APPENDIX E
SOUTH ST. PAUL MUNICIPAL AIRPORT STRATEGIC BUSINESS PLAN

SOUTH ST. PAUL MUNICIPAL AIRPORT STRATEGIC BUSINESS PLAN

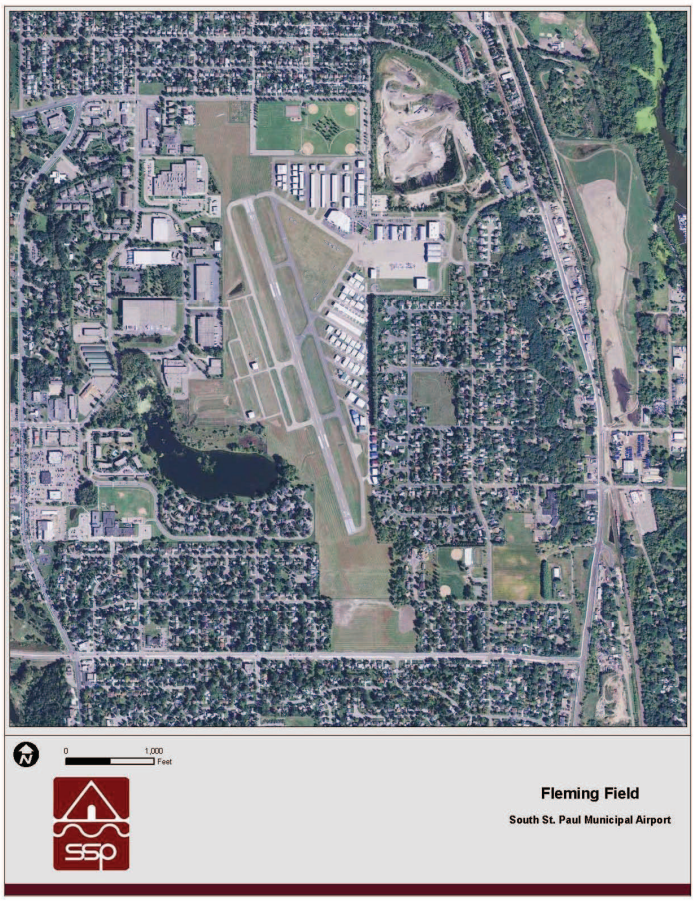
SECTION 1: AIRPORT & REGIONAL OVERVIEW

1.1 Airport Overview

South St. Paul Municipal Airport – Fleming Field (SGS) is a busy general aviation airport located in South St. Paul, Minnesota. The airport is owned and operated by the City of South St. Paul and is located less than three (3) miles south of South St. Paul's central business district. The Federal Aviation Administration (FAA) classifies the airport as a general aviation reliever airport. General aviation pilots use reliever airports as alternative locations when flying to areas that have a high demand for commercial air carrier airports. South St. Paul Municipal Airport (SGS) is one of seven (7) general aviation reliever airports to Minneapolis-St. Paul International Airport.

Regionally, the airport is located approximately 15 miles south of Minneapolis and 70 miles north of Rochester. Interstate 494 and US Highway 52 provide access to the airport. SGS is situated on approximately 270 acres with nearly all aviation-related development on the north and east sides of the Airport adjacent to Runway 16/34. An aerial view of the airport, facilities, and the runway orientation is shown in **Exhibit 1**.

Exhibit 1: South St. Paul Municipal Airport (SGS)



1.1.1 Airport Activity

As a general aviation airport, SGS's quantifiable measures of aircraft activity have historically included the number of aircraft based at the airport and of the volume of aircraft operations experienced at the airport on an annual basis. Summaries of these measures are discussed below.

1.1.1.1 Based Aircraft

Based aircraft are general aviation aircraft that are permanently stored at an airport either in hangars or on tie-down spaces for 6 months or longer. Based aircraft numbers frequently fluctuate for a variety of reasons including seasonality, on-airport aviation services, pilot preferences, and the availability of storage spaces (hangars or tie-down). Historic levels of based aircraft at SGS are shown in **Table 1**.

Table 1: SGS Historical Based Aircraft

Year	Total Based Aircraft
1998	273
1999	273
2000	273
2001	273
2002	273
2003	273
2004	273
2005	273
2006	217
2007	217
2008	237
2009	237
2010	223
2011	223
2012	220

Source: SGS; Metropolitan Airport Commission; FAA Terminal Area Forecast and 5010 Form
Prepared: November 2012

1.1.1.2 Aircraft Operations

Aircraft operations represent landings and takeoffs at an airport, and are classified by the FAA as either local or itinerant. An operation is classified as "local" if it falls into one of the three following actions: a takeoff or landing performed by an aircraft that operates within the sight of the airport; an aircraft simulating approaches at the airport; or an aircraft performing touch-and-go operations at the airport. An operation is classified as "itinerant" if it is performed by aircraft with a specific origin or destination away from the airport. Generally, local operations are characterized by training operations, while transient operations reflect recreational, business, or commercial use. Air taxi operations are another category of operations, which are typically charter aircraft operating on shorter routes than commercial passenger carriers between airports not serviced by scheduled airlines. Estimated historical levels of operations at SGS are shown in **Table 2**.

Table 2: SGS Historical Air Taxi and General Aviation Operations

Year	Air Taxi	Itinerant	Local	Total
1998	0	9,000	42,000	51,000
1999	795	7,536	35,168	43,499
2000	795	7,660	35,168	43,623
2001	0	9,000	42,000	51,000
2002	0	9,000	42,000	51,000
2003	0	9,000	42,000	51,000
2004	0	9,000	42,000	51,000
2005	0	9,000	42,000	51,000
2006	0	9,000	42,000	51,000
2007	0	9,000	42,000	51,000
2008	0	9,000	42,000	51,000
2009	0	9,000	42,000	51,000
2010	0	9,000	42,000	51,000
2011	0	9,000	42,000	51,000
2012	0	9,000	42,000	51,000

Source: SGS; Metropolitan Airport Commission; FAA Terminal Area Forecast and 5010 Form
Prepared: November 2012

1.1.2 Airside Facilities: Runway System

The existing airfield configuration consists of one runway, designated Runway 16/34, and is oriented in a north-south direction. Runway 16/34 is 4,002 feet long and 100 feet wide. The runway is constructed of asphalt and can accommodate up to 30,000 pounds single-wheel gear and 57,000 pounds dual-wheel gear aircraft. Runway 16/34 has medium intensity runway lights (MIRL) and non-precision instrument runway markings. Both runway ends have precision approach path indicators (PAPIs).

1.1.3 Airside Facilities: Taxiway System

The airport has a 50 foot wide full length parallel taxiway (Taxiway A) on the east side of Runway 16/34 and a 40 foot wide partial parallel taxiway (Taxiway B) on the west side of the runway. Currently, there are five (5) associated stub taxiways providing access between the runway and Taxiway A, and three (3) stub taxiways providing access to Taxiway B on the west side of the runway. Both taxiways are equipped with retro reflective markers.

1.1.4 Airside Facilities: Approaches

There are currently three (3) published approaches at SGS and they are listed in **Table 3.**

Table 3: SGS Instrument Approach Procedures

Type of Approach	Runway Designation	Lowest Ceiling Minimum	Lowest Visibility Minimum
RNAV (GPS)	RWY 34	521' (AGL)	1-mile
LOC	RWY 34	481' (AGL)	1-mile
NDB or GPS-B	Circling	660' (AGL)	1-mile

Source: U.S. Terminal Procedures/13 December 2012
Prepared: November 2012

1.1.5 Landside Facilities: Hangars

Aircraft hangar structures at SGS currently include facilities that support the activities of the fixed base operator (FBO) and general aviation tenants.

The airport has a wide variety of City and privately-owned hangars that are primarily located on the east side of the airport, including corporate hangars, conventional hangars, and t-hangars. Nearly all of these hangars are occupied by either the FBO or other specialized aviation service operators (SASO). The largest tenant at the airport is Wipaire, Inc, a company that specializes in float manufacturing. Wipaire also provides additional services at the airport including full service aircraft repair/modification, gas turbine engine overhaul and repair, avionics, interiors and upholstery, and painting. Wipaire serves as the airport's FBO and occupies eight (8) hangars.

1.1.6 Landside Facilities: Aircraft Apron

SGS has 299,150 square yards of apron space for general aviation use. The majority of paved public use apron space is located on the east side of the airport directly east of Runway 16/34 and the terminal building with 13 aircraft tie-down positions. There is approximately 7,500 square yards of unpaved public use aircraft parking available adjacent to Taxiway CTA and CTC east of Runway 16/34 with approximately 20 aircraft tie-down positions. It is important to note that the overall number of parking positions can vary depending on the size of aircraft, with larger aircraft requiring more space, thus allowing for fewer positions.

1.1.7 Airport Businesses and Services

SGS is home to 16 businesses that support general aviation as reported on the airport's website in October 2012. The aviation-related businesses based at the airport are shown in **Table 4**.

Table 4: SGS Aviation-Related Businesses

Aviation Business	Aviation Service
Abtec Helicopters, LLC	Aerial Production, Maintenance, and Charter
Advanced Aviation Inc.	Maintenance
Alpha Aviation Inc.	Maintenance and Manufacturing
Alpha-Zulu, LLC	Flight Training
Ballistics Recovery Systems	Manufacturing
Cadotte Aero	Flight Training and Maintenance
Lake and Air Pilot Shop	Flight Training and Retail
Lysdale Flying Service	Aircraft Sales and Hangar Rental
Owen's Aero, LLC	Maintenance
Philson Aviation	Maintenance
Sierra Hotel Aero	Manufacturing
Spectrum	Charter/Medical Services
Stick-n-Rudder Flight Training, LLC	Flight Training
Team Epic Freeride, LLC	Flight Training
Twin Brothers Aviation	Maintenance
Wipaire, Inc.	Aircraft Rental, Avionics, FBO, Interiors, Maintenance, Manufacturing, and Painting

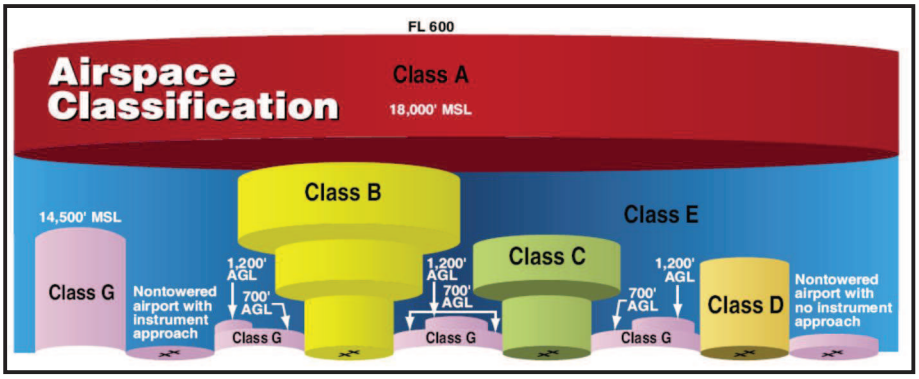
Source: Airport Management
Prepared: November 2012

1.1.8 Airspace

The U.S. airspace structure has two basic categories of airspaces, controlled and uncontrolled. Controlled airspace is a generic term that covers the different classifications of airspace (Classes A, B, C, D, and E) and defined dimensions within which air traffic control service is provided to instrument flight rules (IFR) flights and visual flight rules (VFR) in accordance with the airspace classification. Uncontrolled (Class G) airspace is that portion of the airspace that has not been designated Class A, B, C, D or E, and applies to airports that do not have an FAA, or FAA-certified, control tower that directly instructs pilots by radio. It is important to note that regardless as to whether an airport is controlled or uncontrolled, all aircraft (whether under direct radio control or not) operate within specific regulations of the FAA. Aircraft operating within controlled airspaces, many of which exist within the

SGS area, are subject to varying requirements for positive air traffic control (**Exhibit 2**). Additionally, the airspace for the study area is shown in **Exhibit 3**.

