: McCarran International	21,877	21,581	25,901	36,571
DLH	PHX	Phoenix, AZ: Sky Harbor International	5,695	5,560	6,520	8,767
DLH	MCO	Orlando, FL: Orlando International	4,419	4,392	5,218	7,171
DLH	DEN	Denver, CO: Denver International	4,178	4,084	4,798	6,504
DLH	DTW	Detroit, MI: Detroit Metro Wayne County	3,660	3,835	4,589	6,361
DLH	ORD	Chicago, IL: O Hare	3,817	3,830	4,521	6,116
DLH	DCA	Washington, DC: Washington National	3,359	3,360	3,937	5,288
DLH	SEA	Seattle, WA: Seattle/Tacoma International	2,950	2,919	3,424	4,591
DLH	LAX	Los Angeles, CA: Los Angeles International	2,685	2,735	3,270	4,527
DLH	RSW	Ft. Myers, FL: Southwest Florida International Airport	2,528	2,510	3,027	4,312
DLH	BOS	Boston, MA: Logan International	2,396	2,458	2,925	4,007
DLH	TPA	Tampa, FL: Tampa International	2,336	2,325	2,757	3,774
DLH	ATL	Atlanta, GA: Hartsfield-Jackson	2,372	2,340	2,758	3,740
DLH	IAH	Houston, TX: Houston Intercontinental	2,300	2,258	2,655	3,605
DLH	SFO	San Francisco, CA: International	2,215	2,195	2,601	3,539
DLH	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	2,143	2,148	2,557	3,526
DLH	MDW	Chicago, IL: Chicago Midway	2,191	2,199	2,596	3,512
DLH	LGA	New York, NY: La Guardia	1,938	2,000	2,372	3,233
DLH	SFB	Sanford, FL: Sanford International	1,938	1,927	2,289	3,146
DLH	PDX	Portland, OR: Portland International	1,746	1,719	2,020	2,718
DLH	EWR	Newark, NJ: Newark Liberty International	1,601	1,652	1,960	2,671
DLH	PHL	Philadelphia, PA: Philadelphia International	1,541	1,590	1,909	2,665
DLH	CLE	Cleveland, OH: Hopkins International	1,481	1,526	1,827	2,535
DLH	BWI	Baltimore, MD: Baltimore/Washington International	1,541	1,555	1,838	2,493
DLH	STL	St. Louis, MO: Lambert International	1,409	1,430	1,702	2,337
DLH	JFK	New York, NY: Kennedy International	1,397	1,441	1,709	2,330
DLH	SAN	San Diego, CA: San Diego International Lindbergh Field	1,481	1,466	1,724	2,323
DLH	PIT	Pittsburgh, PA: Pittsburgh International	1,276	1,331	1,599	2,239
DLH	IFP	Bullhead City, AZ: Laughlin Bullhead International	1,252	1,261	1,513	2,151
DLH	SLC	Salt Lake City, UT: Salt Lake International	1,288	1,281	1,532	2,136
		Percent of Total	66.13%	65.93%	66.00%	66.21%

Source: BTS OD1A Data & HNTB Analysis

Table C-15: Top 30 Origin Market of Range Regional Airport (Hibbing)

Destination	Origin	Origin Name	2010	2015	2020	2030
		Inbound Passenger to Chisholm / Hibbing Municipal – Range Regional Airport				
HIB	PHX	Phoenix, AZ: Sky Harbor International	670	814	954	1,160
HIB	LAX	Los Angeles, CA: Los Angeles International	439	556	665	832
HIB	DEN	Denver, CO: Denver International	473	576	677	829
HIB	LAS	Las Vegas, NV: McCarran International	404	496	595	760
HIB	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	358	442	520	633
HIB	MCO	Orlando, FL: Orlando International	277	343	407	506
HIB	ORD	Chicago, IL: O Hare	242	303	357	437
HIB	ATL	Atlanta, GA: Hartsfield-Jackson	242	298	351	430
HIB	MDW	Chicago, IL: Chicago Midway	219	274	323	395
HIB	MKE	Milwaukee, WI: General Mitchell Field	208	262	312	387
HIB	SFO	San Francisco, CA: International	208	256	304	373
HIB	SAN	San Diego, CA: San Diego International Lindbergh Field	208	256	301	367
HIB	PHL	Philadelphia, PA: Philadelphia International	185	237	285	359
HIB	TPA	Tampa, FL: Tampa International	185	229	271	336
HIB	RSW	Ft. Myers, FL: Southwest Florida International Airport	173	214	258	332
HIB	BNA	Nashville, TN: Nashville Metropolitan	173	216	256	318
HIB	PDX	Portland, OR: Portland International	173	212	249	303
HIB	SEA	Seattle, WA: Seattle/Tacoma International	173	213	250	303
HIB	DCA	Washington, DC: Washington National	162	201	236	286
HIB	IAH	Houston, TX: Houston Intercontinental	162	198	232	285
HIB	LGA	New York, NY: La Guardia	150	193	229	282
HIB	SMF	Sacramento, CA: Sacramento Metropolitan	162	197	231	281
HIB	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	150	187	223	278
HIB	BOS	Boston, MA: Logan International	139	177	210	261
HIB	MCI	Kansas City, MO: Kansas City International	139	173	204	250
HIB	GEG	Spokane, WA: Spokane International	139	172	203	247
HIB	JFK	New York, NY: Kennedy International	127	163	193	238
HIB	CLE	Cleveland, OH: Hopkins International	115	148	177	222
HIB	ABQ	Albuquerque, NM: Albuquerque International	115	144	170	210
HIB	PIT	Pittsburgh, PA: Pittsburgh International	104	135	162	205
		Percent of Total	65.76%	65.52%	65.51%	65.51%

Source: BTS OD1A Data & HNTB Analysis

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Table C-16: Top 30 Destination Market of Range Regional Airport (Hibbing)

Origin	Destination	Destination Name	2010	2015	2020	2030
Outbound Passenger from Chisholm / Hibbing Municipal – Range Regional Airport
HIB	PHX	Phoenix, AZ: Sky Harbor International	703	855	1,003	1,219
HIB	DEN	Denver, CO: Denver International	485	590	694	850
HIB	LAX	Los Angeles, CA: Los Angeles International	424	538	644	806
HIB	LAS	Las Vegas, NV: McCarran International	400	492	590	753
HIB	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	291	360	423	515
HIB	MCO	Orlando, FL: Orlando International	255	315	375	465
HIB	ATL	Atlanta, GA: Hartsfield-Jackson	243	298	351	431
HIB	ORD	Chicago, IL: O Hare	230	288	340	416
HIB	SFO	San Francisco, CA: International	218	269	319	393
HIB	IAH	Houston, TX: Houston Intercontinental	218	267	314	385
HIB	PDX	Portland, OR: Portland International	218	268	315	383
HIB	RSW	Ft. Myers, FL: Southwest Florida International Airport	194	240	289	373
HIB	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	194	242	288	359
HIB	PHL	Philadelphia, PA: Philadelphia International	182	234	281	354
HIB	SEA	Seattle, WA: Seattle/Tacoma International	194	239	281	340
HIB	MKE	Milwaukee, WI: General Mitchell Field	182	229	273	339
HIB	TPA	Tampa, FL: Tampa International	182	225	267	331
HIB	SAN	San Diego, CA: San Diego International Lindbergh Field	170	209	246	300
HIB	BOS	Boston, MA: Logan International	158	201	240	297
HIB	BNA	Nashville, TN: Nashville Metropolitan	158	197	234	289
HIB	MDW	Chicago, IL: Chicago Midway	158	197	233	284
HIB	SMF	Sacramento, CA: Sacramento Metropolitan	158	192	226	274
HIB	ABQ	Albuquerque, NM: Albuquerque International	146	182	215	265
HIB	GEG	Spokane, WA: Spokane International	146	181	213	259
HIB	CLE	Cleveland, OH: Hopkins International	133	171	205	257
HIB	LGA	New York, NY: La Guardia	133	171	203	251
HIB	PIT	Pittsburgh, PA: Pittsburgh International	121	157	189	240
HIB	ANC	Anchorage, AK: Anchorage International	133	168	197	239
HIB	DCA	Washington, DC: Washington National	133	166	195	236
HIB	MCI	Kansas City, MO: Kansas City International	121	151	179	219
	Percent of Total	65.83%	65.60%	65.60%	65.61%

Source: BTS OD1A Data & HNTB Analysis

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Table C-17: Top 30 Origin Market of Falls International Airport

Destination	Origin	Origin Name	2010	2015	2020	2030
Inbound Passenger to Falls International Airport
INL	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	779	805	841	1,061
INL	ORD	Chicago, IL: O Hare	651	680	705	891
INL	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	523	545	571	729
INL	ATL	Atlanta, GA: Hartsfield-Jackson	503	516	544	690
INL	MCO	Orlando, FL: Orlando International	473	490	516	658
INL	PHX	Phoenix, AZ: Sky Harbor International	454	461	488	617
INL	DEN	Denver, CO: Denver International	394	401	425	541
INL	LAS	Las Vegas, NV: McCarran International	365	375	402	521
INL	IND	Indianapolis, IN: Indianapolis International	335	348	361	457
INL	IFP	Bullhead City, AZ: Laughlin Bullhead International	306	320	337	440
INL	PDX	Portland, OR: Portland International	306	313	329	416
INL	PHL	Philadelphia, PA: Philadelphia International	286	307	315	404
INL	DTW	Detroit, MI: Detroit Metro Wayne County	286	312	314	401
INL	IAH	Houston, TX: Houston Intercontinental	286	292	308	393
INL	LAX	Los Angeles, CA: Los Angeles International	256	272	281	359
INL	TPA	Tampa, FL: Tampa International	256	266	279	355
INL	STL	St. Louis, MO: Lambert International	237	250	258	329
INL	SFO	San Francisco, CA: International	237	244	257	326
INL	BNA	Nashville, TN: Nashville Metropolitan	227	236	247	315
INL	CMH	Columbus, OH: Columbus International	217	227	235	297
INL	DCA	Washington, DC: Washington National	217	226	233	295
INL	CVG	Covington, KY: Cincinnati/ Northern Kentucky International	207	219	226	288
INL	MDW	Chicago, IL: Chicago Midway	207	216	224	283
INL	SEA	Seattle, WA: Seattle/Tacoma International	207	213	223	281
INL	CLE	Cleveland, OH: Hopkins International	187	201	206	263
INL	MKE	Milwaukee, WI: General Mitchell Field	187	197	205	261
INL	LGA	New York, NY: La Guardia	187	201	204	258
INL	RSW	Ft. Myers, FL: Southwest Florida International Airport	178	183	196	256
INL	BOS	Boston, MA: Logan International	178	190	194	246
INL	CLT	Charlotte, NC: Douglas Municipal	168	176	182	233
Percent of Total	66.78%	66.58%	66.80%	66.84%

Source: BTS OD1A Data & HNTB Analysis

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Table C-18: Top 30 Destination Market of Falls International Airport

Origin	Destination	Destination Name	2010	2015	2020	2030
Outbound Passenger from Falls International Airport					
INL	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	685	708	739	933
INL	ORD	Chicago, IL: O Hare	628	656	680	860
INL	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	533	556	582	744
INL	ATL	Atlanta, GA: Hartsfield-Jackson	533	547	576	731
INL	PHX	Phoenix, AZ: Sky Harbor International	523	532	563	712
INL	MCO	Orlando, FL: Orlando International	485	502	529	675
INL	DEN	Denver, CO: Denver International	390	397	420	535
INL	LAS	Las Vegas, NV: McCarran International	352	362	388	503
INL	IND	Indianapolis, IN: Indianapolis International	343	356	369	467
INL	DTW	Detroit, MI: Detroit Metro Wayne County	305	332	334	427
INL	IAH	Houston, TX: Houston Intercontinental	305	311	328	418
INL	IFP	Bullhead City, AZ: Laughlin Bullhead International	295	309	325	424
INL	MDW	Chicago, IL: Chicago Midway	276	288	299	378
INL	PDX	Portland, OR: Portland International	276	283	297	376
INL	PHL	Philadelphia, PA: Philadelphia International	266	286	293	376
INL	TPA	Tampa, FL: Tampa International	266	276	290	369
INL	DCA	Washington, DC: Washington National	238	248	256	323
INL	LAX	Los Angeles, CA: Los Angeles International	228	242	251	320
INL	STL	St. Louis, MO: Lambert International	228	241	249	317
INL	BNA	Nashville, TN: Nashville Metropolitan	228	238	249	317
INL	SFO	San Francisco, CA: International	228	236	248	314
INL	CLE	Cleveland, OH: Hopkins International	209	225	230	294
INL	CVG	Covington, KY: Cincinnati/ Northern Kentucky International	200	211	218	278
INL	CMH	Columbus, OH: Columbus International	200	209	216	274
INL	MKE	Milwaukee, WI: General Mitchell Field	190	200	208	265
INL	LGA	New York, NY: La Guardia	190	204	207	262
INL	SEA	Seattle, WA: Seattle/Tacoma International	190	196	205	258
INL	RSW	Ft. Myers, FL: Southwest Florida International Airport	171	177	190	247
INL	BOS	Boston, MA: Logan International	171	183	187	237
INL	MCI	Kansas City, MO: Kansas City International	162	169	175	222
Percent of Total			66.78%	66.58%	66.79%	66.81%

Source: BTS OD1A Data & HNTB Analysis

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Table C-19: Top 30 Origin Market of Rochester International Airport

Destination	Origin	Origin Name	2010	2015	2020	2030
Inbound Passenger to Rochester International Airport						
RST	LAS	Las Vegas, NV: McCarran International	17,683	23,787	28,881	43,318
RST	ORD	Chicago, IL: O Hare	14,504	19,848	23,702	34,061
RST	LGA	New York, NY: La Guardia	4,272	6,010	7,212	10,442
RST	DTW	Detroit, MI: Detroit Metro Wayne County	3,996	5,708	6,911	10,176
RST	DCA	Washington, DC: Washington National	4,228	5,766	6,836	9,752
RST	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	3,554	4,858	5,850	8,569
RST	PHX	Phoenix, AZ: Sky Harbor International	3,135	4,174	4,951	7,071
RST	MCO	Orlando, FL: Orlando International	2,649	3,591	4,316	6,300
RST	ATL	Atlanta, GA: Hartsfield-Jackson	2,605	3,504	4,179	6,018
RST	BOS	Boston, MA: Logan International	2,417	3,382	4,071	5,924
RST	SEA	Seattle, WA: Seattle/Tacoma International	2,042	2,756	3,270	4,657
RST	DEN	Denver, CO: Denver International	1,976	2,634	3,130	4,507
RST	LAX	Los Angeles, CA: Los Angeles International	1,755	2,438	2,949	4,336
RST	SFO	San Francisco, CA: International	1,832	2,476	2,968	4,289
RST	MIA	Miami, FL: Miami International	1,722	2,354	2,835	4,153
RST	PHL	Philadelphia, PA: Philadelphia International	1,556	2,190	2,660	3,943
RST	RDU	Raleigh/Durham, NC: Raleigh Durham	1,534	2,117	2,555	3,755
RST	IAH	Houston, TX: Houston Intercontinental	1,479	1,981	2,356	3,398
RST	STL	St. Louis, MO: Lambert International	1,314	1,818	2,190	3,194
RST	JAX	Jacksonville, FL: Jacksonville International	1,303	1,775	2,133	3,109
RST	IFP	Bullhead City, AZ: Laughlin Bullhead International	1,225	1,682	2,043	3,084
RST	BNA	Nashville, TN: Nashville Metropolitan	1,269	1,733	2,083	3,032
RST	RSW	Ft. Myers, FL: Southwest Florida International Airport	1,137	1,539	1,878	2,841
RST	EWR	Newark, NJ: Newark Liberty International	1,104	1,553	1,864	2,698
RST	AUS	Austin, TX: Austin - Bergstrom International	1,170	1,559	1,850	2,692
RST	TPA	Tampa, FL: Tampa International	1,137	1,543	1,851	2,692
RST	GRR	Grand Rapids, MI: Gerald R. Ford International	1,071	1,490	1,791	2,611
RST	IND	Indianapolis, IN: Indianapolis International	1,126	1,531	1,821	2,605
RST	BWI	Baltimore, MD: Baltimore/Washington International	1,038	1,428	1,707	2,460
RST	SAN	San Diego, CA: San Diego International Lindbergh Field	1,004	1,356	1,613	2,309
Percent of Total			69.69%	69.51%	69.56%	69.71%

Source: BTS OD1A Data & HNTB Analysis

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Table C-20: Top 30 Destination Market of Rochester International Airport