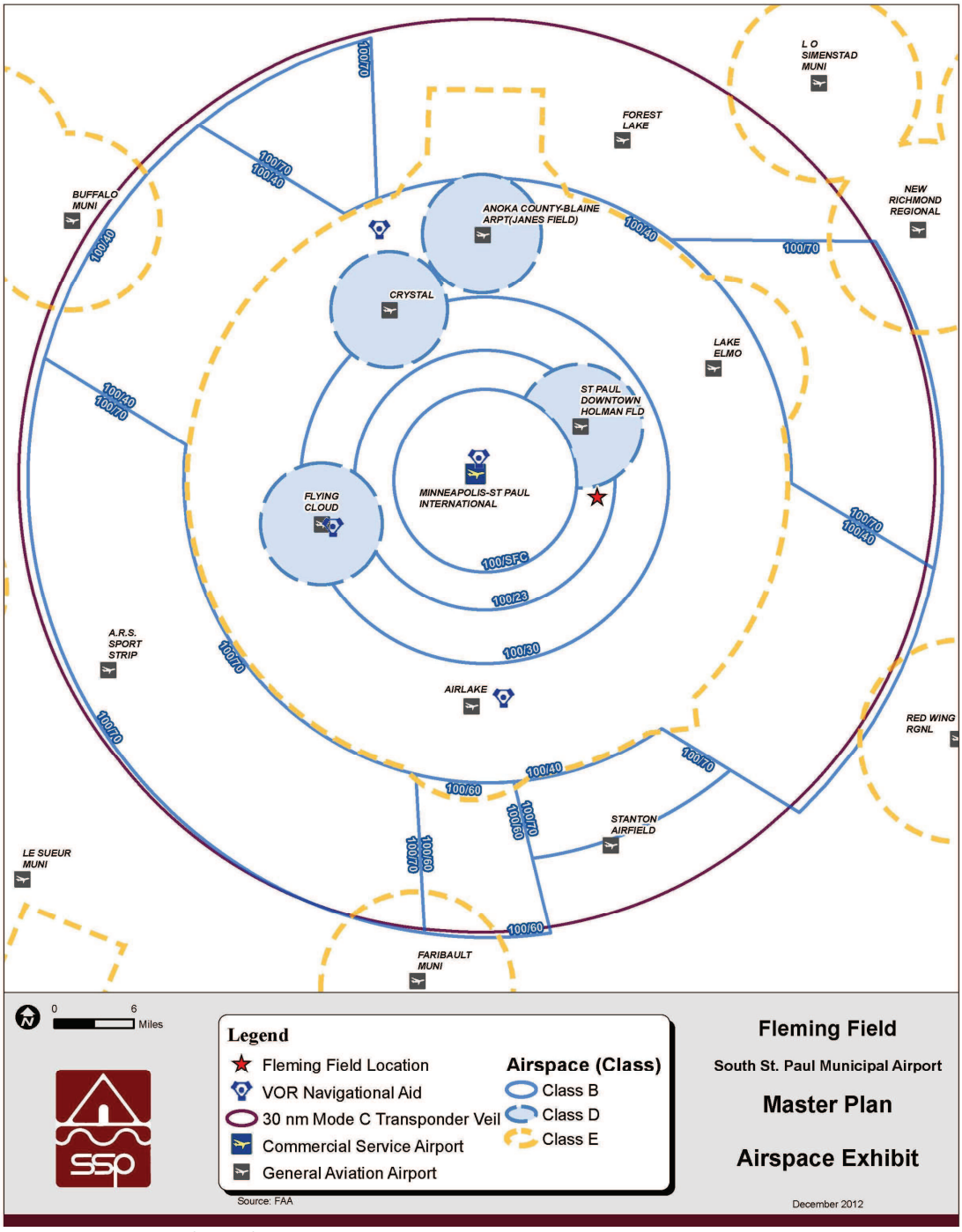
Exhibit 2: Airspace Classifications



Airspace			Flight Visibility	Distance from Clouds
Class A			Not applicable	Not applicable
Class B			3 statute miles	Clear of clouds
Class C			3 statute miles	1,000 feet above 500 feet below 2,000 feet horizontal
Class D			3 statute miles	1,000 feet above 500 feet below 2,000 feet horizontal
Class E	At or above 10,000 feet MSL		5 statute miles	1,000 feet above 1,000 feet below 1 statute mile horizontal
	Less than 10,000 feet MSL		3 statute miles	1,000 feet above 500 feet below 2,000 feet horizontal
Class G	1,200 feet or less above the surface (regardless of MSL altitude).	Day, except as provided in section 91.155(b)	1 statute mile	Clear of clouds
		Night, except as provided in section 91.155(b)	3 statute miles	1,000 feet above 500 feet below 2,000 feet horizontal
	More than 1,200 feet above the surface but less than 10,000 feet MSL.	Day	1 statute mile	1,000 feet above 500 feet below 2,000 feet horizontal
		Night	3 statute miles	1,000 feet above 500 feet below 2,000 feet horizontal
	More than 1,200 feet above the surface and at or above 10,000 feet MSL.		5 statute miles	1,000 feet above 1,000 feet below 1 statute mile horizontal

Source: Federal Aviation Administration – Pilots Handbook of Aeronautics Knowledge, 2007
Prepared: December 2012

Exhibit 3: Minneapolis Area Airspace



Source: FAA VFR Terminal Area Chart, June 2012-January 2013
Prepared: December 2012

It should be noted that this airspace structure is particularly complex given the location of other airports within the area, as well as the types and frequency of operations they accommodate. Minneapolis-St. Paul International Airport (MSP), one of the most active commercial service airports in the United Sates, lies at the center of the airspace. The airport is essentially surrounded by general aviation airports, many of which generate significant levels of their own aircraft operations. SGS is the closest general aviation airport to MSP and is subject to the limitations and capacity of the airspace.

1.1.9 Airport Management and Organizational Structure

As noted previously, SGS is owned and managed by the City of South St. Paul. The airport has its own managerial and administrative organization that fits into the overall organizational structure of the City of South St. Paul government. Within the organizational structure of the City, the airport falls under the Engineering Department, which reports directly to the City Administrator. The City Administrator then reports to the Mayor and the City Council.

SGS itself has a typical airport management and administrative structure consisting of an Airport Manager, maintenance staff, and an intern program that perform the primary functions of airport administration: airport operations, airport management, and airport planning. As describe above, the Airport Manager reports to the City Engineer who then reports to the City Administrator. The entire airport staff totals four (airport manager, intern, maintenance staff, and seasonal staff). The airport manager is the only full-time year-round position. Through an Intern Program, the airport is able to fund two intern positions. Each intern position is employed for 6 months and works 40 hours per week. The maintenance position is a part-time (14 hour per week) year-round position. During the summer months, the airports adds one seasonal staff to work 40 hours per week for 13 weeks. It is important to note that a small percentage (10%) of the City Engineer's time and salary are also allocated to the airport to oversee administrative issues and miscellaneous items associated with the airport.

While most of SGS lies within the City of South St. Paul limits (the south portion of the main hangar that is dedicated as airport property is located in the City of Inver Grove Heights), the airport must consider and coordinate with multiple jurisdictions. Article VI-Boards and Commissions of the South St. Paul's Code of Ordinances establishes the Fleming Field Advisory Commission. The commission consists of nine (9) members appointed by the city council and is comprised of:

- Two members from the airport's Tenant's Association,
- Two members from the airport's business community,
- Two airport users (one hangar owner and one aircraft/hangar renter),
- Two members from the airport's neighborhood (one resident of South St. Paul and one resident of Inver Grove Heights), and
- One member from an airport non-profit organization.

The airport manager and the City Engineer are non-voting members of the commission. The function of the commission is generally to act in an advisory capacity to the council and the airport manager on airport policies that impact or have the potential to impact the community.

1.1.10 Airport Operating Revenues and Expenditures

Airport revenues are typically generated through user fees charged by the airport for the facilities and services that are provided. These user fees are typically established by the airport based on market conditions in the area and vary airport-to-airport. Airport operating revenues are collected at SGS in the following categories:

- Intergovernmental

- Charges for Services
- Miscellaneous
- Transfers In-Operating

Landside facility development and levels of aviation activity are typically the primary factors that impact operating revenues. As additional development occurs, the number of based aircraft and itinerant operations increase, it is likely that operating revenues will increase in a corresponding fashion as leases are updated at the airport. Projections of future airport operating revenues will be outlined in a subsequent section of the Strategic Business Plan.

Airport operating revenues are offset by operating expenditures. Airport operating expenditures are comprised of day-to-day costs incurred by operating the airport. At SGS, operating expenditures can be broken down into the following categories:

- Personal Services
- Supplies
- Other Services and Charges
- Capital Outlay
- Miscellaneous
- Debt Service (External Debt)
- Debt Service (Internal Loan)
- Transfer Out – Operating
- Transfer Out – Capital

Similar to operating revenues, certain components of operating expenditures fluctuate with activity levels. However, there are some significant fixed expenditures, such as personnel, that could be maintained at or near current levels while accommodating significant increases (or decreases) in airport activity.

Historic airport operating revenues and expenses for SGS over the four most recent fiscal years is presented in **Table 5**. As shown, the airport's historic total revenues have slightly exceeded its total expenditures on an annual basis; meaning that the airport is consistently profitable. These net revenues are maintained by the airport for capital projects (i.e. improvements to facilities), planning studies, and other projects or items that may arise. It is important to note that this net revenue is maintained by the airport solely to be spent on airport-related activities and follows the policies of the Federal Aviation Administration (FAA) under Order 5190.6B (FAA Airport Compliance Manual) Section 15, Permitted and Prohibited Uses of Airport Revenue.

Table 5: Summary of SGS Historic Airport Operating Revenues and Expenses

Categories	FY2009	FY2010	FY2011	FY2012
Operating Revenues				
Intergovernmental Revenue	$29,269	$29,269	$38,588	$64,269
Charges for Services	$810,249	$1,025,634	$1,210,741	$1,209,447
Miscellaneous	$13,878	$6,686	$23,002	$2,890
Transfers In	$0	$0	$0	$0
Total Operating Revenues	*$853,396*	*$1,061,589*	*$1,272,331*	*$1,276,606*
Operating Expenditures				
Personal Services	$160,658	$158,454	$139,054	$159,833
Supplies	$470,163	$589,281	$728,683	$727,608
Other Services & Charges	$131,846	$193,977	$161,524	$186,969
Capital Outlay	$0	$7,695	$0	$67,983
Miscellaneous	$0	$949	$1,023	$1,160
Debt Service (External Debt)	$37,549	$37,549	$34,420	$38,696
Debt Service (Internal Loan)	$36,517	$43,614	$62,992	$40,000
Transfer Out – Operating	$0	$219,344	$0	$0
Transfer In – Capital	$0	$0	$0	$7,500
Total Operating Expenditures	$836,733	$1,250,863	$1,127,696	$1,229,749
Net Operating Income (Loss)	$16,663	($189,274)	$144,635	$46,857

Source: City of South St. Paul 2011, 2012, and 2013 Budgets
Prepared: January 2013
Note: South St. Paul Fiscal Year runs from January 1 to December 31.

1.1.11 Airport Setting and Surrounding Community

It is important to recognize that an airport is part of the larger neighborhood, community, and region that hosts it. Decisions made by the airport can have important implications for that local community and region. For more than 50 years, the SGS has seen the community grow around it. While much of the airport's facilities and operations have been described previously, the following sections provide additional information to provide an understanding of relationship between the airport and its neighbors.