Origin	Destination	Destination Name	2010	2015	2020	2030
		Outbound Passenger from Rochester International Airport				
RST	LAS	Las Vegas, NV: McCarran International	16,116	21,673	26,320	39,494
RST	ORD	Chicago, IL: O Hare	13,897	19,012	22,709	32,648
RST	LGA	New York, NY: La Guardia	4,351	6,120	7,345	10,639
RST	DCA	Washington, DC: Washington National	4,394	5,992	7,105	10,140
RST	DTW	Detroit, MI: Detroit Metro Wayne County	3,691	5,271	6,383	9,402
RST	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	3,593	4,910	5,914	8,666
RST	PHX	Phoenix, AZ: Sky Harbor International	3,063	4,077	4,837	6,912
RST	ATL	Atlanta, GA: Hartsfield-Jackson	2,868	3,858	4,601	6,629
RST	MCO	Orlando, FL: Orlando International	2,717	3,681	4,425	6,463
RST	BOS	Boston, MA: Logan International	2,392	3,345	4,028	5,864
RST	DEN	Denver, CO: Denver International	2,100	2,798	3,326	4,792
RST	SEA	Seattle, WA: Seattle/Tacoma International	2,046	2,760	3,275	4,667
RST	SFO	San Francisco, CA: International	1,883	2,544	3,050	4,410
RST	MIA	Miami, FL: Miami International	1,808	2,470	2,976	4,361
RST	PHL	Philadelphia, PA: Philadelphia International	1,710	2,405	2,922	4,334
RST	LAX	Los Angeles, CA: Los Angeles International	1,753	2,435	2,946	4,334
RST	RDU	Raleigh/Durham, NC: Raleigh Durham	1,472	2,030	2,451	3,604
RST	IAH	Houston, TX: Houston Intercontinental	1,548	2,072	2,465	3,557
RST	STL	St. Louis, MO: Lambert International	1,385	1,917	2,309	3,370
RST	BNA	Nashville, TN: Nashville Metropolitan	1,299	1,773	2,131	3,103
RST	IFP	Bullhead City, AZ: Laughlin Bullhead International	1,201	1,649	2,003	3,025
RST	JAX	Jacksonville, FL: Jacksonville International	1,256	1,711	2,056	2,998
RST	EWR	Newark, NJ: Newark Liberty International	1,147	1,614	1,937	2,805
RST	TPA	Tampa, FL: Tampa International	1,180	1,601	1,921	2,794
RST	AUS	Austin, TX: Austin - Bergstrom International	1,212	1,615	1,916	2,790
RST	JFK	New York, NY: Kennedy International	1,126	1,583	1,900	2,752
RST	RSW	Ft. Myers, FL: Southwest Florida International Airport	1,093	1,480	1,805	2,733
RST	IND	Indianapolis, IN: Indianapolis International	1,169	1,589	1,890	2,705
RST	GRR	Grand Rapids, MI: Gerald R. Ford International	1,072	1,491	1,792	2,614
RST	BWI	Baltimore, MD: Baltimore/Washington International	1,028	1,415	1,691	2,439
		Percent of Total	68.68%	68.52%	68.57%	68.72%

Source: BTS OD1A Data & HNTB Analysis

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Table C-21: Top 30 Origin Market of Thief River Falls Airport

Destination	Origin	Origin Name	2010	2015	2020	2030
		Inbound Passenger to Thief River Falls Airport				
TVF	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	324	355	363	539
TVF	ORD	Chicago, IL: O Hare	124	137	141	210
TVF	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	114	127	131	199
TVF	PHX	Phoenix, AZ: Sky Harbor International	114	123	126	186
TVF	LAS	Las Vegas, NV: McCarran International	95	104	108	169
TVF	DTW	Detroit, MI: Detroit Metro Wayne County	86	99	103	158
TVF	MDW	Chicago, IL: Chicago Midway	76	85	87	129
TVF	CLE	Cleveland, OH: Hopkins International	67	76	79	121
TVF	ATL	Atlanta, GA: Hartsfield-Jackson	67	73	74	111
TVF	RSW	Ft. Myers, FL: Southwest Florida International Airport	57	63	66	103
TVF	LAX	Los Angeles, CA: Los Angeles International	57	64	67	102
TVF	BOS	Boston, MA: Logan International	57	65	67	101
TVF	MKE	Milwaukee, WI: General Mitchell Field	57	64	66	100
TVF	CLT	Charlotte, NC: Douglas Municipal	57	64	65	99
TVF	TPA	Tampa, FL: Tampa International	57	63	65	98
TVF	SEA	Seattle, WA: Seattle/Tacoma International	57	63	64	94
TVF	RDU	Raleigh/Durham, NC: Raleigh Durham	48	53	55	84
TVF	MCO	Orlando, FL: Orlando International	48	52	54	82
TVF	STL	St. Louis, MO: Lambert International	38	43	44	67
TVF	MCI	Kansas City, MO: Kansas City International	38	42	43	65
TVF	RIC	Richmond, VA: Richard Elelyn Byrd International	38	42	42	63
TVF	PIT	Pittsburgh, PA: Pittsburgh International	29	33	34	53
TVF	PHL	Philadelphia, PA: Philadelphia International	29	33	34	52
TVF	LGA	New York, NY: La Guardia	29	33	34	50
TVF	GRR	Grand Rapids, MI: Gerald R. Ford International	29	32	33	50
TVF	HNL	Honolulu, HI: Honolulu International	29	32	33	50
TVF	FLL	Fort Lauderdale, FL: Fort Lauderdale International	29	32	33	50
TVF	MIA	Miami, FL: Miami International	29	32	33	50
TVF	SJC	San Jose, CA: San Jose International	29	32	33	49
TVF	BWI	Baltimore, MD: Baltimore/Washington International	29	32	33	49
		Percent of Total	73.82%	73.85%	73.91%	74.02%

Source: BTS OD1A Data & HNTB Analysis

Appendix C

FORECAST TECHNICAL REPORT

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Table C-22: Top 30 Destination Market of Thief River Falls Airport

Origin	Destination	Destination Name	2010	2015	2020	2030
		Outbound Passenger from Thief River Falls Airport				
TVF	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	303	332	340	504
TVF	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	129	142	147	224
TVF	ORD	Chicago, IL: O Hare	110	122	125	187
TVF	DTW	Detroit, MI: Detroit Metro Wayne County	101	117	122	186
TVF	PHX	Phoenix, AZ: Sky Harbor International	110	119	121	180
TVF	CLE	Cleveland, OH: Hopkins International	74	84	87	133
TVF	LAS	Las Vegas, NV: McCarran International	74	80	84	130
TVF	MDW	Chicago, IL: Chicago Midway	74	81	84	125
TVF	LAX	Los Angeles, CA: Los Angeles International	64	72	75	115
TVF	MKE	Milwaukee, WI: General Mitchell Field	64	72	74	113
TVF	CLT	Charlotte, NC: Douglas Municipal	64	71	74	112
TVF	TPA	Tampa, FL: Tampa International	64	71	73	110
TVF	RSW	Ft. Myers, FL: Southwest Florida International Airport	55	60	63	100
TVF	ATL	Atlanta, GA: Hartsfield-Jackson	55	60	62	92
TVF	BOS	Boston, MA: Logan International	46	52	54	81
TVF	RDU	Raleigh/Durham, NC: Raleigh Durham	46	51	53	81
TVF	MIA	Miami, FL: Miami International	46	51	53	80
TVF	MCO	Orlando, FL: Orlando International	46	50	52	79
TVF	SEA	Seattle, WA: Seattle/Tacoma International	46	50	51	76
TVF	STL	St. Louis, MO: Lambert International	37	41	43	65
TVF	FLL	Fort Lauderdale, FL: Fort Lauderdale International	37	41	42	64
TVF	RIC	Richmond, VA: Richard Elelyn Byrd International	37	40	41	61
TVF	PDX	Portland, OR: Portland International	37	40	41	61
TVF	PHL	Philadelphia, PA: Philadelphia International	28	31	33	50
TVF	GRR	Grand Rapids, MI: Gerald R. Ford International	28	31	32	49
TVF	BWI	Baltimore, MD: Baltimore/Washington International	28	31	32	47
TVF	SFO	San Francisco, CA: International	28	30	31	47
TVF	DCA	Washington, DC: Washington National	28	30	31	46
TVF	IAD	Washington, DC: Dulles International	28	30	31	46
TVF	AUS	Austin, TX: Austin - Bergstrom International	28	30	30	46
		Percent of Total	72.98%	72.86%	72.88%	72.94%

Source: BTS OD1A Data & HNTB Analysis

Table C-23: 2015 GA Fleet Forecast

2015 GA and Military Fleet Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Crystal Airport	MIC	214	4	14	1	1	-	9
Airlake Airport	LVN	139	-	10	1	2	-	3
Lake Elmo Airport	21D	220	-	11	-	9	-	5
St. Paul Downtown Airport - Holman Field	STP	22	65	7	9	2	-	8
Anoka County/Blaine Airport - Janes Field	ANE	342	24	47	7	8	-	11
Flying Cloud Airport	FCM	297	40	31	19	4	-	7
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	-	30	-	-	-	-	-
Hawley Municipal Airport	04Y	28	-	1	-	3	-	2
Henning Municipal Airport	05Y	12	-	-	-	-	-	2
Herman Municipal Airport	06Y	4	-	-	-	-	-	-
Hill City-Quadna Mountain Airport	07Y	2	-	-	-	-	-	-
Winsted Municipal Airport	10D	35	-	1	-	-	-	13
Tower Municipal Airport	12D	40	1	3	-	1	-	3
Le Sueur Municipal Airport	12Y	23	-	1	-	3	-	51
Littlefork Municipal Airport - Hanover Airport	13Y	2	-	-	-	1	-	-
Long Prairie Municipal Airport - Todd Field	14Y	16	-	1	-	1	-	-
Perham Municipal Airport	16D	12	1	-	1	-	-	1
Milaca Municipal Airport	18Y	31	-	-	-	-	-	-
Hector Municipal Airport	1D6	36	-	-	-	1	-	4
Karlstad Municipal Airport	23D	-	-	-	-	-	-	-
Murdock Municipal Airport	23Y	-	-	-	-	-	-	-
Forest Lake Airport	25D	34	-	1	-	1	-	1
Grygla Municipal Airport - Mel Wilkens Field	3G2	2	-	-	-	-	-	-
Mahnomen County Airport	3N8	21	-	-	-	-	-	-
Northome Municipal Airport	43Y	1	-	-	-	-	-	-
Pelican Rapids Municipal Airport - Lyon's Field	47Y	17	-	-	-	-	-	-
Piney-Pinecreek Border Airport	48Y	-	-	-	-	-	-	-
Remer Municipal Airport	52Y	3	-	-	-	-	-	1
Rushford Municipal Airport	55Y	9	-	-	-	3	-	-
Tyler Municipal Airport	63Y	6	-	-	-	-	-	-
Wells Municipal Airport	68Y	8	-	-	-	-	-	-
Brooten Municipal Airport	6D1	6	-	-	-	-	-	2
Backus Municipal Airport	7Y3	8	-	1	-	-	-	-

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2015 GA and Military Fleet Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Bagley Municipal Airport	7Y4	6	-	-	-	-	-	-
Big Falls Municipal Airport	7Y9	2	-	-	-	-	-	1
Clarissa Municipal Airport	8Y5	1	-	-	-	-	-	-
Bowstring Airport	9Y0	8	-	-	-	-	-	-
East Gull Lake Airport	9Y2	2	-	-	-	-	-	-
Waseca Municipal Airport	ACQ	25	-	-	-	-	-	-
Wadena Municipal Airport	ADC	10	-	-	-	-	-	-
Albert Lea Municipal Airport	AEL	35	2	3	-	-	-	8
Aitkin Municipal Airport - Steve Kurtz Field	AIT	39	-	2	2	1	-	-
Appleton Municipal Airport	AQP	7	-	-	4	-	-	-
Austin Municipal Airport	AUM	28	2	1	1	-	-	-
Alexandria Municipal Airport - Chandler Field	AXN	52	-	2	2	-	-	-
Benson Municipal Airport - Veterans Field	BBB	14	-	4	2	-	-	1
Baudette International Airport	BDE	14	-	1	-	1	-	-
Willmar Municipal Airport - John L. Rice Field	BDH	44	1	3	-	-	-	-
Silver Bay Municipal Airport - Wayne Johnson	BFW	4	-	-	-	-	-	2
Bemidji Regional Airport	BJI	22	-	26	13	-	-	1
Brainerd Lakes Regional Airport	BRD	74	1	7	2	5	-	9
Cambridge Municipal Airport	CBG	44	-	1	-	6	-	2
Buffalo Municipal Airport	CFE	69	-	2	-	3	-	-
Houston County Airport	CHU	14	-	1	-	-	-	-
Grand Marais-Cook County Airport	CKC	15	-	-	-	2	-	-
Crookston Municipal Airport - Kirkwood Field	CKN	51	-	-	3	-	-	-
Canby Municipal Airport - Myers Field	CNB	22	-	6	-	-	-	-
Cloquet-Carlton County Airport	COQ	44	-	-	1	1	-	-
Cook Municipal Airport	CQM	19	-	-	1	-	-	1
Norman County/Ada/Twin Valley Airport	D00	7	-	-	-	-	-	-
Fertile Municipal Airport	D14	3	-	-	-	-	-	-
Starbuck Municipal Airport	D32	3	-	-	-	-	-	-
Warren Municipal Airport	D37	6	-	-	2	-	-	-
Sauk Centre Municipal Airport	D39	13	-	1	-	-	-	2
Stephen Municipal Airport	D41	7	-	-	1	-	-	1
Springfield Municipal Airport	D42	3	-	-	-	1	-	-
Red Lake Falls Municipal Airport	D81	7	-	-	-	-	-	-
Duluth International Airport	DLH	53	2	11	-	1	23	1

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2015 GA and Military Fleet Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Detroit Lakes Municipal Airport - Wething Field	DTL	27	2	-	5	-	-	2
Slayton Municipal Airport	DVP	4	-	-	-	-	-	1
Lac Qui Parle County Airport - Bud Frye Field	DXX	8	-	-	-	-	-	2
Duluth Sky Harbor Airport	DYT	30	-	3	-	-	-	-
Ely Municipal Airport	ELO	21	-	2	-	1	-	-
Wheaton Municipal Airport	ETH	4	-	-	-	-	-	-
Eveleth-Virginia Municipal Airport	EVM	37	-	1	1	1	-	1
Faribault Municipal Airport	FBL	70	-	7	-	1	-	9
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	49	-	1	1	3	-	-
Preston - Fillmore County Airport	FKA	24	-	-	-	1	-	2
Bigfork Municipal Airport	FOZ	4	-	-	-	-	-	-
Fairmont Municipal Airport	FRM	29	2	2	-	-	-	-
Fosston Municipal Airport	FSE	10	-	1	-	-	-	1
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	14	2	2	-	-	-	-
Glenwood Municipal Airport	GHW	12	-	-	-	-	-	-
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	80	1	3	-	3	-	-
Glencoe Municipal Airport - Vernon Perschau Field	GYL	32	-	1	-	-	-	5
Hutchinson Municipal Airport - Butler Field	HCD	40	-	3	1	3	-	2
Hallock Municipal Airport	HCO	11	-	-	2	-	-	-
Range Regional Airport	HIB	46	-	2	-	1	-	6
McGregor - Isedor Iverson Airport	HZX	14	-	-	-	-	-	1
Falls International Airport	INL	27	-	-	-	10	-	-
Moorhead Municipal Airport	JKJ	36	-	5	-	-	-	-
Mora Municipal Airport	JMR	28	-	-	-	5	-	1
St. James Municipal Airport	JYG	12	-	-	-	1	-	-
Litchfield Municipal Airport	LJF	28	-	1	-	-	-	2
Little Falls-Morrison County Airport	LXL	31	-	1	-	-	-	-
Luverne Municipal Airport - Quentin Aanenson Field	LYV	19	-	-	-	-	-	1
Maple Lake Municipal Airport	MGG	49	-	5	-	-	-	-
Jackson Municipal Airport	MJQ	21	-	-	-	-	-	1
Mankato Regional Airport - Sohler Field	MKT	59	3	9	3	3	-	5
Southwest Minnesota Regional-Marshall/Ryan Field	MML	20	5	3	5	-	-	1
Morris Municipal Airport - Charlie Schmidt Field	MOX	12	-	4	2	1	-	1
Montevideo-Chippewa County Airport	MVE	23	-	1	-	-	-	2
Windom Municipal Airport	MWM	17	-	1	-	-	-	-

2015 GA and Military Fleet Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Moose Lake-Carlton County Airport	MZH	11	-	-	-	-	-	3
Winona Municipal Airport - Max Conrad Field	ONA	34	2	5	1	1	-	2
Orr Regional Airport	ORB	8	-	-	-	-	-	-
Worthington Municipal Airport	OTG	23	-	3	-	-	-	-
Olivia Regional Airport	OVL	8	-	-	-	-	-	5
Owatonna Degner Regional Airport	OWA	52	-	2	-	-	-	2
Paynesville Municipal Airport	PEX	24	-	1	-	-	-	1
Park Rapids Municipal Airport - Konshok Field	PKD	28	-	3	-	-	-	-
Princeton Municipal Airport	PNM	50	-	2	-	2	-	-
Pipestone Municipal Airport	PQN	18	-	1	-	-	-	-
Pine River Regional Airport	PWC	44	1	2	1	-	-	2
Red Wing Regional Airport	RGK	60	5	3	1	-	-	-
Rush City Regional Airport	ROS	63	-	1	-	2	-	1
Roseau Municipal Airport - Rudy Billberg Field	ROX	17	-	-	-	-	-	2
Warroad International Memorial Airport	RRT	17	1	1	3	-	-	1
Rochester International Airport	RST	65	3	3	-	2	-	1
Redwood Falls Municipal Airport	RWF	12	-	3	-	1	-	3
Staples Municipal Airport	SAZ	19	-	1	-	-	-	2
Blue Earth Municipal Airport	SBU	27	-	-	2	1	-	-
South St. Paul Municipal Airport - Fleming Field	SGS	241	-	11	13	4	-	6
St. Cloud Regional Airport	STC	92	9	6	-	-	14	-
Tracy Municipal Airport	TKC	7	-	-	-	-	-	-
Dodge Center Municipal Airport	TOB	44	-	-	-	2	-	4
Thief River Falls Regional Airport	TVF	23	3	1	1	-	-	1
Two Harbors Municipal - Richard B. Helgeson Field	TWM	38	-	1	-	1	-	6
New Ulm Municipal Airport	ULM	21	-	4	1	-	-	-
Ortonville Municipal Airport - Martinson Field	VVV	3	-	-	-	-	-	-
Waskish Municipal Airport	VWU	1	-	-	-	-	-	-
Longville Municipal Airport	XVG	18	-	1	-	-	-	-
Walker Municipal Airport	Y49	26	-	2	-	6	-	-
Sleepy Eye Municipal Airport	Y58	6	-	-	1	1	-	3
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	18	-	-	-	-	-	1

Source: HNTB Analysis

FORECAST TECHNICAL REPORT

Table C-24: 2020 GA Fleet Forecast

2020 GA and Military Fleet Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Crystal Airport	MIC	212	6	15	1	1	-	10
Airlake Airport	LVN	141	-	10	1	2	-	3
Lake Elmo Airport	21D	224	-	12	-	11	-	6
St. Paul Downtown Airport - Holman Field	STP	21	77	7	9	2	-	9
Anoka County/Blaine Airport - Janes Field	ANE	323	29	42	7	9	-	12
Flying Cloud Airport	FCM	284	51	28	19	4	-	8
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	-	30	-	-	-	-	-
Hawley Municipal Airport	04Y	29	-	1	-	3	-	2
Henning Municipal Airport	05Y	12	-	-	-	-	-	2
Herman Municipal Airport	06Y	4	-	-	-	-	-	-
Hill City-Quadna Mountain Airport	07Y	2	-	-	-	-	-	-
Winsted Municipal Airport	10D	38	-	1	-	-	-	14
Tower Municipal Airport	12D	40	1	3	-	2	-	3
Le Sueur Municipal Airport	12Y	24	-	1	-	3	-	53
Littlefork Municipal Airport - Hanover Airport	13Y	2	-	-	-	2	-	-
Long Prairie Municipal Airport - Todd Field	14Y	16	-	1	-	2	-	-
Perham Municipal Airport	16D	12	1	-	1	-	-	1
Milaca Municipal Airport	18Y	32	-	-	-	-	-	-
Hector Municipal Airport	1D6	36	-	-	-	2	-	4
Karlstad Municipal Airport	23D	-	-	-	-	-	-	-
Murdock Municipal Airport	23Y	-	-	-	-	-	-	-
Forest Lake Airport	25D	37	-	1	-	2	-	1
Grygla Municipal Airport - Mel Wilkens Field	3G2	2	-	-	-	-	-	-
Mahnomen County Airport	3N8	22	-	-	-	-	-	-
Northome Municipal Airport	43Y	1	-	-	-	-	-	-
Pelican Rapids Municipal Airport - Lyon's Field	47Y	18	-	-	-	-	-	-
Piney-Pinecreek Border Airport	48Y	-	-	-	-	-	-	-
Remer Municipal Airport	52Y	4	-	-	-	-	-	1
Rushford Municipal Airport	55Y	9	-	-	-	3	-	-
Tyler Municipal Airport	63Y	6	-	-	-	-	-	-
Wells Municipal Airport	68Y	8	-	-	-	-	-	-
Brooten Municipal Airport	6D1	6	-	-	-	-	-	2
Backus Municipal Airport	7Y3	9	-	1	-	-	-	-

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FORECAST TECHNICAL REPORT

2020 GA and Military Fleet Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Bagley Municipal Airport	7Y4	6	-	-	-	-	-	-
Big Falls Municipal Airport	7Y9	2	-	-	-	-	-	1
Clarissa Municipal Airport	8Y5	1	-	-	-	-	-	-
Bowstring Airport	9Y0	8	-	-	-	-	-	-
East Gull Lake Airport	9Y2	3	-	-	-	-	-	-
Waseca Municipal Airport	ACQ	26	-	-	-	-	-	-
Wadena Municipal Airport	ADC	10	-	-	-	-	-	-
Albert Lea Municipal Airport	AEL	35	2	3	-	-	-	8
Aitkin Municipal Airport - Steve Kurtz Field	AIT	42	-	2	2	2	-	-
Appleton Municipal Airport	AQP	7	-	-	5	-	-	-
Austin Municipal Airport	AUM	29	2	1	1	-	-	-
Alexandria Municipal Airport - Chandler Field	AXN	55	-	2	2	-	-	-
Benson Municipal Airport - Veterans Field	BBB	15	-	5	2	-	-	1
Baudette International Airport	BDE	15	-	1	-	2	-	-
Willmar Municipal Airport - John L. Rice Field	BDH	46	1	4	-	-	-	-
Silver Bay Municipal Airport - Wayne Johnson	BFW	5	-	-	-	-	-	2
Bemidji Regional Airport	BJI	24	-	28	15	-	-	1
Brainerd Lakes Regional Airport	BRD	81	1	8	3	6	-	10
Cambridge Municipal Airport	CBG	48	-	1	-	7	-	2
Buffalo Municipal Airport	CFE	75	-	3	-	4	-	-
Houston County Airport	CHU	14	-	1	-	-	-	-
Grand Marais-Cook County Airport	CKC	16	-	-	-	2	-	-
Crookston Municipal Airport - Kirkwood Field	CKN	53	-	-	3	-	-	-
Canby Municipal Airport - Myers Field	CNB	23	-	6	-	-	-	-
Cloquet-Carlton County Airport	COQ	45	-	-	1	2	-	-
Cook Municipal Airport	CQM	19	-	-	1	-	-	1
Norman County/Ada/Twin Valley Airport	D00	7	-	-	-	-	-	-
Fertile Municipal Airport	D14	3	-	-	-	-	-	-
Starbuck Municipal Airport	D32	3	-	-	-	-	-	-
Warren Municipal Airport	D37	6	-	-	2	-	-	-
Sauk Centre Municipal Airport	D39	14	-	1	-	-	-	2
Stephen Municipal Airport	D41	7	-	-	1	-	-	1
Springfield Municipal Airport	D42	3	-	-	-	2	-	-
Red Lake Falls Municipal Airport	D81	7	-	-	-	-	-	-
Duluth International Airport	DLH	54	2	12	-	2	24	1

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FORECAST TECHNICAL REPORT

2020 GA and Military Fleet Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Detroit Lakes Municipal Airport - Wething Field	DTL	29	2	-	5	-	-	2
Slayton Municipal Airport	DVP	4	-	-	-	-	-	1
Lac Qui Parle County Airport - Bud Frye Field	DXX	8	-	-	-	-	-	2
Duluth Sky Harbor Airport	DYT	31	-	3	-	-	-	-
Ely Municipal Airport	ELO	21	-	2	-	2	-	-
Wheaton Municipal Airport	ETH	4	-	-	-	-	-	-
Eveleth-Virginia Municipal Airport	EVM	38	-	1	1	2	-	1
Faribault Municipal Airport	FBL	72	-	7	-	2	-	10
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	51	-	1	1	3	-	-
Preston - Fillmore County Airport	FKA	25	-	-	-	2	-	2
Bigfork Municipal Airport	FOZ	5	-	-	-	-	-	-
Fairmont Municipal Airport	FRM	29	2	2	-	-	-	-
Fosston Municipal Airport	FSE	10	-	1	-	-	-	1
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	15	2	2	-	-	-	-
Glenwood Municipal Airport	GHW	13	-	-	-	-	-	-
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	84	1	3	-	3	-	-
Glencoe Municipal Airport - Vernon Perschau Field	GYL	34	-	1	-	-	-	6
Hutchinson Municipal Airport - Butler Field	HCD	42	-	3	1	3	-	2
Hallock Municipal Airport	HCO	11	-	-	2	-	-	-
Range Regional Airport	HIB	47	-	2	-	2	-	6
McGregor - Isedor Iverson Airport	HZX	15	-	-	-	-	-	1
Falls International Airport	INL	28	-	-	-	11	-	-
Moorhead Municipal Airport	JKJ	37	-	6	-	-	-	-
Mora Municipal Airport	JMR	30	-	-	-	5	-	1
St. James Municipal Airport	JYG	12	-	-	-	2	-	-
Litchfield Municipal Airport	LJF	30	-	1	-	-	-	2
Little Falls-Morrison County Airport	LXL	32	-	1	-	-	-	-
Luverne Municipal Airport - Quentin Aanenson Field	LYV	19	-	-	-	-	-	1
Maple Lake Municipal Airport	MGG	54	-	5	-	-	-	-
Jackson Municipal Airport	MJQ	22	-	-	-	-	-	1
Mankato Regional Airport - Sohler Field	MKT	62	3	9	4	3	-	6
Southwest Minnesota Regional-Marshall/Ryan Field	MML	21	5	3	6	-	-	1
Morris Municipal Airport - Charlie Schmidt Field	MOX	12	-	4	2	2	-	1
Montevideo-Chippewa County Airport	MVE	24	-	1	-	-	-	2
Windom Municipal Airport	MWM	17	-	1	-	-	-	-

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FORECAST TECHNICAL REPORT

2020 GA and Military Fleet Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Moose Lake-Carlton County Airport	MZH	11	-	-	-	-	-	3
Winona Municipal Airport - Max Conrad Field	ONA	35	2	6	1	2	-	2
Orr Regional Airport	ORB	8	-	-	-	-	-	-
Worthington Municipal Airport	OTG	25	-	4	-	-	-	-
Olivia Regional Airport	OVL	8	-	-	-	-	-	5
Owatonna Degner Regional Airport	OWA	56	-	2	-	-	-	2
Paynesville Municipal Airport	PEX	26	-	1	-	-	-	1
Park Rapids Municipal Airport - Konshok Field	PKD	30	-	3	-	-	-	-
Princeton Municipal Airport	PNM	54	-	2	-	2	-	-
Pipestone Municipal Airport	PQN	19	-	1	-	-	-	-
Pine River Regional Airport	PWC	48	1	3	1	-	-	2
Red Wing Regional Airport	RGK	62	5	3	1	-	-	-
Rush City Regional Airport	ROS	68	-	1	-	2	-	1
Roseau Municipal Airport - Rudy Billberg Field	ROX	17	-	-	-	-	-	2
Warroad International Memorial Airport	RRT	17	1	1	3	-	-	1
Rochester International Airport	RST	71	4	4	-	2	-	1
Redwood Falls Municipal Airport	RWF	12	-	3	-	2	-	3
Staples Municipal Airport	SAZ	19	-	1	-	-	-	2
Blue Earth Municipal Airport	SBU	27	-	-	2	2	-	-
South St. Paul Municipal Airport - Fleming Field	SGS	264	-	12	15	5	-	7
St. Cloud Regional Airport	STC	99	9	6	-	-	15	-
Tracy Municipal Airport	TKC	8	-	-	-	-	-	-
Dodge Center Municipal Airport	TOB	47	-	-	-	2	-	5
Thief River Falls Regional Airport	TVF	23	3	1	1	-	-	1
Two Harbors Municipal - Richard B. Helgeson Field	TWM	40	-	1	-	2	-	6
New Ulm Municipal Airport	ULM	22	-	4	1	-	-	-
Ortonville Municipal Airport - Martinson Field	VVV	3	-	-	-	-	-	-
Waskish Municipal Airport	VWU	1	-	-	-	-	-	-
Longville Municipal Airport	XVG	19	-	1	-	-	-	-
Walker Municipal Airport	Y49	28	-	3	-	7	-	-
Sleepy Eye Municipal Airport	Y58	7	-	-	1	2	-	3
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	19	-	-	-	-	-	1

Source: HNTB Analysis

Appendix C

HNTB

FORECAST TECHNICAL REPORT

Table C-25: 2030 GA Fleet Forecast

GA Fleet and Military Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Crystal Airport	MIC	209	11	16	1	1	-	12
Airlake Airport	LVN	142	1	10	1	3	-	3
Lake Elmo Airport	21D	229	-	13	-	14	-	6
St. Paul Downtown Airport - Holman Field	STP	19	88	7	9	2	-	9
Anoka County/Blaine Airport - Janes Field	ANE	291	39	30	7	11	-	12
Flying Cloud Airport	FCM	265	66	24	19	6	-	8
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	-	30	-	-	-	-	-
Hawley Municipal Airport	04Y	30	-	1	-	4	-	2
Henning Municipal Airport	05Y	13	-	-	-	-	-	2
Herman Municipal Airport	06Y	4	-	-	-	-	-	-
Hill City-Quadna Mountain Airport	07Y	3	-	-	-	-	-	-
Winsted Municipal Airport	10D	44	-	1	-	-	-	15
Tower Municipal Airport	12D	41	1	3	-	2	-	3
Le Sueur Municipal Airport	12Y	27	-	1	-	5	-	58
Littlefork Municipal Airport - Hanover Airport	13Y	2	-	-	-	2	-	-
Long Prairie Municipal Airport - Todd Field	14Y	17	-	1	-	2	-	-
Perham Municipal Airport	16D	14	1	-	1	-	-	1
Milaca Municipal Airport	18Y	36	-	-	-	-	-	-
Hector Municipal Airport	1D6	37	-	-	-	2	-	4
Karlstad Municipal Airport	23D	-	-	-	-	-	-	-
Murdock Municipal Airport	23Y	-	-	-	-	-	-	-
Forest Lake Airport	25D	43	-	1	-	2	-	1
Grygla Municipal Airport - Mel Wilkens Field	3G2	2	-	-	-	-	-	-
Mahnomen County Airport	3N8	23	-	-	-	-	-	-
Northome Municipal Airport	43Y	1	-	-	-	-	-	-
Pelican Rapids Municipal Airport - Lyon's Field	47Y	19	-	-	-	-	-	-
Piney-Pinecreek Border Airport	48Y	-	-	-	-	-	-	-
Remer Municipal Airport	52Y	5	-	-	-	-	-	1
Rushford Municipal Airport	55Y	9	-	-	-	4	-	-
Tyler Municipal Airport	63Y	6	-	-	-	-	-	-
Wells Municipal Airport	68Y	8	-	-	-	-	-	-
Brooten Municipal Airport	6D1	7	-	-	-	-	-	2
Backus Municipal Airport	7Y3	11	-	2	-	-	-	-

GA Fleet and Military Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Bagley Municipal Airport	7Y4	6	-	-	-	-	-	-
Big Falls Municipal Airport	7Y9	2	-	-	-	-	-	1
Clarissa Municipal Airport	8Y5	1	-	-	-	-	-	-
Bowstring Airport	9Y0	9	-	-	-	-	-	-
East Gull Lake Airport	9Y2	3	-	-	-	-	-	-
Waseca Municipal Airport	ACQ	28	-	-	-	-	-	-
Wadena Municipal Airport	ADC	11	-	-	-	-	-	-
Albert Lea Municipal Airport	AEL	37	2	3	-	-	-	8
Aitkin Municipal Airport - Steve Kurtz Field	AIT	47	-	3	3	2	-	-
Appleton Municipal Airport	AQP	7	-	-	5	-	-	-
Austin Municipal Airport	AUM	31	2	1	1	-	-	-
Alexandria Municipal Airport - Chandler Field	AXN	64	-	3	3	-	-	-
Benson Municipal Airport - Veterans Field	BBB	16	-	5	2	-	-	1
Baudette International Airport	BDE	16	-	1	-	2	-	-
Willmar Municipal Airport - John L. Rice Field	BDH	52	1	4	-	-	-	-
Silver Bay Municipal Airport - Wayne Johnson	BFW	5	-	-	-	-	-	2
Bemidji Regional Airport	BJI	27	-	32	17	-	-	1
Brainerd Lakes Regional Airport	BRD	98	1	9	3	8	-	11
Cambridge Municipal Airport	CBG	57	-	2	-	11	-	3
Buffalo Municipal Airport	CFE	89	-	3	-	5	-	-
Houston County Airport	CHU	15	-	1	-	-	-	-
Grand Marais-Cook County Airport	CKC	18	-	-	-	2	-	-
Crookston Municipal Airport - Kirkwood Field	CKN	56	-	-	4	-	-	-
Canby Municipal Airport - Myers Field	CNB	24	-	6	-	-	-	-
Cloquet-Carlton County Airport	COQ	48	-	-	1	2	-	-
Cook Municipal Airport	CQM	20	-	-	1	-	-	1
Norman County/Ada/Twin Valley Airport	D00	7	-	-	-	-	-	-
Fertile Municipal Airport	D14	3	-	-	-	-	-	-
Starbuck Municipal Airport	D32	4	-	-	-	-	-	-
Warren Municipal Airport	D37	6	-	-	2	-	-	-
Sauk Centre Municipal Airport	D39	16	-	1	-	-	-	3
Stephen Municipal Airport	D41	7	-	-	1	-	-	1
Springfield Municipal Airport	D42	3	-	-	-	2	-	-
Red Lake Falls Municipal Airport	D81	7	-	-	-	-	-	-
Duluth International Airport	DLH	55	2	12	-	2	25	1