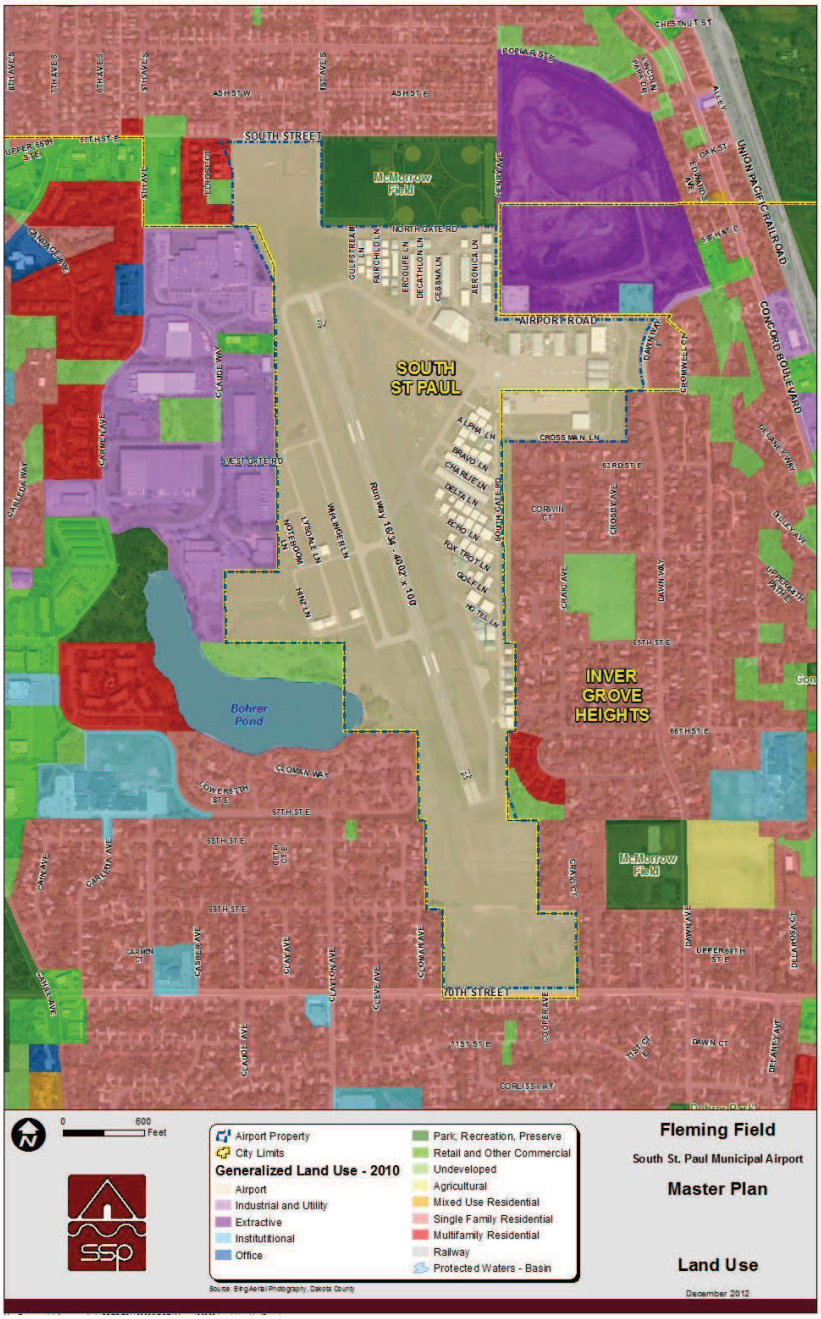
1.1.11.1 Surrounding Land Use and Zoning

Minnesota State Law allows municipalities to prepare comprehensive, generalized land use plans for lands under their current jurisdiction and for unincorporated sections of the county which are likely to be annexed by the city or town. General land use plans are often established and updated through comprehensive planning efforts. Local governments are required to regulate the subdivision of all lands within their corporate limits and may also prepare and adopt zoning ordinances and building codes. Zoning ordinances must be consistent with the comprehensive plan.

As noted previously, SGS is located within the boundaries of South St. Paul. However, to the west, south, and east, the City of Inver Grove Heights adjoins the airport's property. On March 20, 1990, the cities of South St. Paul, Inver Grove Heights, and Newport each adopted an airport zoning ordinance. This ordinance is managed by the South St. Paul Joint Airport Zoning Board. The ordinance includes FAA Part 77 regulations and provides airspace protection for the airport. The ordinance regulates the types of uses, type and manner of lighting used on properties in the area, and height of structures in and around the airport.

Generalized uses surrounding the airport are depicted in **Exhibit 4**.

Exhibit 4: SGS Area Generalized Land Uses



Source: Dakota County, Minnesota
Prepared: December 2012

Zoning north and south of the airport is predominately zoned single family residential with some park, recreational, preserve and undeveloped zoning scattered throughout. The property directly west and north of Bohrer Pond is zoned industrial and utility and undeveloped. South of Bohrer Pond and southwest of airport property, the land is zoned primarily single family residential with some institutional zoning incorporated. A softball complex, community park, and community gardens are located directly adjacent to airport on the northeast side of the property. Along the boundaries of Airport Road and Henry Avenue, non-airport property is zoned extractive, industrial and utility, and

institutional. East of the hangar development along South Gate Road is zoned residential (single-family and multi-family), undeveloped, and includes McMorrow Field.

1.1.11.1.1 Local Comprehensive Plans

The airport is included in the City of South St. Paul Comprehensive Plan 2010-2030 and is discussed within the transportation section. The comprehensive plan highlights the purpose of the airport, navigational aids available at the airport, future land uses, zoning, and airspace. Due to portions of the airport's safety zones falling within the boundaries of the cities of Inver Grove Heights and Newport, SGS is included in the comprehensive plans for both cities as well as the Dakota County plan.

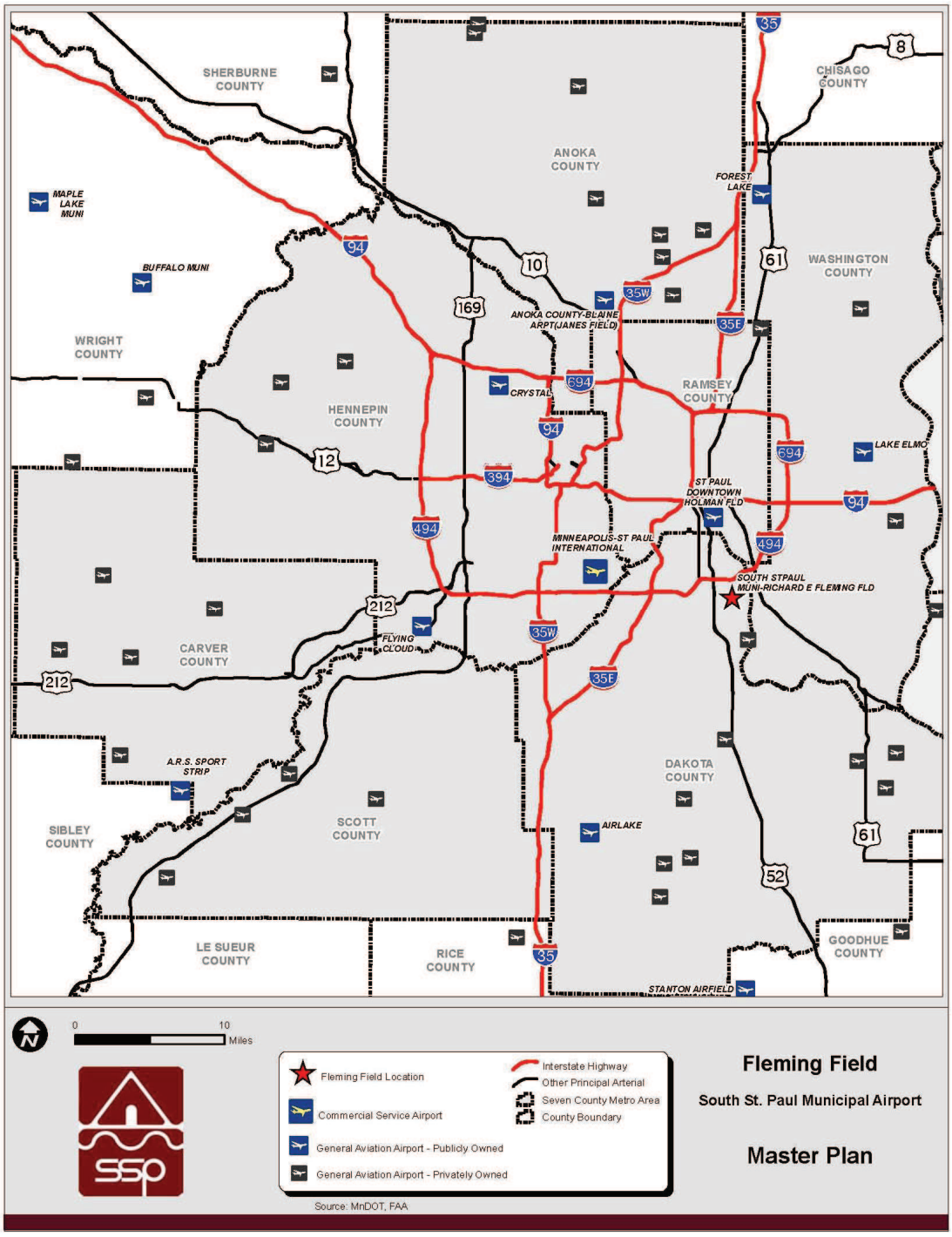
1.1.11.1.2 Local Zoning

Local zoning related to SGS has been established by the City of South St. Paul under City Code 1500.41 – Airport Zoning. The South St. Paul Joint Airport Zoning Board was created under this code by a joint action of several neighboring communities. Several ordinances are also contained within the code including airspace obstruction zoning and land use safety zoning. The Airport Zoning code also identifies the appropriate individual (i.e. city administrator, building inspector, or another planning official) who is responsible for administering and enforcing the regulations contained within the City Code 1500.41. The South St. Paul Building Inspector and Inver Grove Heights Building Inspector are responsible for administering and enforcing the regulations related to the airport.

1.2 Regional Overview

Generally speaking, SGS is located within a seven county region known as the Twin Cities Metro Area. The counties included in the region include: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington. Together, these seven counties serve as home for more than 2.8 million people and have an area of about 2,975 square miles. Within the context of the regional aviation system, there are 10 publicly-owned commercial service and general aviation airports and more than 30 privately-owned general aviation airports in the seven counties as depicted in **Exhibit 5**. As shown on Exhibit 5, a well-developed interstate and highway network provides excellent access to South St. Paul Municipal as well as the other airports in the region.

Exhibit 5: Location of SGS and Other Regional Airports



Source: Minnesota Department of Transportation and FAA
Prepared: November 2012

1.2.1 Aviation Regional Profile

The public use airport system in the Twin Cities Metro Area supports the economy and quality of life in a variety of ways. Statewide and regional studies and economic impact studies of airports show significant benefits to the region and provide a wide range of aviation services that support businesses, recreation, training, natural resources, emergency response, military missions, and personal mobility.

The 2030 Twin Cities Aviation System Plan conducted for the Metropolitan Council included 11 of the airports depicted in Exhibit 5. These airports include: Minneapolis-St. Paul International, Airlake, Anoka County-Blaine, Crystal, Flying Cloud, Lake Elmo, South St. Paul, St. Paul Downtown, Surfside Seaplane Base, and Wipline Seaplane Base. The study concluded that the region's airport system has an above average number of reliever airports in its system and higher levels of operations when compared to other major regional airport systems in Atlanta, Charlotte, Denver, Detroit, Philadelphia, and Pittsburgh. The study also determined that the airports in the region had a large number of based aircraft and specifically, based general aviation (corporate) jets.

The 11 airports included in the Metropolitan Council's 2010 Aviation System Plan provide residents and businesses of the Minneapolis-St. Paul region access to the state, nation, and the world's aviation system. Airside facilities range from 2,650-foot long runways to 11,006-foot long runways, most have full parallel taxiways, and all but three have instrument approaches (**Table 6**). When comparing landside facilities at the region's 11 airports, almost all have terminal buildings for general aviation pilots and passengers, hangar storage for aircraft, and fuel options for users (**Table 7**). Several of the airports (Minneapolis-St. Paul International, Anoka County-Blaine, Crystal, Flying Cloud, and St. Paul Downtown) also have an air traffic control tower. These airports accommodate nearly 1 million takeoffs and landings by general aviation aircraft, and are home to more than 1,700 based aircraft as shown in **Table 8**.