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FORECAST TECHNICAL REPORT

GA Fleet and Military Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Detroit Lakes Municipal Airport - Wething Field	DTL	32	2	-	6	-	-	2
Slayton Municipal Airport	DVP	4	-	-	-	-	-	1
Lac Qui Parle County Airport - Bud Frye Field	DXX	8	-	-	-	-	-	2
Duluth Sky Harbor Airport	DYT	32	-	3	-	-	-	-
Ely Municipal Airport	ELO	22	-	2	-	2	-	-
Wheaton Municipal Airport	ETH	4	-	-	-	-	-	-
Eveleth-Virginia Municipal Airport	EVM	39	-	1	1	2	-	1
Faribault Municipal Airport	FBL	78	-	8	-	2	-	10
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	55	-	1	1	4	-	-
Preston - Fillmore County Airport	FKA	26	-	-	-	2	-	2
Bigfork Municipal Airport	FOZ	5	-	-	-	-	-	-
Fairmont Municipal Airport	FRM	30	2	2	-	-	-	-
Fosston Municipal Airport	FSE	11	-	1	-	-	-	1
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	15	2	2	-	-	-	-
Glenwood Municipal Airport	GHW	14	-	-	-	-	-	-
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	92	1	4	-	4	-	-
Glencoe Municipal Airport - Vernon Perschau Field	GYL	38	-	1	-	-	-	6
Hutchinson Municipal Airport - Butler Field	HCD	46	-	4	1	4	-	2
Hallock Municipal Airport	HCO	11	-	-	2	-	-	-
Range Regional Airport	HIB	49	-	2	-	2	-	6
McGregor - Isedor Iverson Airport	HZX	17	-	-	-	-	-	1
Falls International Airport	INL	29	-	-	-	14	-	-
Moorhead Municipal Airport	JKJ	40	-	6	-	-	-	-
Mora Municipal Airport	JMR	34	-	-	-	7	-	1
St. James Municipal Airport	JYG	12	-	-	-	2	-	-
Litchfield Municipal Airport	LJF	33	-	1	-	-	-	2
Little Falls-Morrison County Airport	LXL	35	-	1	-	-	-	-
Luverne Municipal Airport - Quentin Aanenson Field	LYV	20	-	-	-	-	-	1
Maple Lake Municipal Airport	MGG	64	-	6	-	-	-	-
Jackson Municipal Airport	MJQ	24	-	-	-	-	-	1
Mankato Regional Airport - Sohler Field	MKT	69	4	11	4	5	-	6
Southwest Minnesota Regional-Marshall/Ryan Field	MML	23	6	4	6	-	-	1
Morris Municipal Airport - Charlie Schmidt Field	MOX	13	-	5	2	2	-	1
Montevideo-Chippewa County Airport	MVE	26	-	1	-	-	-	2
Windom Municipal Airport	MWM	18	-	1	-	-	-	-

Appendix C

FORECAST TECHNICAL REPORT

GA Fleet and Military Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Moose Lake-Carlton County Airport	MZH	12	-	-	-	-	-	3
Winona Municipal Airport - Max Conrad Field	ONA	37	2	6	1	2	-	2
Orr Regional Airport	ORB	9	-	-	-	-	-	-
Worthington Municipal Airport	OTG	27	-	4	-	-	-	-
Olivia Regional Airport	OVL	8	-	-	-	-	-	5
Owatonna Degner Regional Airport	OWA	63	-	3	-	-	-	2
Paynesville Municipal Airport	PEX	29	-	1	-	-	-	1
Park Rapids Municipal Airport - Konshok Field	PKD	32	-	4	-	-	-	-
Princeton Municipal Airport	PNM	63	-	3	-	3	-	-
Pipestone Municipal Airport	PQN	20	-	1	-	-	-	-
Pine River Regional Airport	PWC	58	1	3	2	-	-	3
Red Wing Regional Airport	RGK	67	6	4	1	-	-	-
Rush City Regional Airport	ROS	79	-	1	-	3	-	1
Roseau Municipal Airport - Rudy Billberg Field	ROX	19	-	-	-	-	-	2
Warroad International Memorial Airport	RRT	19	1	1	4	-	-	1
Rochester International Airport	RST	83	4	4	-	3	-	1
Redwood Falls Municipal Airport	RWF	12	-	3	-	2	-	3
Staples Municipal Airport	SAZ	21	-	1	-	-	-	2
Blue Earth Municipal Airport	SBU	26	-	-	2	2	-	-
South St. Paul Municipal Airport - Fleming Field	SGS	316	-	15	18	8	-	8
St. Cloud Regional Airport	STC	114	10	7	-	-	17	-
Tracy Municipal Airport	TKC	8	-	-	-	-	-	-
Dodge Center Municipal Airport	TOB	54	-	-	-	2	-	5
Thief River Falls Regional Airport	TVF	25	3	1	1	-	-	1
Two Harbors Municipal - Richard B. Helgeson Field	TWM	43	-	1	-	2	-	7
New Ulm Municipal Airport	ULM	23	-	5	1	-	-	-
Ortonville Municipal Airport - Martinson Field	VVV	3	-	-	-	-	-	-
Waskish Municipal Airport	VWU	1	-	-	-	-	-	-
Longville Municipal Airport	XVG	23	-	2	-	-	-	-
Walker Municipal Airport	Y49	33	-	3	-	10	-	-
Sleepy Eye Municipal Airport	Y58	7	-	-	1	2	-	3
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	20	-	-	-	-	-	1

Source: HNTB Analysis

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Table C-26: 2015 GA Operations Forecast

Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Crystal Airport	MIC	41,793	2,750	3,913	1,309	40	-	1,946	27,701	24,050	21,541	20,154	10,056
Airlake Airport	LVN	34,813	790	1,835	1,878	86	-	188	7,918	31,672	16,479	15,418	7,693
Lake Elmo Airport	21D	34,699	56	1,288	313	416	-	412	14,483	22,701	15,477	14,481	7,226
St. Paul Downtown Airport - Holman Field	STP	29,621	23,612	12,508	5,868	87	-	21,699	60,900	32,494	38,874	36,371	18,149
Anoka County/Blaine Airport - Janes Field	ANE	49,737	10,739	12,820	2,739	651	-	3,897	44,375	36,207	33,541	31,382	15,659
Flying Cloud Airport	FCM	61,762	11,192	7,901	4,678	283	-	6,169	53,804	38,181	38,288	35,823	17,875
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	-	29,751	-	-	-	2,145	-	31,896	-	31,577	319	-
Hawley Municipal Airport	04Y	7,812	-	309	-	683	-	383	4,961	4,226	3,824	3,578	1,785
Henning Municipal Airport	05Y	3,412	-	-	-	-	-	395	2,247	1,561	762	2,665	381
Herman Municipal Airport	06Y	2,465	-	-	-	-	-	-	1,479	986	986	1,233	247
Hill City-Quadna Mountain Airport	07Y	1,506	-	-	-	-	-	-	889	617	627	587	293
Winsted Municipal Airport	10D	9,490	-	305	-	-	-	2,268	8,806	3,257	1,206	8,444	2,413
Tower Municipal Airport	12D	6,389	329	518	-	191	-	321	6,199	1,550	387	7,207	155
Le Sueur Municipal Airport	12Y	6,256	-	306	-	677	57	9,113	6,564	9,845	3,282	9,845	3,282
Littlefork Municipal Airport - Hanover Airport	13Y	1,799	-	-	-	1,022	-	-	1,410	1,410	-	2,680	141
Long Prairie Municipal Airport - Todd Field	14Y	6,488	-	444	-	491	9	-	1,975	5,458	1,487	5,203	743
Perham Municipal Airport	16D	5,402	962	-	1,205	-	-	313	5,518	2,365	788	6,306	788
Milaca Municipal Airport	18Y	11,774	-	-	-	-	-	-	6,948	4,826	4,901	4,585	2,288
Hector Municipal Airport	1D6	6,966	-	-	-	226	-	507	1,100	6,599	3,205	2,998	1,496
Karlstad Municipal Airport	23D	1,000	-	-	-	-	-	-	-	1,000	-	1,000	-
Murdock Municipal Airport	23Y	1,000	-	-	-	-	-	-	-	1,000	800	100	100
Forest Lake Airport	25D	9,162	-	304	-	336	-	188	5,994	3,996	1,998	5,994	1,998
Grygla Municipal Airport - Mel Wilkens Field	3G2	1,462	-	-	-	-	-	-	863	599	609	570	284
Mahnomen County Airport	3N8	5,126	-	-	-	-	-	-	4,869	256	4,357	718	51
Northome Municipal Airport	43Y	1,292	-	-	-	-	-	-	129	1,163	129	1,034	129
Pelican Rapids Municipal Airport - Lyon's Field	47Y	2,934	-	-	-	-	-	-	1,467	1,467	-	2,934	-
Piney-Pinecreek Border Airport	48Y	1,800	-	-	-	-	-	-	1,062	738	612	1,188	-
Remer Municipal Airport	52Y	1,698	-	-	-	-	-	361	2,059	-	-	1,853	206
Rushford Municipal Airport	55Y	1,756	-	-	-	499	-	-	1,353	902	226	677	1,353
Tyler Municipal Airport	63Y	1,615	-	-	-	-	-	-	1,454	162	808	808	-
Wells Municipal Airport	68Y	5,270	-	-	-	-	-	-	4,216	1,054	4,216	790	263
Brooten Municipal Airport	6D1	5,297	-	-	-	-	-	1,350	5,318	1,329	3,324	2,659	665
Backus Municipal Airport	7Y3	2,553	-	375	-	-	-	-	2,898	29	29	293	2,605

HNTB

2015 GA and Military Operations Forecast												
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Bagley Municipal Airport	7Y4	2,327	-	-	-	-	-	-	2,327	-	969	906	452
Big Falls Municipal Airport	7Y9	1,280	-	-	-	-	-	408	1,266	422	422	844	422
Clarissa Municipal Airport	8Y5	1,245	-	-	-	-	-	-	672	573	518	485	242
Bowstring Airport	9Y0	2,002	-	-	-	-	-	-	1,001	1,001	400	1,401	200
East Gull Lake Airport	9Y2	1,563	-	-	-	-	-	-	922	641	-	1,563	-
Waseca Municipal Airport	ACQ	6,031	-	-	-	-	-	-	4,825	1,206	603	5,126	302
Wadena Municipal Airport	ADC	5,692	-	-	-	-	6	-	1,480	4,217	2,372	2,219	1,107
Albert Lea Municipal Airport	AEL	19,914	2,365	1,860	-	-	285	3,076	22,274	5,225	11,446	10,709	5,344
Aitkin Municipal Airport - Steve Kurtz Field	AIT	17,852	-	1,048	2,503	580	-	-	16,047	5,935	1,099	19,784	1,099
Appleton Municipal Airport	AQP	824	-	-	1,348	-	-	-	2,173	-	1,934	217	22
Austin Municipal Airport	AUM	21,542	3,377	885	2,114	-	114	-	23,828	4,205	11,213	2,803	14,016
Alexandria Municipal Airport - Chandler Field	AXN	23,422	-	1,003	2,395	-	285	-	17,087	10,016	11,281	10,555	5,267
Benson Municipal Airport - Veterans Field	BBB	3,086	-	975	1,165	-	-	151	4,839	538	5,108	269	-
Baudette International Airport	BDE	10,336	-	817	-	903	71	-	1,213	10,914	3,032	7,883	1,213
Willmar Municipal Airport - John L. Rice Field	BDH	17,014	833	1,311	-	-	47	-	5,649	13,557	7,994	7,480	3,732
Silver Bay Municipal Airport - Wayne Johnson	BFW	2,696	-	-	-	-	-	859	1,778	1,778	178	3,022	356
Bemidji Regional Airport	BJI	2,440	-	2,882	3,592	-	474	78	2,840	6,626	7,573	1,420	473
Brainerd Lakes Regional Airport	BRD	30,158	909	2,860	2,277	1,582	379	2,365	12,063	28,466	16,870	15,784	7,876
Cambridge Municipal Airport	CBG	16,637	-	438	-	1,939	95	544	9,386	10,267	8,180	7,654	3,819
Buffalo Municipal Airport	CFE	23,262	-	784	-	867	209	-	17,584	7,536	2,512	20,096	2,512
Houston County Airport	CHU	3,399	-	269	-	-	-	-	3,301	367	2,567	1,100	-
Grand Marais-Cook County Airport	CKC	3,329	-	-	-	291	-	-	1,086	2,534	724	2,534	362
Crookston Municipal Airport - Kirkwood Field	CKN	25,926	-	-	4,060	-	47	-	15,017	15,017	6,007	3,003	21,024
Canby Municipal Airport - Myers Field	CNB	5,766	-	1,481	-	-	-	-	3,624	3,624	5,435	1,449	362
Cloquet-Carlton County Airport	COQ	9,549	-	-	571	265	95	-	9,432	1,048	3,144	3,144	4,192
Cook Municipal Airport	CQM	5,187	-	-	707	-	-	184	3,039	3,039	1,823	4,254	-
Norman County/Ada/Twin Valley Airport	D00	2,498	-	-	-	-	-	-	2,248	250	250	1,998	250
Fertile Municipal Airport	D14	10,203	-	-	-	-	-	-	10,203	-	-	10,203	-
Starbuck Municipal Airport	D32	1,700	-	-	-	-	-	-	1,003	697	708	662	330
Warren Municipal Airport	D37	1,391	-	-	1,138	-	-	-	1,492	1,037	1,053	985	491
Sauk Centre Municipal Airport	D39	5,420	-	464	-	-	28	576	4,866	1,622	4,866	1,622	-
Stephen Municipal Airport	D41	3,826	-	-	1,341	-	-	348	5,516	-	5,516	-	-
Springfield Municipal Airport	D42	2,021	-	-	-	766	-	-	557	2,229	1,672	1,115	-
Red Lake Falls Municipal Airport	D81	3,302	-	-	-	-	-	-	1,981	1,321	1,321	1,321	660
Duluth International Airport	DLH	26,806	2,060	5,940	-	597	7,573	335	11,694	31,617	36,814	2,166	4,331

Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Detroit Lakes Municipal Airport - Wething Field	DTL	11,253	1,837	-	4,602	-	95	598	6,128	12,257	7,653	7,160	3,573
Slayton Municipal Airport	DVP	2,210	-	-	-	-	-	352	1,512	1,050	1,066	998	498
Lac Qui Parle County Airport - Bud Frye Field	DXX	1,821	-	-	-	-	-	331	1,507	646	861	1,076	215
Duluth Sky Harbor Airport	DYT	12,714	-	1,351	-	-	-	-	11,111	2,954	422	13,362	281
Ely Municipal Airport	ELO	7,294	-	749	-	414	-	-	3,383	5,074	7,189	846	423
Wheaton Municipal Airport	ETH	1,811	-	-	-	-	-	-	1,811	-	1,811	-	-
Eveleth-Virginia Municipal Airport	EVM	7,163	-	204	488	226	-	127	7,798	410	7,387	657	164
Faribault Municipal Airport	FBL	16,470	-	1,586	-	292	95	1,476	13,944	5,976	996	13,944	4,980
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	8,928	-	199	476	441	95	-	3,449	6,691	4,220	3,949	1,970
Preston - Fillmore County Airport	FKA	6,370	-	-	-	329	-	369	4,948	2,120	2,474	2,827	1,767
Bigfork Municipal Airport	FOZ	2,528	-	-	-	-	-	-	506	2,022	1,011	1,517	-
Fairmont Municipal Airport	FRM	6,075	850	446	-	-	95	-	3,733	3,733	5,600	1,867	-
Fosston Municipal Airport	FSE	8,326	-	950	-	-	-	590	6,018	3,848	987	8,583	296
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	4,178	1,259	660	-	-	-	-	2,744	3,354	3,659	1,829	610
Glenwood Municipal Airport	GHW	5,211	-	-	-	-	-	-	1,824	3,387	1,042	3,127	1,042
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	19,040	504	793	-	585	57	-	10,490	10,490	12,588	4,196	4,196
Glencoe Municipal Airport - Vernon Perschau Field	GYL	9,998	-	354	-	-	-	1,099	4,580	6,871	1,718	8,588	1,145
Hutchinson Municipal Airport - Butler Field	HCD	10,273	-	833	663	614	43	345	7,024	5,747	5,316	4,973	2,482
Hallock Municipal Airport	HCO	3,339	-	-	1,489	-	-	-	3,138	1,690	4,780	48	-
Range Regional Airport	HIB	24,057	-	1,123	-	621	95	2,091	8,396	19,591	19,591	5,598	2,799
McGregor - Isedor Iverson Airport	HZX	4,114	-	-	-	-	-	202	2,547	1,769	1,797	1,681	839
Falls International Airport	INL	13,681	-	-	-	4,185	95	-	5,388	12,573	3,053	14,369	539
Moorhead Municipal Airport	JKJ	8,072	-	1,220	-	-	-	-	6,226	3,066	3,868	3,619	1,806
Mora Municipal Airport	JMR	9,319	-	-	-	1,271	-	238	2,834	7,994	4,507	4,217	2,104
St. James Municipal Airport	JYG	4,683	-	-	-	484	-	-	4,133	1,033	1,033	4,133	-
Litchfield Municipal Airport	LJF	8,500	-	323	-	-	-	401	4,612	4,612	922	6,457	1,845
Little Falls-Morrison County Airport	LXL	9,650	-	354	-	-	47	-	1,828	8,224	4,184	3,915	1,953
Luverne Municipal Airport - Quentin Aanenson Field	LYV	10,934	-	-	-	-	-	387	4,529	6,793	3,396	3,396	4,529
Maple Lake Municipal Airport	MGG	9,454	-	904	-	-	-	-	9,633	725	2,072	2,589	5,697
Jackson Municipal Airport	MJQ	6,274	-	-	-	-	9	210	1,948	4,546	6,494	-	-
Mankato Regional Airport - Sohler Field	MKT	74,871	8,150	11,395	10,206	3,151	474	4,418	76,612	36,053	22,533	33,800	56,333
Southwest Minnesota Regional-Marshall/Ryan Field	MML	10,576	5,453	1,716	6,829	-	95	355	9,509	15,515	18,768	3,754	2,502
Morris Municipal Airport - Charlie Schmidt Field	MOX	3,145	-	1,175	1,403	325	6	182	4,989	1,247	5,301	624	312
Montevideo-Chippewa County Airport	MVE	11,320	-	529	-	-	19	656	6,262	6,262	11,271	1,002	250