Table 6: Regional Airport Comparison – Airside Facilities

	Primary Runway Length (ft)	Taxiway	Instrument Approach
Minneapolis-St. Paul Int'l	11,006	Full	ILS
Airlake	4,098	Full	ILS
Anoka County-Blaine	5,000	Full	ILS
Crystal	3,263	Full	GPS
Flying Cloud	5,000	Full	ILS
Forest Lake	2,650	None	Visual
Lake Elmo	2,850	Full	RNAV(GPS)-LNAV
St. Paul Downtown	6,491	Full	ILS
South St. Paul Municipal	4,002	Full	LOC
Surfside SPB	6,500	N/A	Visual
Wipline SPB	8,000	N/A	Visual

Source: 2030 Twin Cities Aviation System Plan
Prepared: November 2012

Table 7: Regional Airport Comparison – Landside Facilities

	Terminal	Control Tower	Hangar Storage	Fuel
Minneapolis-St. Paul Int'l	Yes	Yes	Yes	AvGas/Jet A
Airlake	Yes	No	Yes	AvGas/Jet A
Anoka County-Blaine	Yes	Yes	Yes	AvGas/Jet A
Crystal	Yes	Yes	Yes	AvGas/Jet A
Flying Cloud	Yes	Yes	Yes	AvGas/Jet A
Forest Lake	Yes	No	Yes	AvGas
Lake Elmo	Yes	No	Yes	AvGas/Jet A
St. Paul Downtown	Yes	Yes	Yes	AvGas/Jet A
South St. Paul Municipal	Yes	No	Yes	AvGas/Jet A
Surfside SPB	No	No	Yes	AvGas
Wipline SPB	No	No	Yes	AvGas/Jet A

Source: 2030 Twin Cities Aviation System Plan and FAA Form 5010
Prepared: November 2012

Table 8: Regional Airport Comparison – Activity

	Based Single- and Multi-Engine Aircraft	Based Jet Aircraft	General Aviation Operations
Minneapolis-St. Paul Int'l	29	147	38,360
Airlake	137	0	65,000
Anoka County-Blaine	367	13	195,500
Crystal	184	0	187,386
Flying Cloud	312	13	123,904
Forest Lake	18	0	8,000
Lake Elmo	181	0	74,127
St. Paul Downtown	41	27	150,994
South St. Paul Municipal	220	0	51,000
Surfside SPB	45	0	4,100
Wipline SPB	5	0	230

Source: FAA Form 5010
Prepared: November 2012

1.2.2 Population Profile and Trends

Quantifying changes in population is an indirect method for assessing aviation demand. In general, demand for aviation services in a study area tends to reflect changes in that area's population. As population increases, there naturally tends to be an increase in the level of demand. **Table 9** details historic, current, and project study area population by county through 2030 using Metropolitan Council data. Metropolitan Council is the regional planning agency serving the Twin Cities seven (7) county metropolitan area. The total 2011 population for the seven (7) county study area was nearly 2.9-million people, of which 14% are located in Dakota County. The study area population is projected to grow at an average annual compound growth rate of 1.31% between 2010 and 2030, and Dakota County' employment is anticipated to mirror the study area's growth rate at 1.36% during the same time period.

Table 9: Study Area Population by County – 2000 through 2030

	2000	2010	2011	2020	2030	CAGR 2010-2030
Anoka	298,084	330,884	334,053	407,070	437,550	1.36%
Carver	70,205	91,042	92,104	162,880	198,500	3.91%
Dakota	355,904	398,552	401,221	484,175	525,275	1.36%
Hennepin	1,116,206	1,152,425	1,163,060	1,311,115	1,397,310	0.92%
Ramsey	511,035	508,640	510,810	567,960	585,360	0.68%
Scott	89,498	129,928	131,556	182,620	220,870	2.62%
Washington	201,130	238,136	240,640	317,613	362,090	2.06%
Total	**2,642,062**	**2,849,567**	**2,873,444**	**3,334,000**	**3,726,955**	**1.31%**

Source: Metropolitan Council
Prepared: November 2012

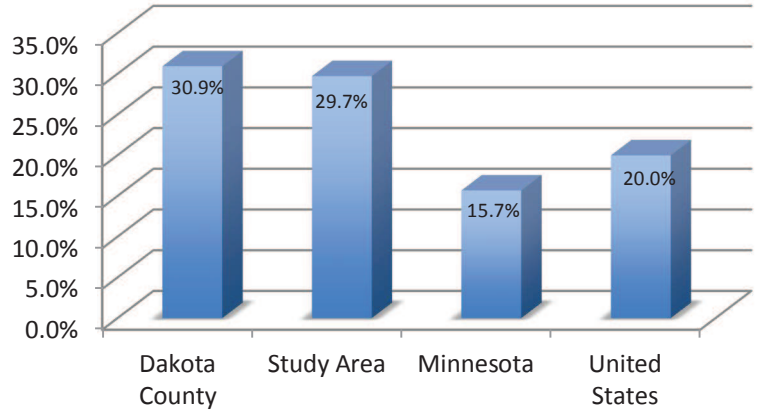
Table 10 shows the comparative population statistics for the same time period but for Dakota County, the Study Area, Minnesota, and the United States. As shown in **Exhibit 6**, the total population for the Study Area will grow by nearly 30% to 3.7 million by 2030 and Dakota County is project to grow nearly 31% to 525,275 during the same time period (2011 to 2030).

Table 10: Study Area Population Comparison – 2000 through 2030

	2000	2010	2011	2020	2030
Dakota County	355,904	398,552	401,221	484,175	525,275
Study Area	2,642,062	2,849,567	2,873,444	3,334,000	3,726,955
Minnesota	4,919,479	5,303,925	5,344,861	5,772,258	6,182,306
United States	282,171,957	308,745,538	311,591,917	341,251,668	373,827,815

Source: Metropolitan Council and Minnesota State Demographic Center
Prepared: November 2012

Exhibit 6: Study Area Population Comparison – 2011 through 2030



Source: Metropolitan Council and Minnesota State Demographic Center
Prepared: November 2012

1.2.3 Employment and Income

There are a number of demographic factors that impact, to varying degrees, the demand for general aviation in any particular region. In addition to population trends, regional economic trends can also significantly impact aviation demand. Examining statistics related to the primary employment sectors of a region can be an important indicator for understanding the underpinnings of an area's economy. Current employment distribution by industry for South St. Paul and its neighbor, Inver Grove Heights, is shown in **Table 11**. Historic, current, and projected total employment within the study area is

shown in **Table 12**. The study area employment is projected to grow at an average annual compound growth rate of 1.03% between 2010 and 2030, and Dakota County's employment is anticipated to achieve a slightly higher average annual compound growth rate at 1.22% during the same time period.

Table 11: Employment Distribution by Industry for South St. Paul and Inver Grove Heights

Industry	South St. Paul	Inver Grove Heights
Construction	331	595
Manufacturing	1,463	464
Wholesale Trade	557	1,172
Retail Trade	1,259	1,614
Transportation and Warehousing	250	349
Finance and Insurance	506	164
Real Estate, Rental and Leasing	528	107
Administration and Waste Services	447	454
Accommodation and Food Services	209	972
Public Administration	237	385
Other Services, Excluding Public Administration	1,334	282

Source: Progressive Plus
Prepared: November 2012

Table 12: Study Area Employment by County – 2000 through 2030

	2000	2010	2020	2030	CAGR 2010-2030
Anoka	110,050	124,790	141,970	154,690	1.08%
Carver	28,740	41,200	52,090	59,630	1.87%
Dakota	154,242	192,270	219,960	245,090	1.22%
Hennepin	877,346	948,430	1,043,420	1,136,260	0.91%
Ramsey	333,305	370,440	404,220	426,630	0.71%
Scott	34,931	49,200	58,280	73,320	2.01%
Washington	67,649	88,045	111,980	131,070	2.01%
Total	**1,606,263**	**1,814,375**	**2,031,920**	**2,226,690**	**1.03%**

Source: Metropolitan Council
Prepared: November 2012

Subsequent sections will examine in greater detail the specific corporations operating within South St. Paul's market area and identify any characteristics that would indicate potential corporate aviation activity. These factors include company size and presence in the market area (number of employees and facility size) and function of the corporation within the market area (national or regional headquarters, manufacturing or distribution, etc).

As additional insight into the local employment characteristics, a listing of top employers in the area, South St. Paul, and Inver Grove Heights are shown in **Tables 13** and **14**. The data was collected by Progress Plus, an economic development initiative of the River Heights Chamber of Commerce that was formed to support planned development in South St. Paul and Inver Grove Heights.

Table 13: Top Study Area Employers – 2012

Employer	No. of Employees
Thompson West	7,000
Blue Cross/Blue Shield	3,000
Lockheed Martin	1,750
United Parcel Service	1,435
Delta Airlines	1,100
Goodrich Sensor Systems	1,150
CHS Inc.	1,000
Fairview Ridges Hospital	880
Flint Hill Resources	850
Smead Manufacturing Co.	625

Source: Progress Plus
Prepared: November 2012

Table 14: Top Employers for South St. Paul and Inver Grove Heights – 2012

Employer	No. of Employees
CHS Inc.	1,000
Flint Hills Resources	800
Sportsman's Guide	800
Travel Tags	430
Waterous Company	387
Evergreen Nurseries	300
Dakota Premium Foods	280
Wal-Mart	240
American Bottling	160
Wipaire	142

Source: Progress Plus
Prepared: November 2012

Regional earnings are another important demographic factors influencing aviation demand. The assumption is made that as earnings, and consequently discretionary income grows, local residents have more to spend on all goods and services, including aviation-related goods and services. Gross earnings for the study area are provided in **Table 15** with data provided by Woods & Poole, Inc. Gross earnings in the Dakota County are estimated to grow at an average annual compound growth rate of 1.3% between 2000 and 2010. This is more than the national average of 0.73% and the average for the State of Minnesota (0.38%) for the same time period. Over the next 20 years (2010-2030), six of the seven counties are projected to have an average annual compound growth rate between 2.10% and 2.85%. This project growth is anticipated to mirror national and state growth.

Table 15: Study Area Total Earnings (in millions) – 2000 through 2030

	2000	2010	2020	2030
Anoka	$5,801.37	$5,798.99	$7,337.41	$9,078.11
Carver	$1,585.64	1,920.74	$2,533.42	$3,144.26
Dakota	$8,113.86	$9,229.90	$12,336.08	$16,203.91
Hennepin	$59,137.79	$57,933.07	$71,765.20	$87,854.84
Ramsey	$19,185.82	$19,169.19	$22,912.82	$27,006.80
Scott	$1,886.30	$2,126.52	$2,822.08	$3,657.54
Washington	$3,344.40	$3,427.86	$4,549.96	$5,892.58
Total	**$99,055.18**	**$99,606.27**	**$124,256.97**	**$152,838.04**

Source: Woods & Poole, Inc.
Prepared: November 2012

Another demographic factor that is included in this analysis is the level of educational attainment among the population. The level of educational attainment is considered another measure of a given

area's affluence in relation to other socioeconomic areas; simply put, the more educated a community is, the more prosperous it tends to be. The details of the levels of education for the study area in relation to state and national averages are shown in **Table 16**. The data for this comparison is pulled directly from the 2010 census; future projections for education levels are not available.

Table 16: 2010 Level of Education Attainment

	High School or Higher	Bachelor's or Higher
Anoka	92.8%	25.7%
Carver	94.8%	42.7%
Dakota	94.4%	38.1%
Hennepin	92.1%	44.0%
Ramsey	89.9%	38.9%
Scott	93.9%	36.0%
Washington	95.7%	40.0%
Minnesota	91.3%	31.4%
United States	85.0%	27.9%

Source: US Census
Prepared: November 2012

The study area compares very favorably with the national and statewide averages for education attainment. Six of the seven counties exceed both the U.S. and Minnesota levels. Anoka County falls slightly below the national and statewide averages for bachelor's degree or higher education with 25.7% of its population having a bachelor's degree or higher. Dakota County outpaces both the national and statewide educational attainment at both the high school and bachelor's degree or higher categories at 94.4% and 38.1%, respectively.

1.3 Summary

A review of the SGS and its surrounding area shows potential for continued growth and development. A summary of the findings include:

- SGS is in a prime location within the metropolitan area
- Airport access is excellent with close proximity to I-494 and major US highways providing direct access to Twin Cities Region
- The airport has ample space in which to expand hangar facilities to the west side of the airfield.