Table title: 2015 GA and Military Operations Forecast

HNTB

2015 GA and Military Operations Forecast												
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Windom Municipal Airport	MWM	8,388	-	574	-	-	-	-	4,481	4,481	4,481	3,585	896
Moose Lake-Carlton County Airport	MZH	4,393	-	-	-	-	-	840	2,355	2,878	2,093	1,570	1,570
Winona Municipal Airport - Max Conrad Field	ONA	7,775	952	1,248	596	276	24	310	8,945	2,236	6,709	2,236	2,236
Orr Regional Airport	ORB	2,539	-	-	-	-	-	-	1,016	1,524	762	1,778	-
Worthington Municipal Airport	OTG	9,000	-	1,321	-	-	483	-	4,321	6,482	5,402	5,402	-
Olivia Regional Airport	OVL	2,656	-	-	-	-	-	1,058	2,192	1,522	1,546	1,446	722
Owatonna Degner Regional Airport	OWA	29,742	-	1,273	-	-	237	790	15,428	16,615	13,337	12,479	6,227
Paynesville Municipal Airport	PEX	5,042	-	235	-	-	-	146	3,634	1,790	542	4,339	542
Park Rapids Municipal Airport - Konshok Field	PKD	14,916	-	1,768	-	-	24	-	8,354	8,354	6,954	6,507	3,247
Princeton Municipal Airport	PNM	12,354	-	577	-	319	285	-	6,767	6,767	2,030	10,151	1,353
Pipestone Municipal Airport	PQN	8,066	-	487	-	-	28	-	4,291	4,291	8,581	-	-
Pine River Regional Airport	PWC	10,345	533	559	668	-	-	347	7,472	4,981	1,245	9,340	1,868
Red Wing Regional Airport	RGK	11,326	2,017	635	505	-	664	-	4,544	10,603	11,361	3,029	757
Rush City Regional Airport	ROS	23,132	-	424	-	469	9	263	12,149	12,149	2,430	9,719	12,149
Roseau Municipal Airport - Rudy Billberg Field	ROX	8,462	-	-	-	-	-	674	914	8,223	8,223	914	-
Warroad International Memorial Airport	RRT	5,364	657	344	2,468	-	-	214	6,332	2,714	7,237	1,357	452
Rochester International Airport	RST	30,316	3,126	1,639	-	604	221	339	21,022	15,223	28,996	5,437	1,812
Redwood Falls Municipal Airport	RWF	9,618	-	2,695	-	994	285	1,672	10,378	4,884	4,579	10,378	305
Staples Municipal Airport	SAZ	9,061	-	548	-	-	-	679	5,144	5,144	2,058	7,201	1,029
Blue Earth Municipal Airport	SBU	11,612	-	-	2,192	507	-	-	10,733	3,578	6,440	6,440	1,431
South St. Paul Municipal Airport - Fleming Field	SGS	55,579	-	2,631	7,541	873	-	979	43,943	23,662	25,690	37,182	4,732
St. Cloud Regional Airport	STC	31,415	6,005	1,968	-	-	2,728	-	31,587	10,529	12,635	8,423	21,058
Tracy Municipal Airport	TKC	3,169	-	-	-	-	-	-	1,901	1,268	1,268	1,584	317
Dodge Center Municipal Airport	TOB	8,966	-	-	-	261	-	586	2,453	7,360	2,944	2,944	3,925
Thief River Falls Regional Airport	TVF	22,206	6,216	1,086	2,595	-	95	674	11,176	21,695	9,862	6,574	16,436
Two Harbors Municipal - Richard B. Helgeson Field	TWM	7,975	-	228	-	252	-	847	5,581	3,720	930	6,511	1,860
New Ulm Municipal Airport	ULM	7,812	-	1,605	958	-	9	-	7,788	2,596	7,269	2,077	1,038
Ortonville Municipal Airport - Martinson Field	VVV	5,224	-	-	-	-	-	-	1,567	3,657	2,612	2,090	522
Waskish Municipal Airport	VWU	219	-	-	-	-	-	-	142	77	33	186	-
Longville Municipal Airport	XVG	7,153	-	490	-	-	-	-	2,675	4,968	382	7,260	-
Walker Municipal Airport	Y49	8,442	-	754	-	1,668	-	-	7,605	3,259	2,173	8,691	-
Sleepy Eye Municipal Airport	Y58	1,262	-	-	516	239	-	402	1,428	992	1,007	943	470
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	4,230	-	-	-	-	-	159	1,463	2,926	1,827	1,709	853

Source: HNTB Analysis

Table C-27: 2020 GA Operations Forecast

Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Crystal Airport	MIC	43,513	4,353	4,327	1,246	44	-	2,269	29,843	25,910	23,206	21,713	10,834
Airlake Airport	LVN	37,013	1,058	1,927	1,789	95	-	188	8,414	33,657	17,511	16,384	8,175
Lake Elmo Airport	21D	37,018	87	1,449	327	460	-	549	15,537	24,353	16,604	15,535	7,752
St. Paul Downtown Airport - Holman Field	STP	30,343	30,552	12,740	5,768	96	-	23,963	67,465	35,997	43,065	40,293	20,105
Anoka County/Blaine Airport - Janes Field	ANE	50,472	13,603	11,742	2,692	719	-	4,261	45,975	37,513	34,751	32,514	16,224
Flying Cloud Airport	FCM	63,425	17,638	7,304	4,600	312	-	7,111	58,720	41,669	41,785	39,096	19,508
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	-	29,934	-	-	-	2,145	-	32,079	-	31,759	321	-
Hawley Municipal Airport	04Y	8,028	-	317	-	874	-	414	5,201	4,431	4,009	3,751	1,872
Henning Municipal Airport	05Y	3,540	-	-	-	-	-	432	2,344	1,628	794	2,780	397
Herman Municipal Airport	06Y	2,509	-	-	-	-	-	-	1,505	1,003	1,003	1,254	251
Hill City-Quadna Mountain Airport	07Y	1,578	-	-	-	-	-	-	931	647	657	614	307
Winsted Municipal Airport	10D	10,181	-	326	-	-	-	2,560	9,539	3,528	1,307	9,147	2,613
Tower Municipal Airport	12D	6,454	328	522	-	240	-	342	6,309	1,577	394	7,334	158
Le Sueur Municipal Airport	12Y	6,607	-	323	-	890	54	10,126	7,200	10,799	3,600	10,799	3,600
Littlefork Municipal Airport - Hanover Airport	13Y	1,827	-	-	-	1,293	-	-	1,560	1,560	-	2,964	156
Long Prairie Municipal Airport - Todd Field	14Y	6,626	-	453	-	625	9	-	2,049	5,663	1,542	5,399	771
Perham Municipal Airport	16D	5,625	989	-	1,255	-	-	343	5,748	2,463	821	6,569	821
Milaca Municipal Airport	18Y	12,388	-	-	-	-	-	-	7,310	5,078	5,156	4,825	2,407
Hector Municipal Airport	1D6	7,048	-	-	-	285	-	540	1,125	6,749	3,277	3,066	1,530
Karlstad Municipal Airport	23D	1,000	-	-	-	-	-	-	-	1,000	-	1,000	-
Murdock Municipal Airport	23Y	1,000	-	-	-	-	-	-	-	1,000	800	100	100
Forest Lake Airport	25D	9,881	-	327	-	451	-	214	6,523	4,349	2,174	6,523	2,174
Grygla Municipal Airport - Mel Wilkens Field	3G2	1,486	-	-	-	-	-	-	877	609	618	579	289
Mahnomen County Airport	3N8	5,315	-	-	-	-	-	-	5,049	266	4,518	744	53
Northome Municipal Airport	43Y	1,362	-	-	-	-	-	-	136	1,226	136	1,090	136
Pelican Rapids Municipal Airport - Lyon's Field	47Y	3,036	-	-	-	-	-	-	1,518	1,518	-	3,036	-
Piney-Pinecreek Border Airport	48Y	1,800	-	-	-	-	-	-	1,062	738	612	1,188	-
Remer Municipal Airport	52Y	1,855	-	-	-	-	-	415	2,270	-	-	2,043	227
Rushford Municipal Airport	55Y	1,798	-	-	-	636	-	-	1,460	973	243	730	1,460
Tyler Municipal Airport	63Y	1,657	-	-	-	-	-	-	1,491	166	828	828	-
Wells Municipal Airport	68Y	5,270	-	-	-	-	-	-	4,216	1,054	4,216	790	263
Brooten Municipal Airport	6D1	5,609	-	-	-	-	-	1,504	5,691	1,423	3,557	2,845	711
Backus Municipal Airport	7Y3	2,789	-	408	-	-	-	-	3,165	32	32	320	2,845
Bagley Municipal Airport	7Y4	2,383	-	-	-	-	-	-	2,383	-	992	928	463

2020 GA and Military Operations Forecast												
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Big Falls Municipal Airport	7Y9	1,300	-	-	-	-	-	436	1,302	434	434	868	434
Clarissa Municipal Airport	8Y5	1,273	-	-	-	-	-	-	688	586	530	496	247
Bowstring Airport	9Y0	2,088	-	-	-	-	-	-	1,044	1,044	418	1,462	209
East Gull Lake Airport	9Y2	1,715	-	-	-	-	-	-	1,012	703	-	1,715	-
Waseca Municipal Airport	ACQ	6,299	-	-	-	-	-	-	5,039	1,260	630	5,354	315
Wadena Municipal Airport	ADC	5,886	-	-	-	-	5	-	1,531	4,361	2,452	2,294	1,145
Albert Lea Municipal Airport	AEL	20,244	2,373	1,887	-	-	268	3,291	22,730	5,332	11,680	10,928	5,453
Aitkin Municipal Airport - Steve Kurtz Field	AIT	18,975	-	1,112	2,661	767	-	-	17,165	6,349	1,176	21,163	1,176
Appleton Municipal Airport	AQP	847	-	-	1,386	-	-	-	2,233	-	1,987	223	22
Austin Municipal Airport	AUM	22,383	3,463	918	2,197	-	107	-	24,707	4,360	11,627	2,907	14,534
Alexandria Municipal Airport - Chandler Field	AXN	25,034	-	1,069	2,560	-	268	-	18,240	10,691	12,042	11,267	5,622
Benson Municipal Airport - Veterans Field	BBB	3,178	-	1,002	1,200	-	-	164	4,990	554	5,267	277	-
Baudette International Airport	BDE	10,569	-	833	-	1,150	67	-	1,262	11,357	3,155	8,202	1,262
Willmar Municipal Airport - John L. Rice Field	BDH	17,924	867	1,378	-	-	45	-	5,945	14,268	8,413	7,872	3,928
Silver Bay Municipal Airport - Wayne Johnson	BFW	2,827	-	-	-	-	-	948	1,888	1,888	189	3,209	378
Bemidji Regional Airport	BJI	2,597	-	3,061	3,823	-	446	87	3,004	7,010	8,011	1,502	501
Brainerd Lakes Regional Airport	BRD	33,100	985	3,132	2,499	2,161	357	2,732	13,384	31,582	18,716	17,512	8,738
Cambridge Municipal Airport	CBG	18,104	-	476	-	2,627	89	623	10,468	11,451	9,123	8,536	4,259
Buffalo Municipal Airport	CFE	25,397	-	854	-	1,178	196	-	19,338	8,288	2,763	22,100	2,763
Houston County Airport	CHU	3,467	-	273	-	-	-	-	3,366	374	2,618	1,122	-
Grand Marais-Cook County Airport	CKC	3,540	-	-	-	385	-	-	1,178	2,748	785	2,748	393
Crookston Municipal Airport - Kirkwood Field	CKN	26,528	-	-	4,155	-	45	-	15,364	15,364	6,146	3,073	21,509
Canby Municipal Airport - Myers Field	CNB	5,894	-	1,511	-	-	-	-	3,702	3,702	5,554	1,481	370
Cloquet-Carlton County Airport	COQ	9,815	-	-	587	339	89	-	9,748	1,083	3,249	3,249	4,332
Cook Municipal Airport	CQM	5,243	-	-	715	-	-	195	3,077	3,077	1,846	4,307	-
Norman County/Ada/Twin Valley Airport	D00	2,481	-	-	-	-	-	-	2,233	248	248	1,985	248
Fertile Municipal Airport	D14	10,381	-	-	-	-	-	-	10,381	-	-	10,381	-
Starbuck Municipal Airport	D32	1,772	-	-	-	-	-	-	1,045	726	737	690	344
Warren Municipal Airport	D37	1,392	-	-	1,139	-	-	-	1,493	1,037	1,053	986	492
Sauk Centre Municipal Airport	D39	5,759	-	492	-	-	27	644	5,191	1,730	5,191	1,730	-
Stephen Municipal Airport	D41	3,810	-	-	1,336	-	-	365	5,510	-	5,510	-	-
Springfield Municipal Airport	D42	2,062	-	-	-	972	-	-	607	2,427	1,820	1,214	-
Red Lake Falls Municipal Airport	D81	3,335	-	-	-	-	-	-	2,001	1,334	1,334	1,334	667
Duluth International Airport	DLH	27,078	2,053	5,987	-	751	7,120	356	11,703	31,643	36,844	2,167	4,335
Detroit Lakes Municipal Airport - Wething Field	DTL	11,913	1,920	-	4,872	-	89	666	6,487	12,973	8,100	7,579	3,782

2020 GA and Military Operations Forecast												
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Slayton Municipal Airport	DVP	2,227	-	-	-	-	-	373	1,534	1,066	1,082	1,013	505
Lac Qui Parle County Airport - Bud Frye Field	DXX	1,841	-	-	-	-	-	353	1,536	658	878	1,097	219
Duluth Sky Harbor Airport	DYT	12,947	-	1,373	-	-	-	-	11,313	3,007	430	13,604	286
Ely Municipal Airport	ELO	7,392	-	758	-	523	-	-	3,469	5,204	7,372	867	434
Wheaton Municipal Airport	ETH	1,838	-	-	-	-	-	-	1,838	-	1,838	-	-
Eveleth-Virginia Municipal Airport	EVM	7,235	-	206	493	284	-	135	7,936	418	7,518	668	167
Faribault Municipal Airport	FBL	17,085	-	1,642	-	378	89	1,611	14,563	6,241	1,040	14,563	5,201
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	9,238	-	206	493	568	89	-	3,604	6,991	4,410	4,126	2,059
Preston - Fillmore County Airport	FKA	6,560	-	-	-	422	-	400	5,167	2,215	2,584	2,953	1,846
Bigfork Municipal Airport	FOZ	2,635	-	-	-	-	-	-	527	2,108	1,054	1,581	-
Fairmont Municipal Airport	FRM	6,136	848	449	-	-	89	-	3,761	3,761	5,642	1,881	-
Fosston Municipal Airport	FSE	8,519	-	970	-	-	-	635	6,175	3,948	1,012	8,808	304
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	4,274	1,271	674	-	-	-	-	2,799	3,421	3,731	1,866	622
Glenwood Municipal Airport	GHW	5,421	-	-	-	-	-	-	1,897	3,524	1,084	3,253	1,084
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	19,858	519	825	-	759	54	-	11,008	11,008	13,209	4,403	4,403
Glencoe Municipal Airport - Vernon Perschau Field	GYL	10,550	-	373	-	-	-	1,220	4,857	7,286	1,821	9,107	1,214
Hutchinson Municipal Airport - Butler Field	HCD	10,701	-	866	691	797	40	378	7,410	6,063	5,608	5,247	2,618
Hallock Municipal Airport	HCO	3,273	-	-	1,460	-	-	-	3,077	1,657	4,686	47	-
Range Regional Airport	HIB	24,394	-	1,137	-	784	89	2,231	8,591	20,045	20,045	5,727	2,864
McGregor - Isedor Iverson Airport	HZX	4,302	-	-	-	-	-	222	2,670	1,854	1,883	1,762	879
Falls International Airport	INL	13,894	-	-	-	5,293	89	-	5,783	13,493	3,277	15,420	578
Moorhead Municipal Airport	JKJ	8,316	-	1,254	-	-	-	-	6,411	3,158	3,983	3,727	1,860
Mora Municipal Airport	JMR	9,881	-	-	-	1,678	-	265	3,095	8,729	4,922	4,605	2,298
St. James Municipal Airport	JYG	4,749	-	-	-	611	-	-	4,288	1,072	1,072	4,288	-
Litchfield Municipal Airport	LJF	8,893	-	338	-	-	-	442	4,836	4,836	967	6,771	1,935
Little Falls-Morrison County Airport	LXL	9,995	-	366	-	-	45	-	1,892	8,514	4,331	4,052	2,022
Luverne Municipal Airport - Quentin Aanenson Field	LYV	11,112	-	-	-	-	-	414	4,610	6,916	3,458	3,458	4,610
Maple Lake Municipal Airport	MGG	10,367	-	989	-	-	-	-	10,560	795	2,271	2,839	6,245
Jackson Municipal Airport	MJQ	6,491	-	-	-	-	9	229	2,019	4,710	6,729	-	-
Mankato Regional Airport - Sohler Field	MKT	78,666	8,451	11,947	10,724	4,122	446	4,884	81,084	38,157	23,848	35,773	59,621
Southwest Minnesota Regional-Marshall/Ryan Field	MML	10,982	5,589	1,778	7,092	-	89	388	9,848	16,069	19,438	3,888	2,592
Morris Municipal Airport - Charlie Schmidt Field	MOX	3,252	-	1,212	1,451	418	5	198	5,230	1,307	5,557	654	327
Montevideo-Chippewa County Airport	MVE	11,606	-	541	-	-	18	708	6,436	6,436	11,585	1,030	257
Windom Municipal Airport	MWM	8,646	-	591	-	-	-	-	4,619	4,619	4,619	3,695	924
Moose Lake-Carlton County Airport	MZH	4,550	-	-	-	-	-	915	2,459	3,006	2,186	1,640	1,640