Socioeconomic data indicators indicate that not only is the study area's population growing, but it is exhibiting desirable characteristics in terms of employment, affluence, and education. These factors have the potential to drive development and usage above standard national average growth rates.

Building upon this section, *Section 2 – Aviation Industry Overview and Market Analysis* will address the SGS market area in greater detail. Current aviation trends, specific business and industry in the market area (current and potential), and drive time and facility analysis of competing airports, will be addressed.

SECTION 2: AVIATION INDUSTRY OVERVIEW AND MARKET ANALYSIS

The previous section established the context for the South St. Paul Municipal Airport – Fleming Field (SGS) in terms of its current operations, environs, and market area. This section reviews national trends in aviation that have and will continue to impact aviation in Minnesota and at SGS. The analysis will build on the trends identified in the industry overview and identify the airport's geographic catchment area in relation to surrounding airports and detail the market potential that will drive future airport growth. Included in the market analysis is a high-level review of like-facilities in the region and nationally. This comparative analysis is used to determine the implications for accommodating activities that could potentially occur at SGS.

2.1 Aviation Industry Overview

The following items are reviewed below to provide an overview of the general aviation industry:

- National general aviation trends
- Overview of the general aviation industry in Minnesota
- Relevant technology trends

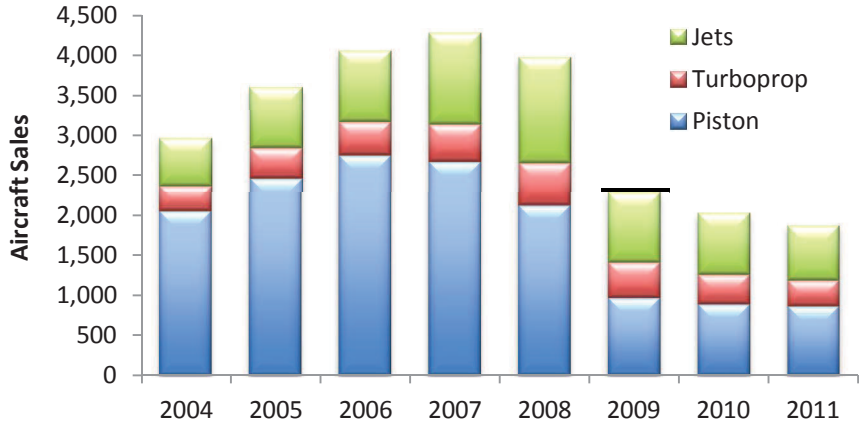
2.1.1 National General Aviation Trends

As a result of the downturn in the US economy that began in December 2007, coupled with a significant spike in oil prices in 2008, the U.S. general aviation aircraft fleet has shrunk from 231,606 aircraft in 2007 to 224,475 in 2011 equal to a decrease of 3.1%. As the recession is slowly showing signs of improvement, the Federal Aviation Administration (FAA) estimates that the U.S. general aviation aircraft fleet will recover and grow to an estimated 270,920 aircraft in 2031 at an average annual growth rate of growth of 0.98%.

Based on the General Aviation Manufacturers Association's (GAMA) annual *General Aviation Statistical Databook & Industry Outlook* for 2012 and the FAA's *Aerospace Forecast Fiscal Years 2013-2033*, the following describes general aviation in the United States: There are more than 223,300 active general aviation aircraft in the United States; General aviation aircraft fly over 24 million hours in the U.S.

- Fractional ownership of aircraft has remained relatively constant over the last several years.
- Piston (single and multi-engine) aircraft are the most popular and numerous aircraft in the U.S. In 2012, 708 piston aircraft were shipped (i.e. manufactured and delivered).
- Turboprop aircraft account for approximately a third of the market. In 2012, 459 units were shipped.
- Business jets are a growing segment of the market in terms of units shipped and now account for one-third of the market. In 2012, 347 units were shipped.
- Domestic shipments of new general aviation aircraft are down more than 50% since 2007 due to the economic recession that began in December 2007 (see **Exhibit 7**).

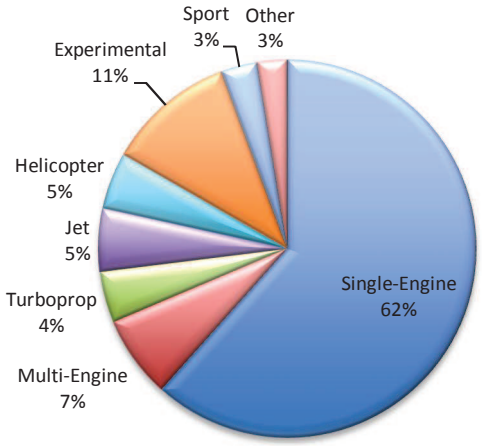
Exhibit 7: General Aviation Aircraft Shipments



Source: GAMA
Prepared: January 2013

Exhibit 8 shows the most recent fleet mix of general aviation aircraft in the U.S. according to the *FAA* Aerospace *Forecast Fiscal Years 2013-2033*.

Exhibit 8: US General Aviation Fleet Mix



Source: FAA Aerospace Forecast Fiscal Year 2013-2033
Prepared: February 2013

2.1.2 General Aviation in Minnesota

In Minnesota, general aviation aircraft are flown for a wide variety of uses including: business travel, agricultural spraying, flight instruction, emergency air ambulance, and recreation. There are more than 7,800 registered aircraft based in Minnesota with more than 15,000 licensed pilots as of 2012. These aircraft included home built/experimental, glider, agricultural, antique and classic/war birds, ultra-light aircraft, helicopters, single and multi-engine, and corporate/private jets.

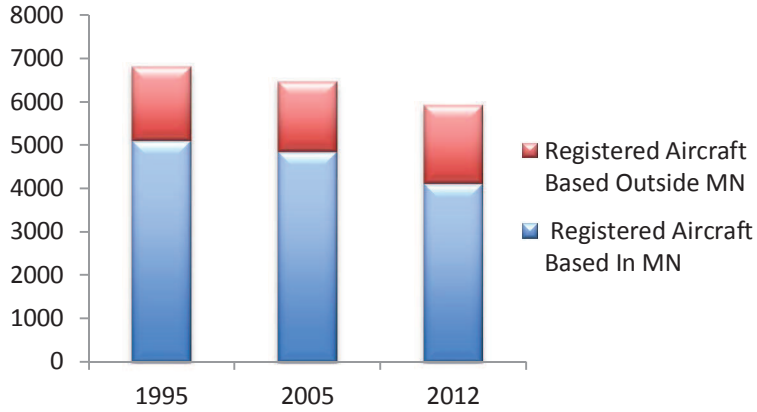
Current and historic general aviation activity, aircraft and general aviation operations, and data for Minnesota provide a good indication of not only the total amount of activity occurring but also recent increases or declines in activity levels. For Minnesota's system of airports, historic registered aircraft

and general aviation operations levels were obtained from the *Minnesota State Aviation System Plan* conducted by the Minnesota Department of Transportation in both 2006 and 2012, as well as the FAA's Aircraft Registry Database.

2.1.2.1 Registered Aircraft

Exhibit 9 presents historic and current registered aircraft for Minnesota's airport system. Historically, registered aircraft based at airports in Minnesota is approximately 75% of the total aircraft registered in the State. The FAA's Terminal Area Forecast for 2012 indicate that there were 4,105 based aircraft in Minnesota. These aircraft figures fluctuate based on a number of factors including seasonality, pilot preferences, on-airport aviation services, and the availability of storage units. The remaining 25% of aircraft registered in Minnesota likely base their aircraft at airports in other states.

Exhibit 9: Historic and Current Registered Aircraft in Minnesota

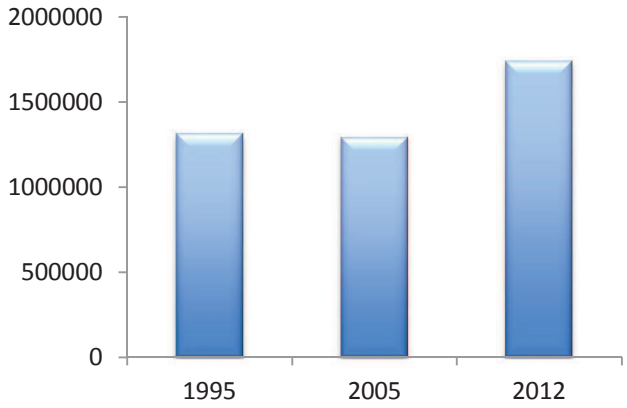


Source: Minnesota State Aviation System Plan 2006, FAA Terminal Area Forecasts
Prepared: February 2013

2.1.2.2 General Aviation Operations

Historic general aviation operations for Minnesota's system airports are shown in **Exhibit 10**. Total general aviation operations at Minnesota's system airports in 2005 were approximately 1.3 million according to data from the *Minnesota State Aviation System Plan*. From 2005 to 2010, this increased to over 1.7 million, representing an average annual growth rate of 6%.

Exhibit 10: Historic and Current General Aviation Operations in Minnesota



Source: Minnesota State Aviation System Plan 2006 and 2012
Prepared: February 2013

2.1.3 Other Current Trends Impacting General Aviation

This section discusses the trends that have the largest potential to impact the future of general aviation.

2.1.3.1 Very Light Jets

One of the most anticipated growth segments of the business aircraft fleet mix in recent years was the introduction of the very light jet (VLJ) in the early 2000s. These aircraft represented a significant departure from the cost of previously available jet aircraft as they are small, single pilot, six-seat jets that cost substantially less than typical business jet aircraft and have been labeled as "personal jets." **Exhibit 11** depicts some examples of VLJ aircraft and their general design concept.

Exhibit 11: Examples of VLJ Aircraft

Embraer Phenom 100 | HondaJet | Citation Mustang

Source: Embraer Press Room, Honda, and Cessna Aircraft Company
Prepared: February 2013

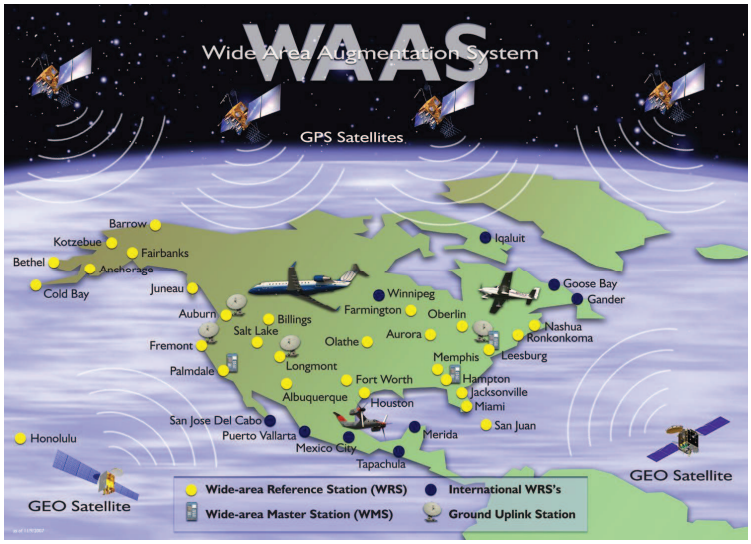
This new and promising segment of travel, once anticipated changing the landscape of general aviation, stalled following the weakened global economy and US recession as orders for these aircraft disappeared. Adams Aircraft went out of business; Eclipse Aviation filed for bankruptcy and then reformed as Eclipse Aerospace after receiving backing from Sikorsky; and other VLJ programs, including Diamond Aircraft Industries, Cirrus, and Piper have experienced significant delays. It appears now that the improving business environment is bringing with it a resurgence

of interest in general aviation and a revival of some of these promising but stalled programs at a more practical rate of growth. Embraer, Cessna, and Honda are the current leaders in the industry and are currently making deliveries of their respective VLJ aircraft.