HNTB

Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Winona Municipal Airport - Max Conrad Field	ONA	7,966	963	1,276	611	352	22	334	9,219	2,305	6,914	2,305	2,305
Orr Regional Airport	ORB	2,569	-	-	-	-	-	-	1,027	1,541	771	1,798	-
Worthington Municipal Airport	OTG	9,409	-	1,378	-	-	454	-	4,496	6,744	5,620	5,620	-
Olivia Regional Airport	OVL	2,681	-	-	-	-	-	1,124	2,245	1,560	1,584	1,482	739
Owatonna Degner Regional Airport	OWA	31,431	-	1,343	-	-	223	878	16,310	17,565	14,100	13,192	6,583
Paynesville Municipal Airport	PEX	5,348	-	249	-	-	-	163	3,859	1,901	576	4,608	576
Park Rapids Municipal Airport - Konshok Field	PKD	15,507	-	1,834	-	-	22	-	8,682	8,682	7,227	6,762	3,374
Princeton Municipal Airport	PNM	13,372	-	623	-	430	268	-	7,346	7,346	2,204	11,019	1,469
Pipestone Municipal Airport	PQN	8,222	-	496	-	-	27	-	4,372	4,372	8,744	-	-
Pine River Regional Airport	PWC	11,366	578	613	734	-	-	401	8,216	5,477	1,369	10,270	2,054
Red Wing Regional Airport	RGK	11,737	2,063	656	524	-	624	-	4,681	10,923	11,703	3,121	780
Rush City Regional Airport	ROS	24,874	-	455	-	628	9	298	13,132	13,132	2,626	10,506	13,132
Roseau Municipal Airport - Rudy Billberg Field	ROX	8,762	-	-	-	-	-	734	950	8,547	8,547	950	-
Warroad International Memorial Airport	RRT	5,549	671	356	2,553	-	-	233	6,552	2,808	7,488	1,404	468
Rochester International Airport	RST	32,821	3,340	1,771	-	815	208	386	22,818	16,523	31,472	5,901	1,967
Redwood Falls Municipal Airport	RWF	9,709	-	2,714	-	1,249	268	1,776	10,686	5,029	4,714	10,686	314
Staples Municipal Airport	SAZ	9,419	-	568	-	-	-	743	5,365	5,365	2,146	7,511	1,073
Blue Earth Municipal Airport	SBU	11,465	-	-	2,164	624	-	-	10,690	3,563	6,414	6,414	1,425
South St. Paul Municipal Airport - Fleming Field	SGS	60,814	-	2,873	8,252	1,190	-	1,128	48,266	25,990	28,217	40,841	5,198
St. Cloud Regional Airport	STC	33,688	6,356	2,106	-	-	2,565	-	33,536	11,179	13,414	8,943	22,357
Tracy Municipal Airport	TKC	3,248	-	-	-	-	-	-	1,949	1,299	1,299	1,624	325
Dodge Center Municipal Airport	TOB	9,558	-	-	-	347	-	657	2,640	7,921	3,168	3,168	4,225
Thief River Falls Regional Airport	TVF	22,704	6,272	1,108	2,653	-	89	725	11,407	22,144	10,065	6,710	16,776
Two Harbors Municipal - Richard B. Helgeson Field	TWM	8,266	-	235	-	325	-	924	5,850	3,900	975	6,825	1,950
New Ulm Municipal Airport	ULM	8,016	-	1,643	983	-	9	-	7,989	2,663	7,456	2,130	1,065
Ortonville Municipal Airport - Martinson Field	VVV	5,352	-	-	-	-	-	-	1,605	3,746	2,676	2,141	535
Waskish Municipal Airport	VWU	234	-	-	-	-	-	-	152	82	35	199	-
Longville Municipal Airport	XVG	7,860	-	537	-	-	-	-	2,939	5,458	420	7,977	-
Walker Municipal Airport	Y49	9,091	-	810	-	2,237	-	-	8,497	3,641	2,428	9,710	-
Sleepy Eye Municipal Airport	Y58	1,295	-	-	530	305	-	434	1,513	1,051	1,067	998	498
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	4,357	-	-	-	-	-	172	1,510	3,019	1,885	1,764	880

Table title: **2020 GA and Military Operations Forecast**

Source: HNTB Analysis

Table C-28: 2030 GA Operations Forecast

Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Crystal Airport	MIC	46,879	8,158	5,237	1,144	54	-	2,602	34,298	29,777	26,670	24,953	12,451
Airlake Airport	LVN	40,815	3,130	2,115	1,642	116	-	188	9,601	38,405	19,982	18,696	9,329
Lake Elmo Airport	21D	41,264	161	1,810	358	560	-	548	17,411	27,290	18,606	17,408	8,686
St. Paul Downtown Airport - Holman Field	STP	32,115	38,865	14,388	5,730	117	-	24,483	75,444	40,255	48,158	45,058	22,483
Anoka County/Blaine Airport - Janes Field	ANE	53,312	21,923	9,447	2,675	876	-	4,368	50,993	41,608	38,544	36,063	17,995
Flying Cloud Airport	FCM	69,433	27,807	7,194	4,569	381	-	7,306	68,255	48,435	48,571	45,444	22,676
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	-	30,011	-	-	-	2,145	-	32,156	-	31,834	322	-
Hawley Municipal Airport	04Y	9,832	-	360	-	1,065	-	457	6,325	5,388	4,876	4,562	2,276
Henning Municipal Airport	05Y	4,413	-	-	-	-	-	476	2,885	2,004	978	3,422	489
Herman Municipal Airport	06Y	3,007	-	-	-	-	-	-	1,804	1,203	1,203	1,503	301
Hill City-Quadna Mountain Airport	07Y	2,003	-	-	-	-	-	-	1,182	821	834	780	389
Winsted Municipal Airport	10D	13,495	-	371	-	-	-	2,823	12,183	4,506	1,669	11,682	3,338
Tower Municipal Airport	12D	7,658	326	594	-	293	-	377	7,399	1,850	462	8,601	185
Le Sueur Municipal Airport	12Y	8,515	-	367	-	1,085	48	11,165	8,472	12,708	4,236	12,708	4,236
Littlefork Municipal Airport - Hanover Airport	13Y	2,187	-	-	-	1,576	-	-	1,881	1,881	-	3,574	188
Long Prairie Municipal Airport - Todd Field	14Y	7,992	-	515	-	762	8	-	2,465	6,811	1,855	6,494	928
Perham Municipal Airport	16D	7,055	983	-	1,244	-	-	378	6,762	2,898	966	7,728	966
Milaca Municipal Airport	18Y	15,879	-	-	-	-	-	-	9,370	6,509	6,609	6,184	3,086
Hector Municipal Airport	1D6	8,354	-	-	-	347	-	596	1,328	7,969	3,870	3,621	1,807
Karlstad Municipal Airport	23D	1,000	-	-	-	-	-	-	-	1,000	-	1,000	-
Murdock Municipal Airport	23Y	1,000	-	-	-	-	-	-	-	1,000	800	100	100
Forest Lake Airport	25D	13,240	-	372	-	550	-	236	8,638	5,759	2,879	8,638	2,879
Grygla Municipal Airport - Mel Wilkens Field	3G2	1,775	-	-	-	-	-	-	1,047	728	739	691	345
Mahnomen County Airport	3N8	6,614	-	-	-	-	-	-	6,283	331	5,622	926	66
Northome Municipal Airport	43Y	1,749	-	-	-	-	-	-	175	1,574	175	1,399	175
Pelican Rapids Municipal Airport - Lyon's Field	47Y	3,766	-	-	-	-	-	-	1,883	1,883	-	3,766	-
Piney-Pinecreek Border Airport	48Y	1,800	-	-	-	-	-	-	1,062	738	612	1,188	-
Remer Municipal Airport	52Y	2,544	-	-	-	-	-	457	3,001	-	-	2,701	300
Rushford Municipal Airport	55Y	2,179	-	-	-	775	-	-	1,772	1,182	295	886	1,772
Tyler Municipal Airport	63Y	2,015	-	-	-	-	-	-	1,813	201	1,007	1,007	-
Wells Municipal Airport	68Y	6,096	-	-	-	-	-	-	4,877	1,219	4,877	914	305
Brooten Municipal Airport	6D1	7,258	-	-	-	-	-	1,659	7,133	1,783	4,458	3,567	892
Backus Municipal Airport	7Y3	3,822	-	465	-	-	-	-	4,244	43	43	429	3,815

Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Bagley Municipal Airport	7Y4	2,888	-	-	-	-	-	-	2,888	-	1,202	1,125	561
Big Falls Municipal Airport	7Y9	1,556	-	-	-	-	-	481	1,528	509	509	1,018	509
Clarissa Municipal Airport	8Y5	1,541	-	-	-	-	-	-	832	709	642	600	300
Bowstring Airport	9Y0	2,637	-	-	-	-	-	-	1,318	1,318	527	1,846	264
East Gull Lake Airport	9Y2	2,371	-	-	-	-	-	-	1,399	972	-	2,371	-
Waseca Municipal Airport	ACQ	7,938	-	-	-	-	-	-	6,351	1,588	794	6,748	397
Wadena Municipal Airport	ADC	7,298	-	-	-	-	5	-	1,897	5,405	3,040	2,844	1,419
Albert Lea Municipal Airport	AEL	24,223	2,358	2,146	-	-	240	3,629	26,402	6,193	13,567	12,694	6,334
Aitkin Municipal Airport - Steve Kurtz Field	AIT	24,764	-	1,264	2,639	935	-	-	21,610	7,993	1,480	26,642	1,480
Appleton Municipal Airport	AQP	1,036	-	-	1,374	-	-	-	2,411	-	2,145	241	24
Austin Municipal Airport	AUM	27,975	3,441	1,044	2,179	-	96	-	29,525	5,210	13,894	3,474	17,368
Alexandria Municipal Airport - Chandler Field	AXN	32,957	-	1,216	2,539	-	240	-	23,296	13,656	15,381	14,391	7,181
Benson Municipal Airport - Veterans Field	BBB	3,907	-	1,140	1,190	-	-	181	5,776	642	6,097	321	-
Baudette International Airport	BDE	12,791	-	948	-	1,402	60	-	1,520	13,681	3,800	9,881	1,520
Willmar Municipal Airport - John L. Rice Field	BDH	22,993	861	1,567	-	-	40	-	7,489	17,973	10,598	9,916	4,948
Silver Bay Municipal Airport - Wayne Johnson	BFW	3,602	-	-	-	-	-	1,045	2,324	2,324	232	3,950	465
Bemidji Regional Airport	BJI	3,390	-	3,482	3,792	-	400	96	3,348	7,812	8,928	1,674	558
Brainerd Lakes Regional Airport	BRD	45,827	979	3,562	2,479	2,635	320	3,012	17,506	41,309	24,481	22,905	11,429
Cambridge Municipal Airport	CBG	24,660	-	541	-	3,202	80	686	13,931	15,239	12,142	11,360	5,668
Buffalo Municipal Airport	CFE	34,764	-	971	-	1,436	176	-	26,143	11,204	3,735	29,878	3,735
Houston County Airport	CHU	4,171	-	311	-	-	-	-	4,034	448	3,137	1,345	-
Grand Marais-Cook County Airport	CKC	4,650	-	-	-	470	-	-	1,536	3,584	1,024	3,584	512
Crookston Municipal Airport - Kirkwood Field	CKN	32,171	-	-	4,121	-	40	-	18,166	18,166	7,266	3,633	25,432
Canby Municipal Airport - Myers Field	CNB	7,122	-	1,718	-	-	-	-	4,420	4,420	6,630	1,768	442
Cloquet-Carlton County Airport	COQ	12,036	-	-	583	413	80	-	11,800	1,311	3,933	3,933	5,244
Cook Municipal Airport	CQM	6,231	-	-	709	-	-	215	3,578	3,578	2,147	5,009	-
Norman County/Ada/Twin Valley Airport	D00	2,837	-	-	-	-	-	-	2,554	284	284	2,270	284
Fertile Municipal Airport	D14	12,454	-	-	-	-	-	-	12,454	-	-	12,454	-
Starbuck Municipal Airport	D32	2,222	-	-	-	-	-	-	1,311	911	925	865	432
Warren Municipal Airport	D37	1,611	-	-	1,129	-	-	-	1,617	1,123	1,141	1,067	533
Sauk Centre Municipal Airport	D39	7,499	-	560	-	-	24	710	6,594	2,198	6,594	2,198	-
Stephen Municipal Airport	D41	4,362	-	-	1,325	-	-	402	6,089	-	6,089	-	-
Springfield Municipal Airport	D42	2,480	-	-	-	1,185	-	-	733	2,932	2,199	1,466	-
Red Lake Falls Municipal Airport	D81	3,935	-	-	-	-	-	-	2,361	1,574	1,574	1,574	787
Duluth International Airport	DLH	32,132	2,040	6,809	-	916	6,393	393	13,145	35,539	41,381	2,434	4,868

2030 GA and Military Operations Forecast												
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Detroit Lakes Municipal Airport - Wething Field	DTL	15,401	1,908	-	4,832	-	80	734	7,652	15,303	9,555	8,940	4,461
Slayton Municipal Airport	DVP	2,617	-	-	-	-	-	412	1,787	1,242	1,261	1,180	589
Lac Qui Parle County Airport - Bud Frye Field	DXX	2,179	-	-	-	-	-	389	1,797	770	1,027	1,284	257
Duluth Sky Harbor Airport	DYT	15,587	-	1,562	-	-	-	-	13,547	3,601	514	16,291	343
Ely Municipal Airport	ELO	8,830	-	862	-	637	-	-	4,132	6,197	8,780	1,033	516
Wheaton Municipal Airport	ETH	2,192	-	-	-	-	-	-	2,192	-	2,192	-	-
Eveleth-Virginia Municipal Airport	EVM	8,586	-	234	489	347	-	149	9,314	490	8,824	784	196
Faribault Municipal Airport	FBL	21,245	-	1,867	-	460	80	1,776	17,801	7,629	1,271	17,801	6,357
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	11,455	-	234	489	693	80	-	4,405	8,546	5,391	5,044	2,517
Preston - Fillmore County Airport	FKA	8,043	-	-	-	514	-	441	6,299	2,699	3,149	3,599	2,250
Bigfork Municipal Airport	FOZ	3,326	-	-	-	-	-	-	665	2,660	1,330	1,995	-
Fairmont Municipal Airport	FRM	7,236	842	511	-	-	80	-	4,335	4,335	6,502	2,167	-
Fosston Municipal Airport	FSE	10,329	-	1,104	-	-	-	700	7,401	4,732	1,213	10,555	364
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	5,173	1,263	767	-	-	-	-	3,241	3,962	4,322	2,161	720
Glenwood Municipal Airport	GHW	6,776	-	-	-	-	-	-	2,372	4,404	1,355	4,066	1,355
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	25,075	516	939	-	926	48	-	13,752	13,752	16,502	5,501	5,501
Glencoe Municipal Airport - Vernon Perschau Field	GYL	13,558	-	424	-	-	-	1,345	6,131	9,196	2,299	11,495	1,533
Hutchinson Municipal Airport - Butler Field	HCD	13,415	-	985	685	971	36	416	9,080	7,429	6,872	6,429	3,208
Hallock Municipal Airport	HCO	3,615	-	-	1,448	-	-	-	3,291	1,772	5,012	51	-
Range Regional Airport	HIB	29,172	-	1,293	-	956	80	2,459	10,188	23,773	23,773	6,792	3,396
McGregor - Isedor Iverson Airport	HZX	5,439	-	-	-	-	-	245	3,354	2,330	2,366	2,213	1,104
Falls International Airport	INL	16,626	-	-	-	6,452	80	-	6,947	16,210	3,937	18,526	695
Moorhead Municipal Airport	JKJ	10,234	-	1,426	-	-	-	-	7,812	3,848	4,853	4,541	2,266
Mora Municipal Airport	JMR	12,827	-	-	-	2,045	-	292	3,969	11,195	6,312	5,906	2,947
St. James Municipal Airport	JYG	5,648	-	-	-	745	-	-	5,114	1,278	1,278	5,114	-
Litchfield Municipal Airport	LJF	11,281	-	384	-	-	-	487	6,076	6,076	1,215	8,506	2,430
Little Falls-Morrison County Airport	LXL	12,416	-	416	-	-	40	-	2,340	10,532	5,358	5,013	2,501
Luverne Municipal Airport - Quentin Aanenson Field	LYV	13,288	-	-	-	-	-	456	5,498	8,247	4,123	4,123	5,498
Maple Lake Municipal Airport	MGG	14,303	-	1,124	-	-	-	-	14,347	1,080	3,085	3,857	8,485
Jackson Municipal Airport	MJQ	8,051	-	-	-	-	8	253	2,494	5,818	8,312	-	-
Mankato Regional Airport - Sohler Field	MKT	100,330	8,398	13,588	10,636	5,025	400	5,385	97,759	46,004	28,753	43,129	71,882
Southwest Minnesota Regional-Marshall/Ryan Field	MML	13,708	5,553	2,022	7,034	-	80	427	10,953	17,871	21,618	4,324	2,882
Morris Municipal Airport - Charlie Schmidt Field	MOX	4,025	-	1,379	1,439	510	5	219	6,061	1,515	6,440	758	379
Montevideo-Chippewa County Airport	MVE	14,108	-	615	-	-	16	780	7,760	7,760	13,968	1,242	310

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2030 GA and Military Operations Forecast												
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Windom Municipal Airport	MWM	10,639	-	672	-	-	-	-	5,655	5,655	5,655	4,524	1,131
Moose Lake-Carlton County Airport	MZH	5,649	-	-	-	-	-	1,009	2,996	3,662	2,663	1,997	1,997
Winona Municipal Airport - Max Conrad Field	ONA	9,677	957	1,451	606	429	20	368	10,806	2,702	8,105	2,702	2,702
Orr Regional Airport	ORB	3,056	-	-	-	-	-	-	1,222	1,834	917	2,139	-
Worthington Municipal Airport	OTG	11,902	-	1,567	-	-	408	-	5,551	8,326	6,939	6,939	-
Olivia Regional Airport	OVL	3,162	-	-	-	-	-	1,239	2,597	1,804	1,832	1,714	855
Owatonna Degner Regional Airport	OWA	40,623	-	1,527	-	-	200	968	20,857	22,461	18,031	16,870	8,418
Paynesville Municipal Airport	PEX	6,945	-	283	-	-	-	180	4,963	2,445	741	5,926	741
Park Rapids Municipal Airport - Konshok Field	PKD	19,385	-	2,086	-	-	20	-	10,746	10,746	8,946	8,370	4,176
Princeton Municipal Airport	PNM	18,013	-	709	-	524	240	-	9,743	9,743	2,923	14,615	1,949
Pipestone Municipal Airport	PQN	9,868	-	564	-	-	24	-	5,228	5,228	10,456	-	-
Pine River Regional Airport	PWC	15,754	575	698	728	-	-	442	10,918	7,279	1,820	13,647	2,729
Red Wing Regional Airport	RGK	14,550	2,050	746	519	-	561	-	5,528	12,899	13,820	3,685	921
Rush City Regional Airport	ROS	33,176	-	518	-	766	8	328	17,398	17,398	3,480	13,919	17,398
Roseau Municipal Airport - Rudy Billberg Field	ROX	10,855	-	-	-	-	-	810	1,166	10,498	10,498	1,166	-
Warroad International Memorial Airport	RRT	6,864	666	404	2,532	-	-	256	7,506	3,217	8,579	1,608	536
Rochester International Airport	RST	44,209	3,319	2,014	-	993	187	426	29,666	21,482	40,918	7,672	2,557
Redwood Falls Municipal Airport	RWF	11,440	-	3,087	-	1,522	240	1,958	12,408	5,839	5,474	12,408	365
Staples Municipal Airport	SAZ	11,790	-	646	-	-	-	819	6,628	6,628	2,651	9,279	1,326
Blue Earth Municipal Airport	SBU	12,896	-	-	2,146	761	-	-	11,852	3,951	7,111	7,111	1,580
South St. Paul Municipal Airport - Fleming Field	SGS	83,660	-	3,268	8,185	1,450	-	1,243	63,573	34,232	37,166	53,793	6,846
St. Cloud Regional Airport	STC	44,626	6,315	2,395	-	-	2,303	-	41,730	13,910	16,692	11,128	27,820
Tracy Municipal Airport	TKC	3,951	-	-	-	-	-	-	2,370	1,580	1,580	1,975	395
Dodge Center Municipal Airport	TOB	12,517	-	-	-	423	-	725	3,416	10,248	4,099	4,099	5,466
Thief River Falls Regional Airport	TVF	27,472	6,232	1,261	2,631	-	80	799	13,082	25,394	11,543	7,695	19,238
Two Harbors Municipal - Richard B. Helgeson Field	TWM	10,310	-	268	-	396	-	1,019	7,195	4,797	1,199	8,394	2,398
New Ulm Municipal Airport	ULM	9,756	-	1,869	975	-	8	-	9,457	3,152	8,826	2,522	1,261
Ortonville Municipal Airport - Martinson Field	VVV	6,497	-	-	-	-	-	-	1,949	4,548	3,249	2,599	650
Waskish Municipal Airport	VWU	306	-	-	-	-	-	-	199	107	46	260	-
Longville Municipal Airport	XVG	10,881	-	611	-	-	-	-	4,022	7,470	575	10,917	-
Walker Municipal Airport	Y49	12,146	-	922	-	2,727	-	-	11,056	4,738	3,159	12,636	-
Sleepy Eye Municipal Airport	Y58	1,574	-	-	525	372	-	479	1,741	1,209	1,228	1,149	573
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	5,351	-	-	-	-	-	190	1,847	3,694	2,306	2,158	1,077

Source: HNTB Analysis

Figure C-30: (2010 – 2015) Average Annual Growth Rate of Based Aircraft
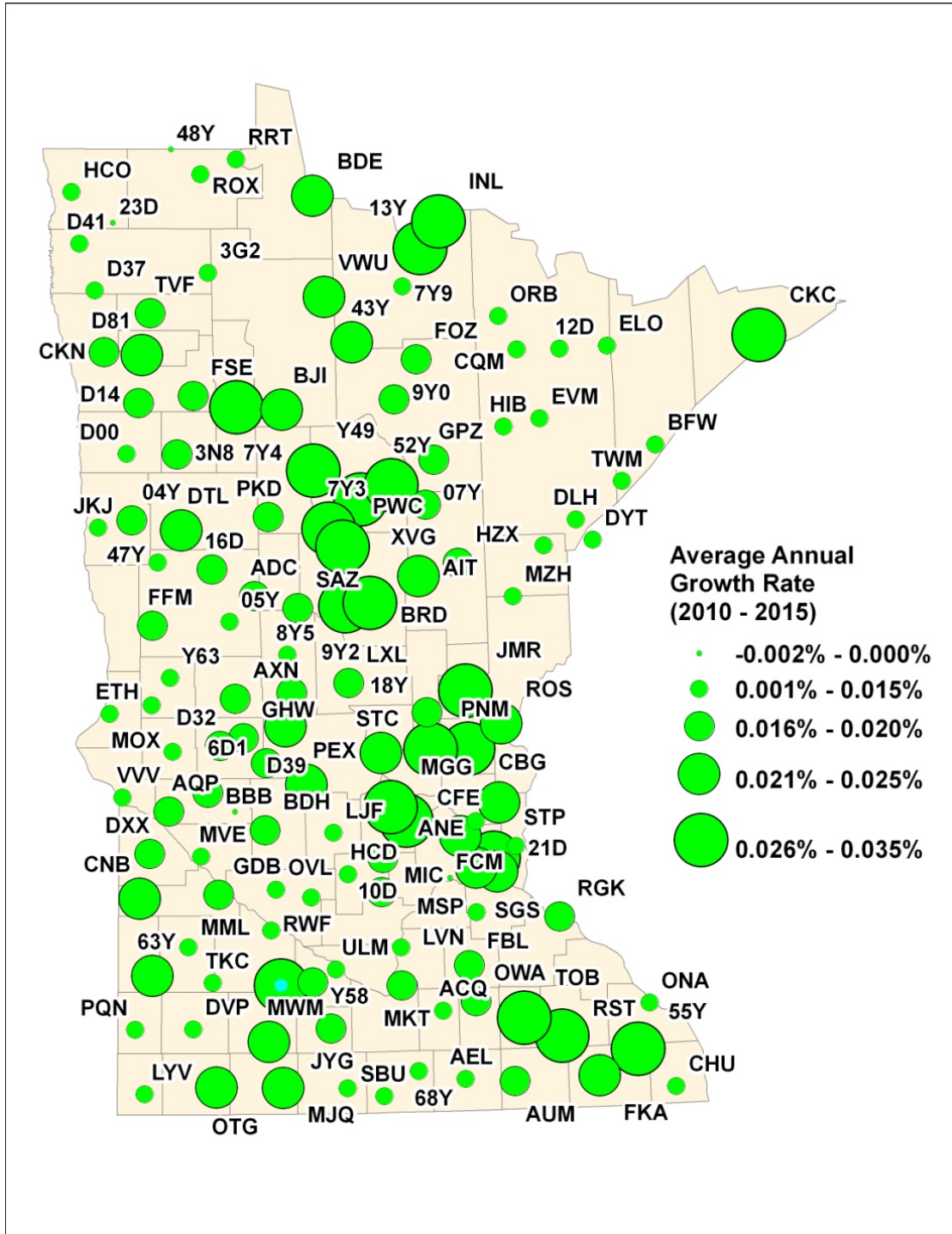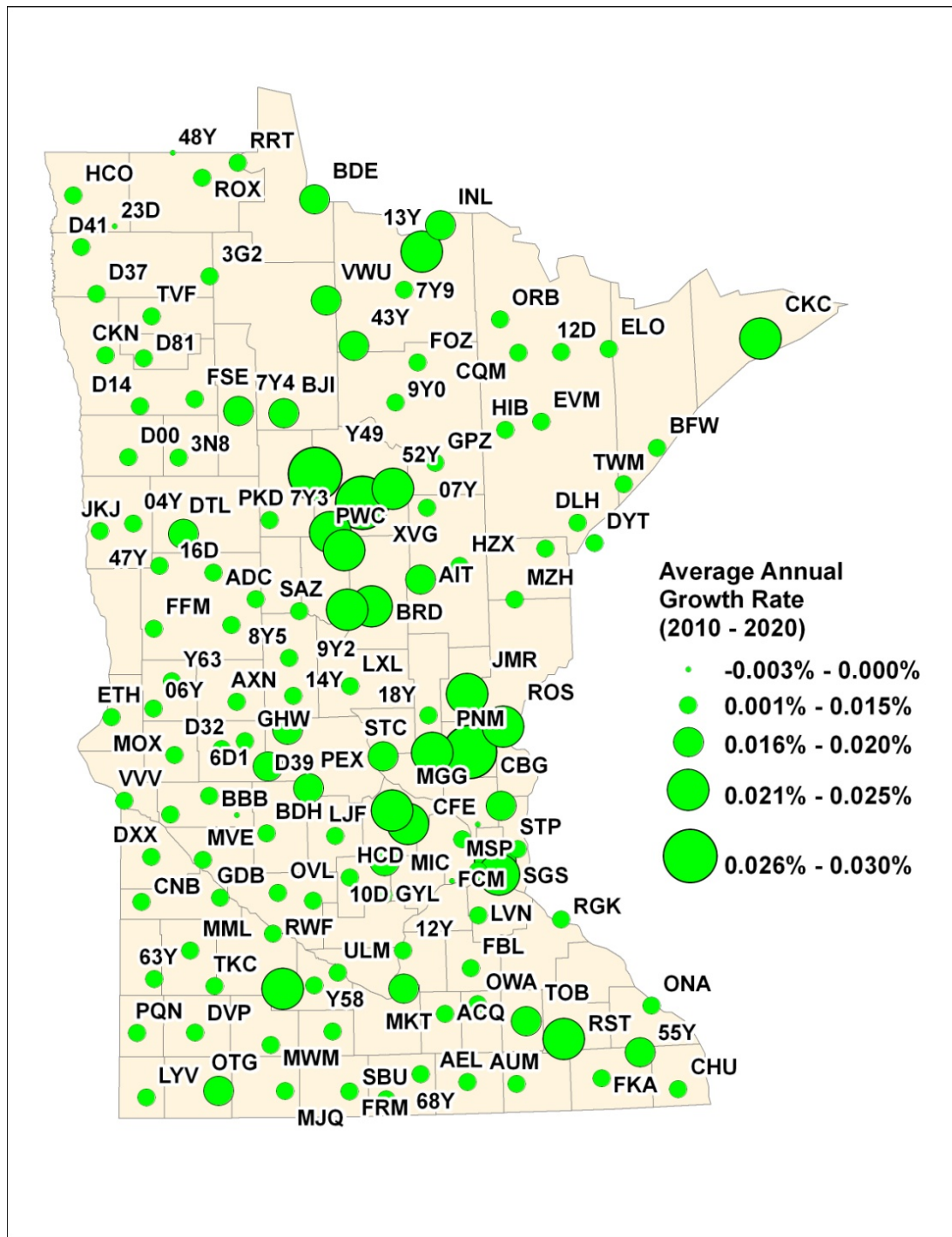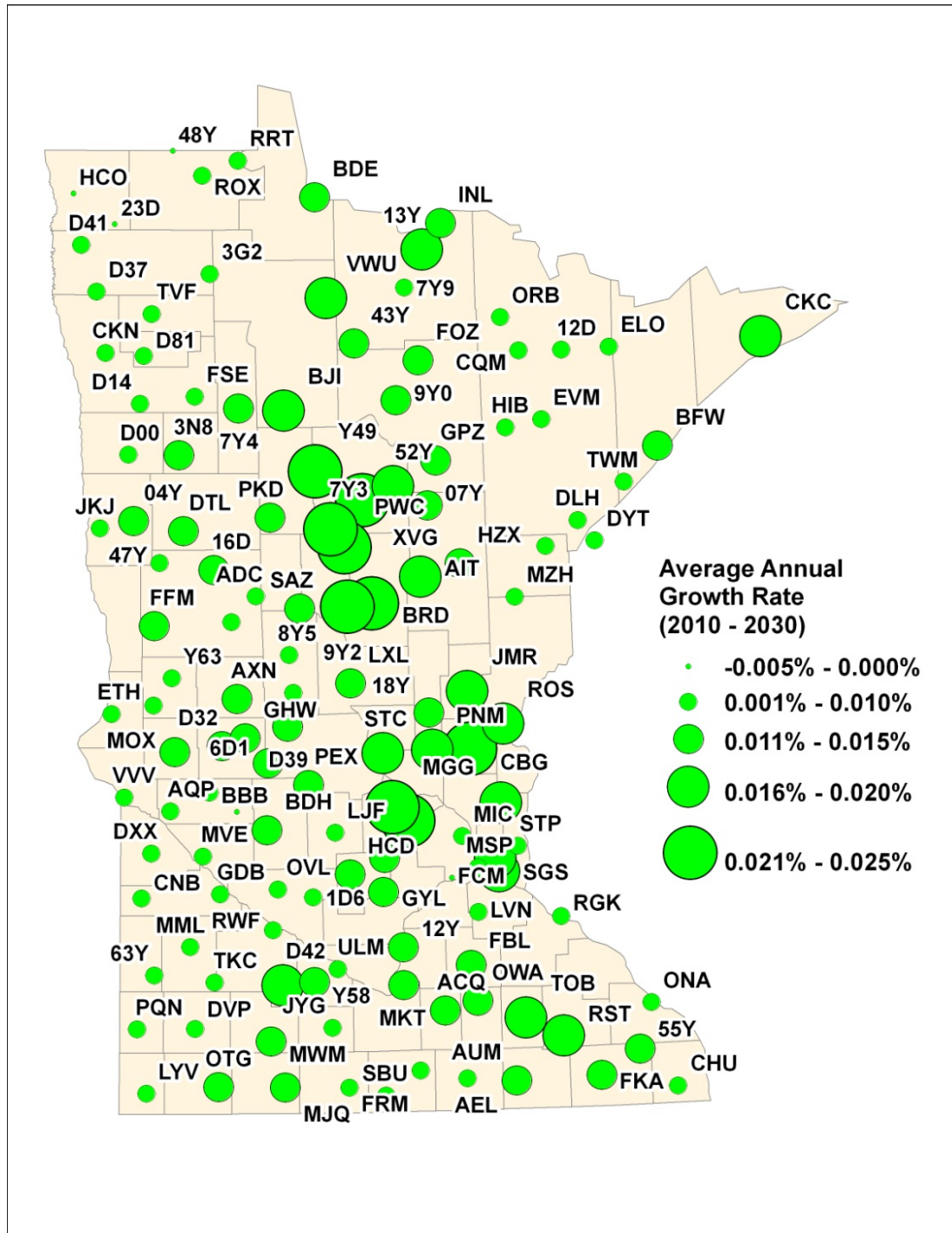

Source: HNTB Analysis

Figure C-31: (2010 – 2020) Average Annual Growth Rate of Based Aircraft

Source: HNTB Analysis

FORECAST TECHNICAL REPORT

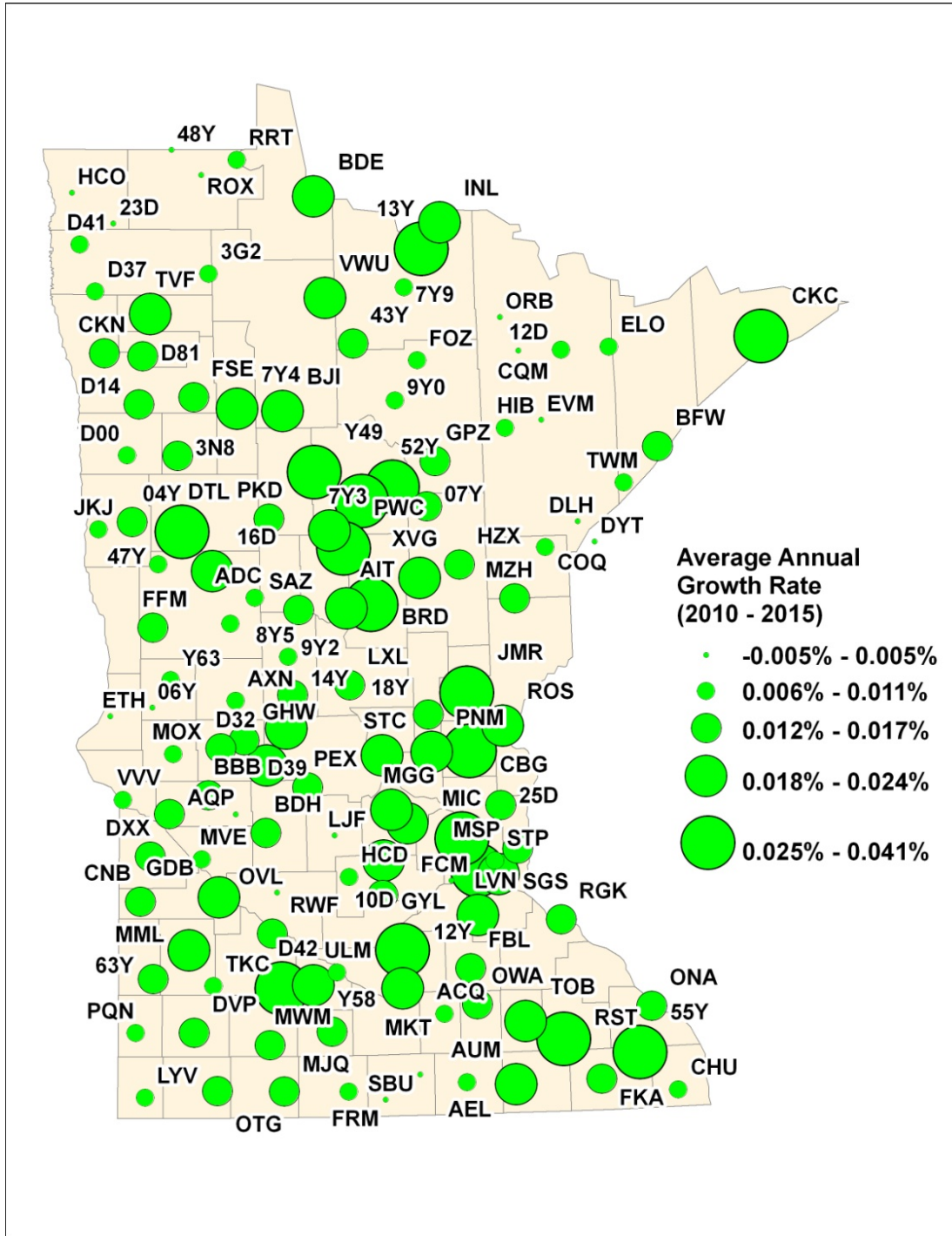### Figure C-32: (2010 – 2030) Average Annual Growth Rate of Based Aircraft