2.1.3.2 Wide Area Augmentation System

The US Department of Transportation (USDOT) and the FAA continue to develop the Wide Area Augmentation System (WAAS) for use in precision approaches. WAAS is a space-based navigation system that was commissioned in 2003 by the FAA and is now being used to improve the accuracy and ensure the integrity of positioning and timing information for Global Positioning Systems (GPS) (see **Exhibit 12**). Currently, GPS alone does not meet the FAA's navigation requirements for accuracy, integrity, and availability for precision approaches. WAAS corrects GPS signal errors caused by satellite position errors, ionosphere delays, and other disturbances in the GPS signals, thus improving the accuracy and reliability of the users' position.

Exhibit 12: WAAS



Source: FAA
Prepared: February 2013

The primary implication for the establishment of this system is that airports would have previously not been able to have a precision approach due to the installation and maintenance costs associated with the ground-based equipment, would now have the potential at very little cost. The FAA is publishing more WAAS LPV (localizer performance with vertical guidance) approaches today than traditional precision approaches utilizing an Instrument Landing System (ILS). These WAAS LPV approaches are frequently providing minimums of less than 300 feet and ¾ mile. This has the potential of making thousands of general aviation airports across the county available for precision approach operations, exponentially expanding the nation's capacity in this regard.

2.1.3.3 On-Demand (Air Charter and Fractional Ownership)

The National Business Aviation Association (NBAA) estimates that there are currently more than 2,100 air charter operators in the US. Air charter operators are required by the FAA to hold an air carrier or commercial operating certificate which then allow the operators to conduct on-demand operations under FAR Part 135 guidance. The FAA has certificated more than 300 business aircraft makes and models, which translates into a sub-industry that is very flexible with

market demand. On-demand air charter provides companies and individuals with instant access to business aircraft.

This subset of the general aviation industry is constantly changing and evolving in response to market demands and economic shifts. Over the years, on-demand air charter has evolved to include fractional ownership. Businesses and individuals who do not want to own their own aircraft are able to purchase a fraction of an aircraft (fractional ownership) similar to timeshare agreements in the real estate industry. Other popular trends within this subset is a practice known as "block charter," which allows companies to receive a discounted rate for purchasing specific block of time for aircraft use, and "jet-card programs" which allow for cardholders access to business aircraft at various increments without requiring long term financial commitments.

This segment of the general aviation industry was not spared by the recent economic downturn and some studies show that while fractional ownerships were once a fast-growing segment of aviation, they have now matured and are much more integrated with their charter operations and offer many more options to customers. Demand for on-demand air services is proving slow to recover as indicated in the FAA's *Aerospace Forecasts 2013-2033*. It is likely that as consumer confidence grows in relation to economic growth and corporate profits, that the pace of recovery will mirror their confidence.

2.1.3.4 Air Cargo

Air cargo demand is generated when there is a need for transportation of materials or goods between two points in an expeditious manner. Products that benefit from increased speed of distribution or better stock availability that can be gained through air cargo shipping include those such as automotive, computers, and perishable items such as flowers, vegetables, and fish. All of these are high value, relatively lightweight, and time critical. There are five primary distribution channels for air cargo: all cargo carriers (Polar Air Cargo and Atlas Air), integrated express operators (FedEx and UPS), commercial airlines, freight forwarders and ad-hoc carriers. The FAA Aerospace Forecast 2013-2033 indicates that this segment of the aviation industry is realizing slower growth as a result of a maturing market.

Similar to air charter, there is a wide range of aircraft types and sizes that populate the air cargo industry as well as the types of operations. Typically, air cargo is handled at airports that have scheduled commercial passenger service due to a strong population and industrial base and facilities that are already in place. General aviation airports that support air cargo services generally are seeing turbo-prop or corporate jets delivering the materials/goods. Further, these general aviation airports typically have a runway that is at least 6,000 feet long, instrument approaches, and air traffic control towers.

Studies conducted by several State Departments of Transportations across the nation have surveyed airport managers at general aviation airports to try to gauge the interest for air cargo services. Survey results indicate that most airport managers see little value in seeking this type of business due to air cargo routes, facilities, and operators established at larger regional airports.

2.2 Aviation/Airport Uses and Business Activities

The activity occurring at SGS is associated with the general aviation segment of the aviation industry. This includes corporate/business activity, flights by privately owned based and transient aircraft, as well as, operations on the airport performed through the service and maintenance of aircraft. As noted in the *South St. Paul Municipal Airport – Fleming Field (SGS) Master Plan*, SGS is a critical asset for the community and serves a variety of users including recreational and training users, local business users, and transient users.

SGS is well served by a multi-service fixed based operator (FBO), Wipaire, Inc. In addition to providing FBO services, Wipaire is the largest aircraft float manufacturer in the world and has been in business for more than 50 years at SGS. FBO services include fueling and crew cars. Wipaire also provides full service aircraft interior and refinishing services, aircraft restoration, aircraft repair and maintenance, and aircraft brokerage services for buyers and sellers.

As noted in the SGS Master Plan's inventory section, along with FBO services provided by Wipaire, Lysdale Flying Service and airport staff provide additional FBO-related services that include aircraft fueling and ramp line services. Airport staff also coordinate rental car services and catering when needed.

Other SGS Specialized Aviation Service Providers (SASO) that offer a single or limited service and non-aeronautical activities include the following:

- **Abtec Helicopters, LLC** – Located in the South Hangar Area, Abtec Helicopters provides a variety of services including aerial photography, executive transportation, utility inspection, maintenance, and television and motion picture aerial services.
- **Advanced Aviation Inc** – Advanced Aviation is located in the South Hangar Area and is a full service maintenance shop that focuses on single-engine and small twin-engine general aviation aircraft.
- **Alpha Aviation Inc** – Co-located with Alpha-Zulu in the North Hangar Area, Alpha Aviation has a maintenance shop and manufactures various specialty tools including hydraulic aircraft jacks, shoulder harnesses, and fiber optic scopes.
- **Alpha-Zulu, LLC** – Alpha-Zulu is co-located with Alpha Aviation in the North Hangar Area and provides flight training in Beechcraft Skipper and Piper Warrior aircraft.
- **Ballistics Recovery Systems** – Ballistics Recovery Systems specializes in parachute deployment systems for a range of general aviation aircraft. The company is located in the Main Hangar/Ramp Area.
- **Cadotte Aero** – Cadotte Aero is a small flight training and aircraft maintenance business that is co-located with Team Epic Freeride in the South Hangar Area.
- **Lake and Air Pilot Shop** – Co-located in Wipaire's main hangar in the North Hangar Area, Lake and Air Pilot Shop carries a full range of aviation and pilot supplies and specializes in seaplane products and accessories.
- **Lysdale Flying Service** – Located in the Main Hangar/Ramp Area, Lysdale Flying Services provides hangar space for transient aircraft and sells aircraft.
- **Owen's Aero, LLC** – Co-located with Philson Aviation in the North Hangar Area, Owen's Aero provides aircraft maintenance services with a specialty in rebuilding aircraft engines.
- **Philson Aviation** – Philson Aviation provides aircraft maintenance services for general aviation aircraft.
- **Sierra Hotel Aero** – Sierra Hotel Aero specializes in manufacturing and repairing sheet metal parts used on military and civilian aircraft. They are located in the North Hangar Area.
- **Spectrum** – Located in the Main Hangar/Ramp Area, Spectrum provides medical services to rural areas in Minnesota and its neighboring states.
- **Stick-n-Rudder Flight Training** – Stick-n-Rudder Flight Training provides flight training at SGS and leases space in the terminal to conduct ground schools.
- **Team Epic Freeride**, LLC – Co-located with Cadotte Aero, Team Epic Freeride provides flight training.
- **Twin Brothers Aviation** – Twin Brothers Aviation provides floatplane maintenance services in the South Hangar Area.

Two non-profit airport operators, Commemorative Air Force Minnesota Wing and Minnesota Civil Air Patrol (MnCAP), are also located on the field. The Commemorative Air Force Minnesota Wing formed in 1971 and is home to six military aircraft, a motor pool fleet, and a collection of World War II artifacts. MnCAP consists of four groups and 25 squadrons throughout the state. All members of the MnCAP are unpaid volunteers that perform congressionally mandated missions that include aerospace education, cadet programs, emergency services, and mission support services. The MnCAP's headquarters for training and maintenance facilities are based at SGS.

2.3 Comparative Airport Analysis

This section will compare the existing facility assets at SGS to similar airports within the Twin Cities region and two others at the national level. This analysis can provide insight into how SGS compares with competing airports and where opportunities may lie for improvements. Lawrence J Timmerman Airport (Milwaukee, Wisconsin) and Johnson County Executive (Kansas City, Kansas) have been selected from the national level for comparison as they have similar existing characteristics and assets to SGS. The assets identified in **Table 17** are those that will likely be required to meet long-term needs of existing and potential activities.

Table 17: Comparative Airports: Infrastructure and Service Comparison

	Airport ID	Longest Runway	Based Aircraft	Approach	ATCT	AvGas/Jet A
Regional Airports						
Minneapolis-St. Paul Int'l	MSP	11,006	163	ILS	Yes	AvGas/Jet A
Airlake	LVN	4,098	137	ILS	No	AvGas/Jet A
Anoka County-Blaine	ANE	5,000	386	ILS	Yes	AvGas/Jet A
Crystal	MIC	3,263	192	GPS	Yes	AvGas/Jet A
Flying Cloud	FCM	5,000	332	ILS	Yes	AvGas/Jet A
Forest Lake	25D	2,650	18	Visual	No	AvGas
Lake Elmo	21D	2,850	183	RNAV(GPS)-LNAV	No	AvGas/Jet A
St. Paul Downtown	STP	6,491	108	ILS	Yes	AvGas/Jet A
South St. Paul Municipal	SGS	4,002	220*	LOC	No	AvGas/Jet A
Surfside SPB	8Y4	6,500	45	Visual	No	AvGas
Wipline SPB	09Y	8,000	5	Visual	No	AvGas/Jet A
National Airports						
Lawrence J Timmerman	MWC	4,103	79	LOC	Yes	AvGas/Jet A
Johnson County Executive	OJC	4,100	210	LOC	Yes	AvGas/Jet A

Source: 2030 Twin Cities Aviation System Plan, FAA 5010 Form
Note: SGS 2012 Hangar Inspection yielded 262 total based aircraft. ATC = Air Traffic Control Tower
Prepared: February 2013

2.3.1 Market Areas of Regional Airports

Within SGS's 30-minute drive time market area there are several airports whose comparable drive time overlap that of SGS. Additionally, six of these airports are comparable in facilities and services as shown in **Exhibit 13**. The remaining five (Crystal, Forest Lake, Lake Elmo, Surfside SPB, and Wipline SPB) have runways that are facilities that are not as comparable (shorter runway length, runway type – i.e. paved or water, less demanding approach, etc).

While the regional airports listed in Table 17 and shown in Exhibit 13 are all capable of accommodating personal and recreational aviation activity by single-engine, multi-engine, and experimental/ homebuilt aircraft; they are not all capable of accommodating larger, high performance aircraft associated with corporate or business aviation. For this reason, two drive time analysis maps have been developed for airports in the Minneapolis-St. Paul region to reflect the two general aviation market areas, personal/recreational and corporate/business. The personal/ recreational activity assumes a 30-minute drive time market area. For corporate/business activity, a

45-minute drive time analysis has been conducted in order to account for fewer airports able to provide necessary facilities and services required to support corporate/business activity by larger aircraft. **Figure 14** illustrates the 45-minute drive time analysis for airports with the capabilities to support larger aircraft or corporate/business general aviation activity. The primary criteria used is a runway length of 4,000 feet or greater and an instrument approach.

Exhibit 13: SGS Market Area and Catchment Area of Airports Supporting Personal/Recreational Activity

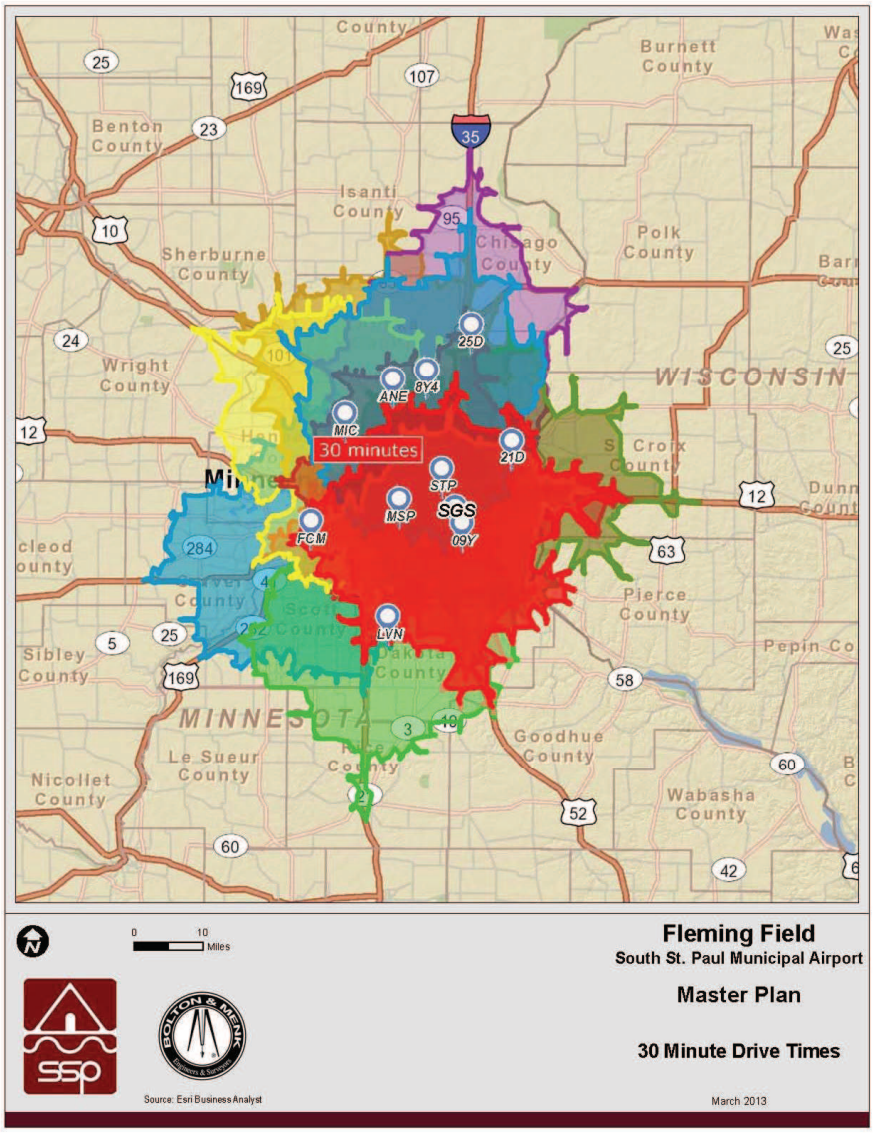
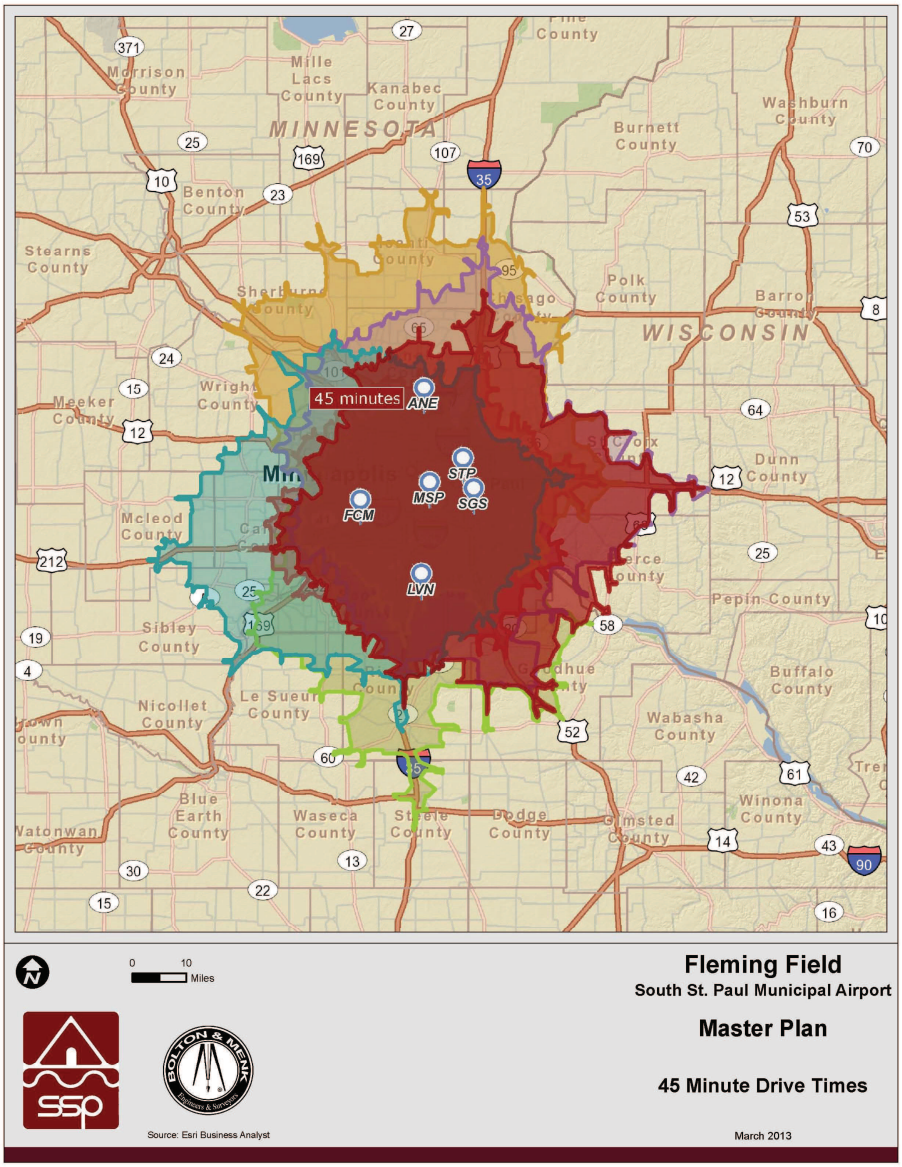


Exhibit 14: Catchment Area of Airports Supporting Corporate/Business Activity



As shown in Exhibits 13 and 14, the geographic market area for both personal/recreational and corporate/business activity encompasses the core the Minneapolis-St. Paul metropolitan area. There are simply plenty of airports to support the various types of general aviation activity within the region.

For comparative purposes, the following subsections compare two other selected general aviation airports in terms of a general overview, their current administration structures and any other relevant details. These airports, Lawrence J Timmerman Airport, Wisconsin and Johnson County Executive Airport, Kansas, accommodate a similar level and type of general aviation activities as SGS.

2.3.2 Lawrence J Timmerman Airport

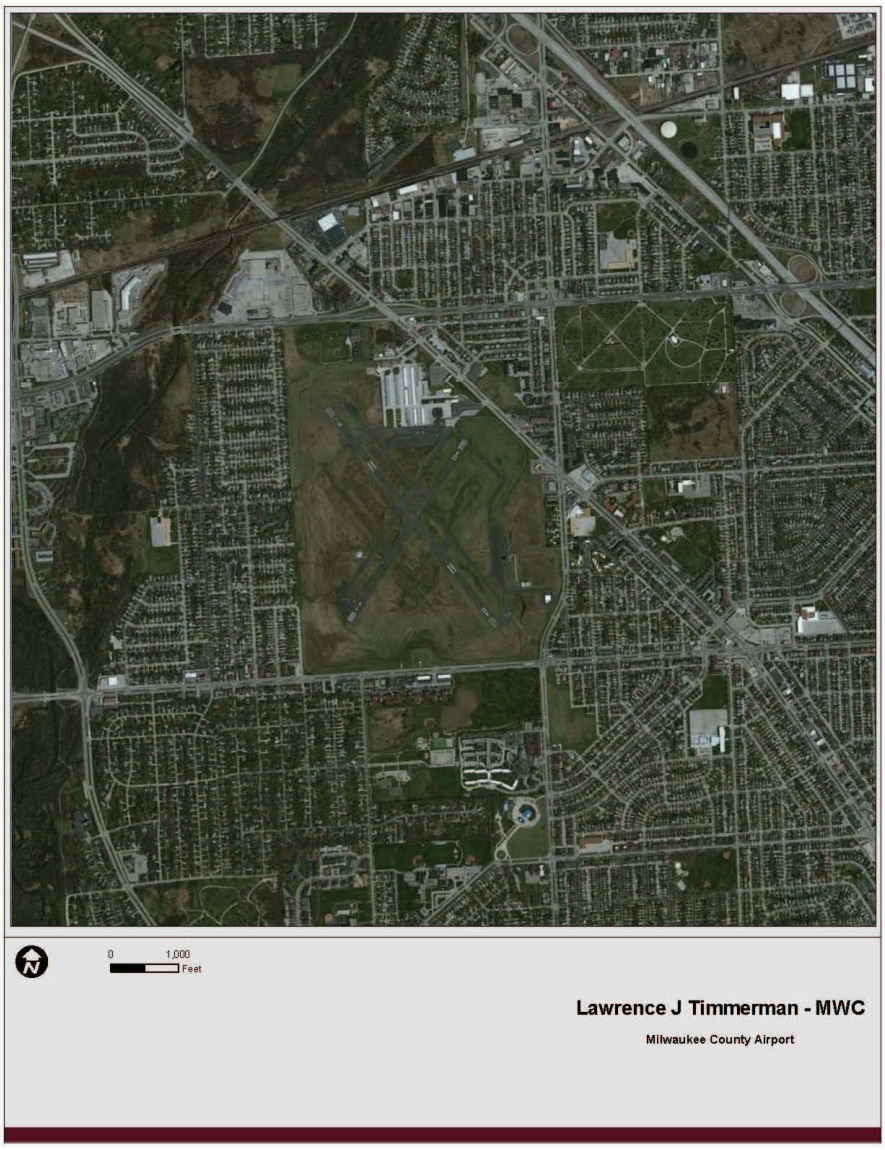
2.3.2.1 Airport Facts

- Lawrence J Timmerman Airport (MWC) lies within the corporate limits of the City of Milwaukee and is a public use general aviation airport (see **Exhibit 15**). The FAA classifies MWC as a reliever airport to General Mitchell International Airport (MKE).
- MWC has two paved runways (Runway 15L/33R is 4,106 feet long and Runway 4L/22R is 3,202 feet long) and two turf runways (Runway 15R/33L is 3,231 feet long and Runway 4R/22L is 2,839 feet long). MWC has 79 based aircraft, more than 32,000 annual operations, and is served by a full service fixed base operator.
- MWC is currently extending the runway (a 300 foot extension to Runway 15L/33R) to provide adequate length for existing general aviation users. The proposed runway extension considers development constraints off-airport property and maximizes the runway length and safety areas while minimizing impacts by not requiring the acquisition of additional land.
- Existing business jet aircraft operating at MWC include Cessna Citations, Beech jets, and Falcon jets but they are operating with payloads of less than 60 percent of their maximums.
- A mixture of land uses surrounds MWC with the predominant land use being residential with minimal public and commercial space intermingled to the north and south of the airport.
- There are three competing general aviation airports within close proximity to MWC that are capable of accommodating business jet aircraft that are classified as reliever airports. John H Batten Airport, Waukesha County Airport, and Kenosha Regional Airport all have multiple runways ranging in length from 3,300 feet to 6,500 feet. These airports provide similar services to MWC.