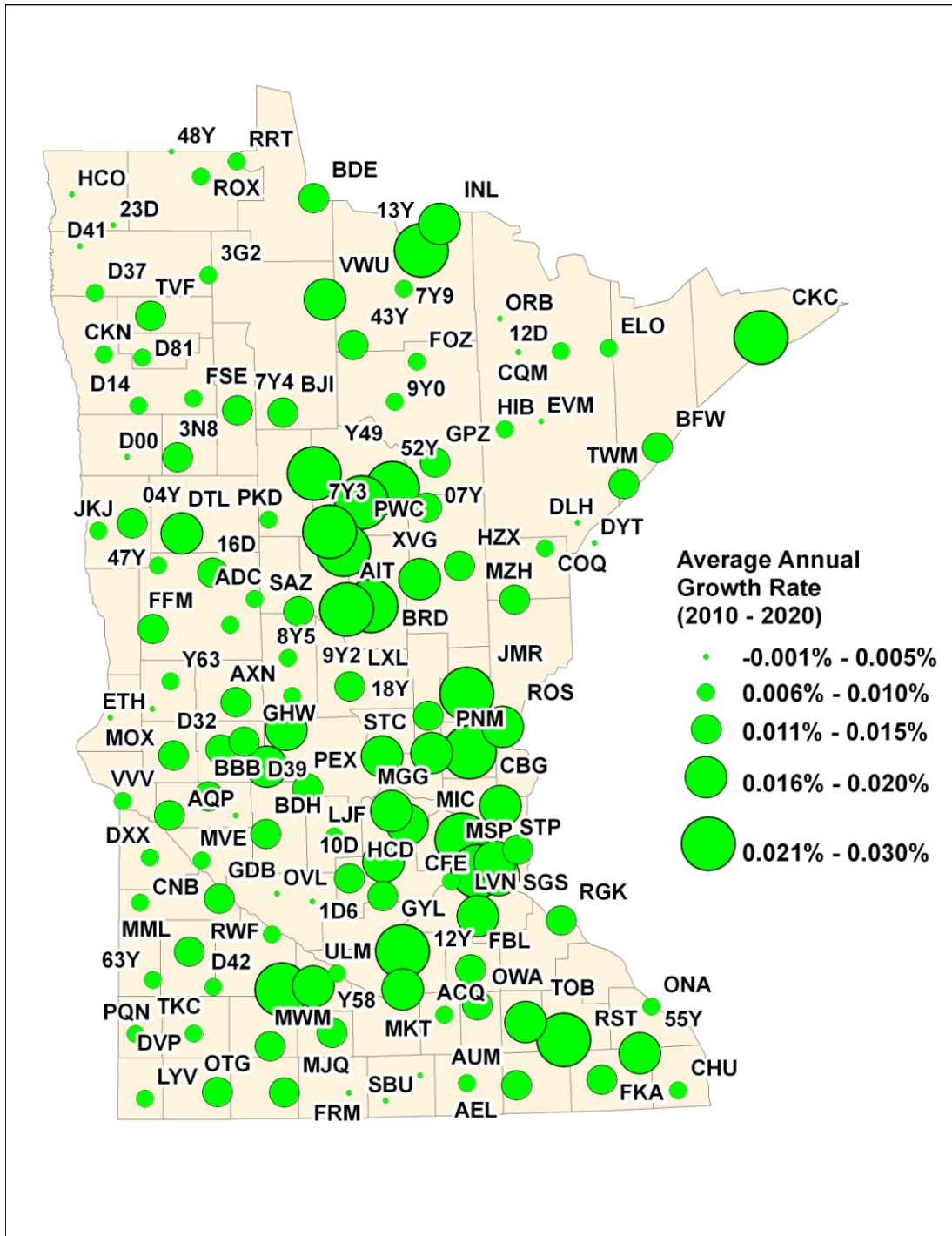Source: HNTB Analysis

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Figure C-33: (2010 – 2015) Average Annual Growth Rate of GA and Military Operations

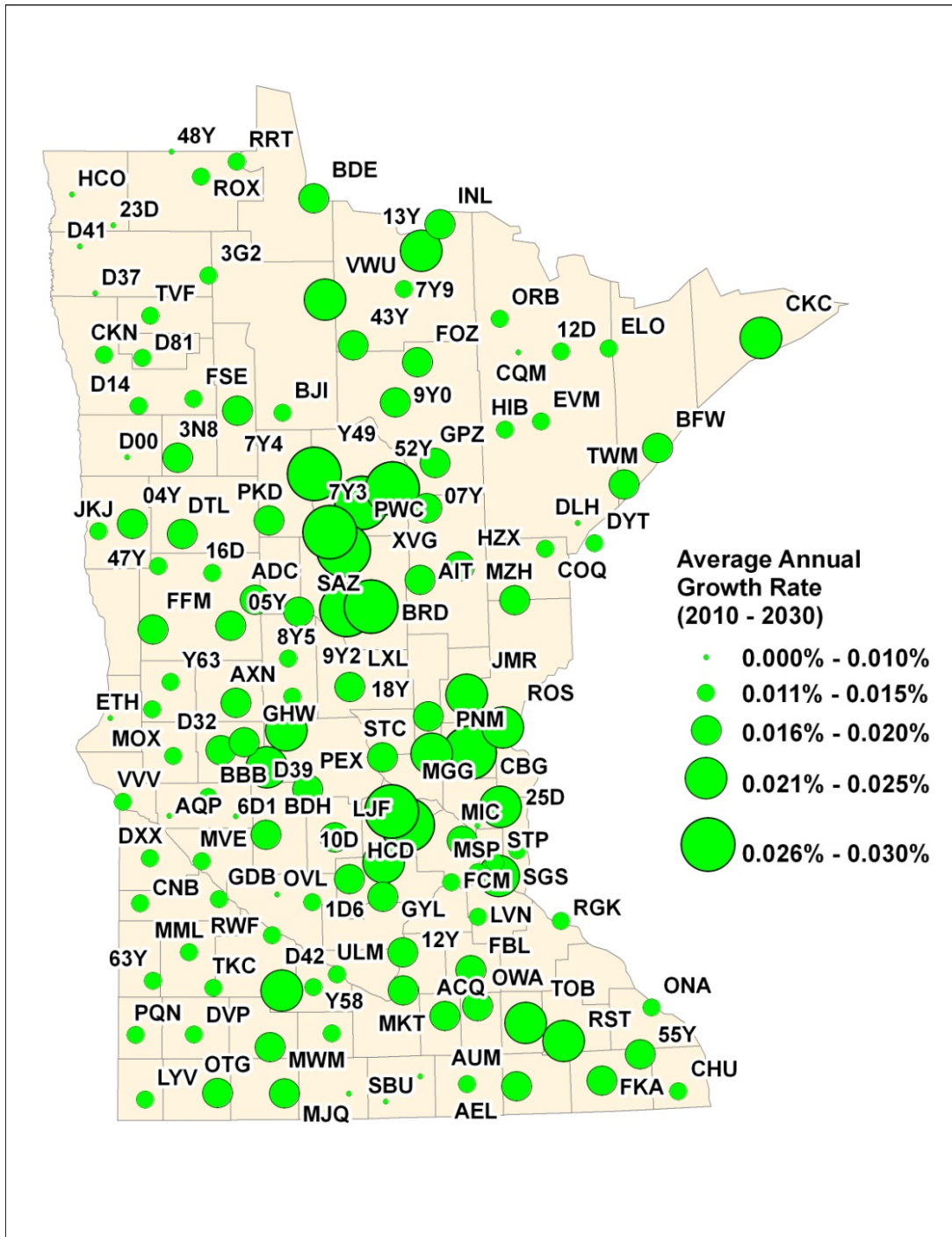Source: HNTB Analysis

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Figure C-34: (2010 – 2020) Average Annual Growth Rate of GA and Military Operations

Source: HNTB Analysis

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Figure C-35: (2010 – 2030) Average Annual Growth Rate of GA and Military Operations

Source: HNTB Analysis

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Table C-29: General Aviation Peak Hour Activity Level Forecast

GA Peak Hour Operations					
Airport Name	ID	2010	2015	2020	2030
Crystal Airport	MIC	27	31	34	39
Airlake Airport	LVN	23	26	27	31
Lake Elmo Airport	21D	18	19	20	23
St. Paul Downtown Airport - Holman Field	STP	42	44	49	55
Anoka County/Blaine Airport - Janes Field	ANE	31	32	33	36
Flying Cloud Airport	FCM	42	41	44	52
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	6	8	8	8
Hawley Municipal Airport	04Y	5	6	6	7
Henning Municipal Airport	05Y	2	2	2	3
Herman Municipal Airport	06Y	2	2	2	2
Hill City-Quadna Mountain Airport	07Y	1	1	1	1
Winsted Municipal Airport	10D	7	8	8	10
Tower Municipal Airport	12D	5	5	5	6
Le Sueur Municipal Airport	12Y	9	10	11	13
Littlefork Municipal Airport - Hanover Airport	13Y	2	2	2	2
Long Prairie Municipal Airport - Todd Field	14Y	4	5	5	6
Perham Municipal Airport	16D	5	5	5	6
Milaca Municipal Airport	18Y	7	7	8	10
Hector Municipal Airport	1D6	5	5	5	6
Karlstad Municipal Airport	23D	1	1	1	1
Murdock Municipal Airport	23Y	1	1	1	1
Forest Lake Airport	25D	6	6	7	9
Grygla Municipal Airport - Mel Wilkens Field	3G2	1	1	1	1
Mahnomen County Airport	3N8	3	3	3	4
Northome Municipal Airport	43Y	1	1	1	1
Pelican Rapids Municipal Airport - Lyon's Field	47Y	2	2	2	2
Piney-Pinecreek Border Airport	48Y	1	1	1	1
Remer Municipal Airport	52Y	1	1	1	2
Rushford Municipal Airport	55Y	1	1	2	2
Tyler Municipal Airport	63Y	1	1	1	1
Wells Municipal Airport	68Y	3	3	3	4
Brooten Municipal Airport	6D1	4	4	4	6
Backus Municipal Airport	7Y3	2	2	2	3

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GA Peak Hour Operations					
Airport Name	ID	2010	2015	2020	2030
Bagley Municipal Airport	7Y4	1	1	1	2
Big Falls Municipal Airport	7Y9	1	1	1	1
Clarissa Municipal Airport	8Y5	1	1	1	1
Bowstring Airport	9Y0	1	1	1	2
East Gull Lake Airport	9Y2	1	1	1	1
Waseca Municipal Airport	ACQ	4	4	4	5
Wadena Municipal Airport	ADC	3	4	4	5
Albert Lea Municipal Airport	AEL	16	17	18	20
Aitkin Municipal Airport - Steve Kurtz Field	AIT	13	14	15	19
Appleton Municipal Airport	AQP	1	1	1	2
Austin Municipal Airport	AUM	16	18	18	22
Alexandria Municipal Airport - Chandler Field	AXN	16	17	18	23
Benson Municipal Airport - Veterans Field	BBB	3	3	3	4
Baudette International Airport	BDE	7	8	8	10
Willmar Municipal Airport - John L. Rice Field	BDH	11	12	13	16
Silver Bay Municipal Airport - Wayne Johnson	BFW	2	2	2	3
Bemidji Regional Airport	BJI	5	6	6	7
Brainerd Lakes Regional Airport	BRD	22	25	28	37
Cambridge Municipal Airport	CBG	11	12	14	18
Buffalo Municipal Airport	CFE	14	16	17	23
Houston County Airport	CHU	2	2	2	3
Grand Marais-Cook County Airport	CKC	2	2	2	3
Crookston Municipal Airport - Kirkwood Field	CKN	18	19	19	23
Canby Municipal Airport - Myers Field	CNB	4	5	5	6
Cloquet-Carlton County Airport	COQ	6	7	7	8
Cook Municipal Airport	CQM	4	4	4	4
Norman County/Ada/Twin Valley Airport	D00	2	2	2	2
Fertile Municipal Airport	D14	6	6	6	8
Starbuck Municipal Airport	D32	1	1	1	1
Warren Municipal Airport	D37	2	2	2	2
Sauk Centre Municipal Airport	D39	4	4	4	5
Stephen Municipal Airport	D41	3	3	3	4
Springfield Municipal Airport	D42	2	2	2	2
Red Lake Falls Municipal Airport	D81	2	2	2	2
Duluth International Airport	DLH	25	25	25	28

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GA Peak Hour Operations					
Airport Name	ID	2010	2015	2020	2030
Detroit Lakes Municipal Airport - Wething Field	DTL	10	11	12	14
Slayton Municipal Airport	DVP	2	2	2	2
Lac Qui Parle County Airport - Bud Frye Field	DXX	1	1	1	2
Duluth Sky Harbor Airport	DYT	9	9	9	11
Ely Municipal Airport	ELO	5	5	5	6
Wheaton Municipal Airport	ETH	1	1	1	1
Eveleth-Virginia Municipal Airport	EVM	5	5	5	6
Faribault Municipal Airport	FBL	12	12	13	16
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	6	6	7	8
Preston - Fillmore County Airport	FKA	4	4	5	6
Bigfork Municipal Airport	FOZ	2	2	2	2
Fairmont Municipal Airport	FRM	5	5	5	5
Fosston Municipal Airport	FSE	6	6	6	8
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	3	4	4	5
Glenwood Municipal Airport	GHW	3	3	3	4
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	12	13	14	17
Glencoe Municipal Airport - Vernon Perschau Field	GYL	7	7	8	10
Hutchinson Municipal Airport - Butler Field	HCD	8	8	8	10
Hallock Municipal Airport	HCO	3	3	3	3
Range Regional Airport	HIB	17	17	18	21
McGregor - Isedor Iverson Airport	HZX	3	3	3	4
Falls International Airport	INL	10	11	12	14
Moorhead Municipal Airport	JKJ	6	6	6	7
Mora Municipal Airport	JMR	6	7	7	9
St. James Municipal Airport	JYG	3	3	3	4
Litchfield Municipal Airport	LJF	6	6	6	8
Little Falls-Morrison County Airport	LXL	6	6	7	8
Luverne Municipal Airport - Quentin Aanenson Field	LYV	7	7	7	9
Maple Lake Municipal Airport	MGG	6	6	7	10
Jackson Municipal Airport	MJQ	4	4	4	5
Mankato Regional Airport - Sohler Field	MKT	64	70	75	90
Southwest Minnesota Regional-Marshall/Ryan Field	MML	14	16	16	18
Morris Municipal Airport - Charlie Schmidt Field	MOX	4	4	4	5
Montevideo-Chippewa County Airport	MVE	8	8	8	10
Windom Municipal Airport	MWM	5	6	6	7

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GA Peak Hour Operations					
Airport Name	ID	2010	2015	2020	2030
Moose Lake-Carlton County Airport	MZH	3	3	3	4
Winona Municipal Airport - Max Conrad Field	ONA	7	7	7	8
Orr Regional Airport	ORB	2	2	2	2
Worthington Municipal Airport	OTG	6	7	7	9
Olivia Regional Airport	OVL	2	2	2	3
Owatonna Degner Regional Airport	OWA	19	20	21	27
Paynesville Municipal Airport	PEX	3	3	4	5
Park Rapids Municipal Airport - Konshok Field	PKD	10	10	11	13
Princeton Municipal Airport	PNM	8	8	9	12
Pipestone Municipal Airport	PQN	5	5	5	7
Pine River Regional Airport	PWC	7	8	9	11
Red Wing Regional Airport	RGK	9	9	10	12
Rush City Regional Airport	ROS	14	15	16	22
Roseau Municipal Airport - Rudy Billberg Field	ROX	6	6	6	7
Warroad International Memorial Airport	RRT	5	6	6	7
Rochester International Airport	RST	16	18	19	25
Redwood Falls Municipal Airport	RWF	9	10	10	11
Staples Municipal Airport	SAZ	6	6	7	8
Blue Earth Municipal Airport	SBU	9	9	9	10
South St. Paul Municipal Airport - Fleming Field	SGS	39	42	46	61
St. Cloud Regional Airport	STC	49	55	58	72
Tracy Municipal Airport	TKC	2	2	2	2
Dodge Center Municipal Airport	TOB	6	6	7	9
Thief River Falls Regional Airport	TVF	19	21	21	24
Two Harbors Municipal - Richard B. Helgeson Field	TWM	6	6	6	7
New Ulm Municipal Airport	ULM	6	6	7	8
Ortonville Municipal Airport - Martinson Field	VVV	3	3	3	4
Waskish Municipal Airport	VWU	0	0	0	0
Longville Municipal Airport	XVG	4	5	5	7
Walker Municipal Airport	Y49	6	7	8	10
Sleepy Eye Municipal Airport	Y58	1	2	2	2
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	3	3	3	3

Source: HNTB Analysis

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