2.3.2.2 Airport Management and Administration

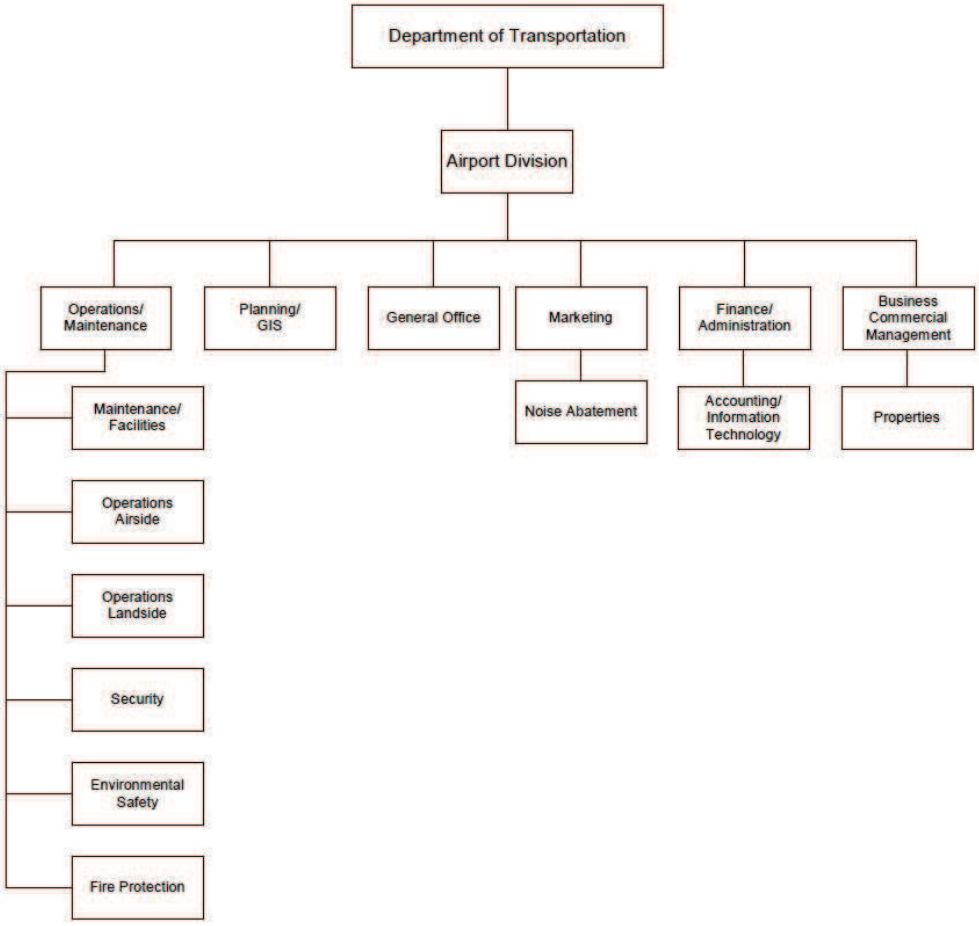
- MWC is owned, operated, and maintained by Milwaukee County. The Airport Division of the Milwaukee County Department of Transportation (MCDOT) provides air transportation services for MWC, as well as, General Mitchell International Airport (MKE).
- The Airport Division consists of approximately 170 employees and is organized as shown in **Exhibit 16**.

Exhibit 15: Lawrence J Timmerman Airport



Source: Bing Aerial Photo
Prepared: March 2013

Exhibit 16: Milwaukee County Dept. of Transportation Organizational Structure



Source: Milwaukee County Department of Transportation
Prepared: February 2013

2.3.3 Johnson County Executive Airport

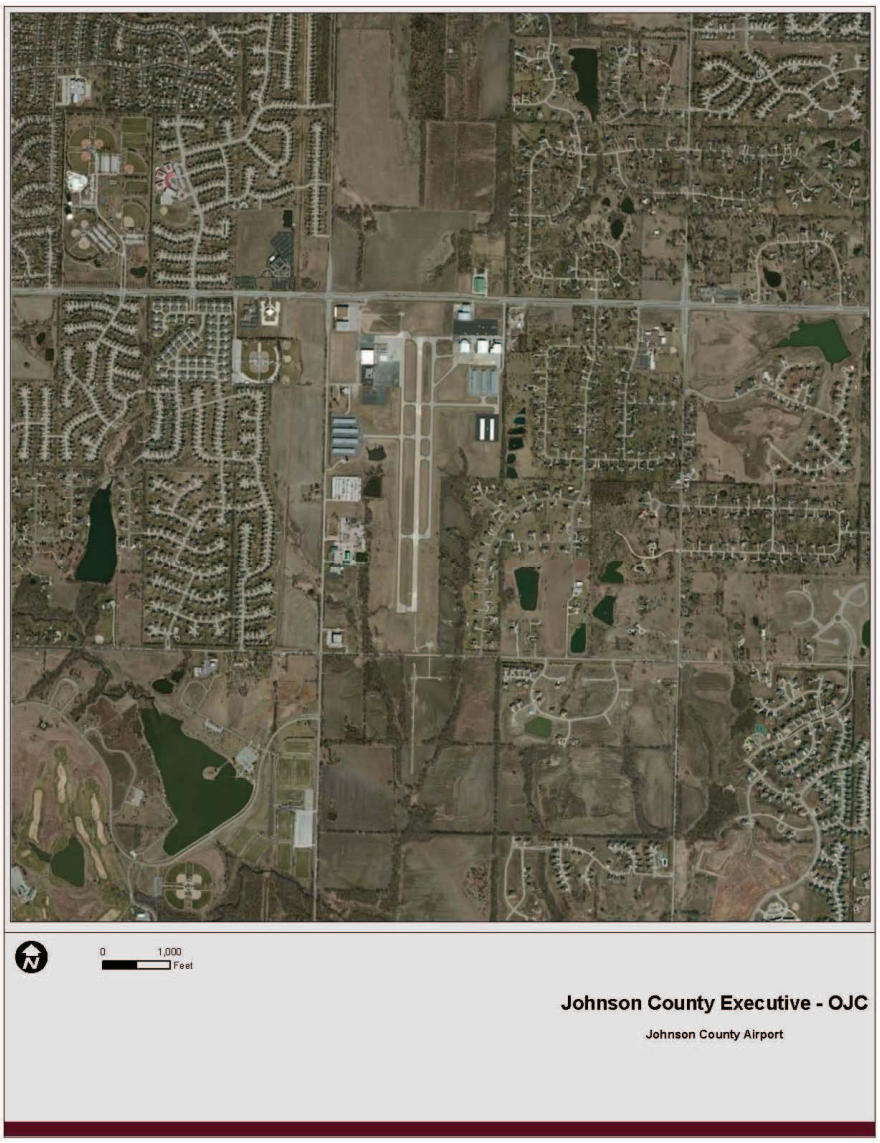
2.3.3.1 Airport Facts

- Johnson County Executive Airport (OJC) is a general aviation airport located in eastern Kansas on the southwest side of the Kansas City metropolitan area (see **Exhibit 17**). The FAA has designated OJC a reliever to Kansas City International Airport (MCI).
- OJC has a single 4,100 foot runway (Runway 18/36) and is home to more than 200 based aircraft, two fixed based operators, and several limited and specialty aviation service providers that provide a wide range of services and supplies to the aviation public. In 2012, the airport was the third busiest in Kansas with 54,521 annual aircraft operations.
- The revenue sources for OJC are comprised of t-hangar rentals ($235-$305 per month), fuel flowage fees ($0.08 per gallon), ground leases ($0.18-$0.24 per square foot per year) and building leases (average of $6 per square foot per year).
- There are three competing general aviation airports within close proximity to OJC that are capable of accommodating business jet aircraft that are classified as reliever airports. Charles B Wheeler Downtown Airport, Lee's Summit Municipal Airport, and New Century AirCenter all have multiple runways ranging in length from 3,800 feet to 7,300 feet. These airports provide similar services to OJC.

2.3.3.2 Airport Management and Administration

- OJC is owned and operated by the Johnson County Airport Commission (JCAC). The JCAC was established in 1967 by the Johnson County Board of Commissioners. The JCAC owns, operates, manages, and develops OJC and New Century AirCenter (IXD).
- The JCAC is a seven-member commission. The Johnson County Board of Commissioners appoints members to serve five-year terms on the JCAC. Each member of the commission represents a specific district in Johnson County.
- The senior management team of the JCAC that oversees all of the day-to-day operations of the airport is comprised of an Executive Director and a Deputy Director.

Exhibit 17: Johnson County Executive Airport



Source: Bing Aerial Photo
Prepared: March 2013

2.4 Typical General Aviation Airport Facilities

Because of the diversity of aircraft types and sizes within general aviation, identifying specific recommended airport facility and operational standards for a general aviation airport is difficult. Small, single-engine aircraft need little more than a grass strip to operate efficiently, while larger corporate jets require much more developed infrastructure. For the purposes of this review, multi-engine and midsize corporate jets are the focus of this section.

Table 18 provides a listing of airport facilities that are recommended to effectively support multi-engine and midsize corporate jet operations. It is important to note that this listing is not an industry standard and corporate jets regularly operate at airports that do not have many of these facilities. Additionally, each airport has specific facility needs based on its configuration and environment; and implementation

of any additional facilities is determined by demand, as well as, available funding. However, based on experience, the following list provides a baseline of what a good general aviation airport should provide to help maximize not only its attractiveness to operators, but also the effectiveness of those operators.

Table 18: Recommended Airport Facilities for General Aviation Airports

Category	Recommended Standards
FAA Design Standards	-Design aircraft range = B-II (Cessna Citation I to Beach King Air C-90) -Meet all appropriate requirements
Runway	-Recommended minimum length = 5,000 feet -Recommended minimum pavement strength = 60,000 lbs dual wheel
Taxiway	-Full parallel
Approaches	-Recommended minimum = Non-precision instrument
NAVAIDS	-Air Traffic Control Tower (ATCT) -Runway End Identifier Lights (REILs) -Precision Approach Path Indicator (PAPIs)
Airspace	-Maintain clearance of appropriate FAR Part 77 and TERPs surfaces to maintain approach minimums
Terminal Building	-General Aviation passenger terminal building
Facilities	-Hangars/Apron tie-downs for based aircraft -Hangars/Apron tie-downs for transient aircraft -Appropriate security (i.e. fencing, lighting, etc.)
Services	-Fixed Base Operator (FBO) -Aircraft fuel -Aircraft maintenance/repair -Aircraft charter -Appropriate concessions (i.e. rental car, restaurant, catering, etc.)
Access/Parking	-Adequate parking
Other	-Developable lands on or abutting airport for hangars, aviation-related facilities, etc. -Proactive community relations including noise

Source: Marr Arnold Planning
Prepared: February 2013

2.5 Typical General Aviation Revenues

For general aviation airports, revenues are typically generated through user fees charged by the airport for the facilities and services that are provided. These user fees are normally established by the airport administration/management based on the market conditions in the area and vary airport to airport. Generally, airports generate revenues from general aviation operations through the following primary sources:

- **Land Leases (Hangar & Field Fees)** – airport-owned land rented to a tenant or business on which a hangar or other aviation-related facility is built
- **Parking Fees** – hourly or overnight parking for aircraft that are on the apron
- **Landing Fees** – generally based on gross landing weight of the aircraft; certain operations and/or user groups may be exempt (note: most general aviation airports do not charge these fees)
- **Facility Leases (Building Rental)** – airport-owned buildings or space rented to a tenant or business
- **Access Fees** – through-the-fence (TTF) operation airfield access cost
- **Concessions (Fuel Flowage)** – assigned to every gallon of gas sold by airport business
- **Rental Car Fees (privilege fee)** – a percentage assigned to the gross receipts of the rental car company

- **Utility Fees** – utility company bills airport for all utilities consumed and airport, in turn, bills individual tenants for the usage
- **Other Fees** – includes various services and items provided by the airport such as ID badges, telephones, internet service, security, etc.

The greatest revenue streams from general aviation airports come from two primary sources: fuel sales and rent from hangar and/or land leases. Revenue from fuel sales can be from direct profit on fuel sold by the airport to its users or through a fuel flowage fee. The amount of revenue generated from fuel sales can be directly attributed to the number of operations and the size of aircraft operating at an airport. Revenue generated from hangar and/or land leases is related to based aircraft and their need for covered and secure aircraft parking. The rates charged for fuel, hangar space, and land are all driven by local demand and commonly determined by local market conditions.

While the above mentioned sources are traditionally the primary sources of revenue at general aviation airports, in tough times, such as the recent recession, many general aviation airports have looked to alternative methods for generating revenues. In subsequent sections, alternative revenue sources will be discussed in more detail. Examples of these alternative sources for revenue could include:

- Temporary Uses and Special Events
- Agriculture
- Mineral Extraction
- Renewable Energy
- On-Line Auctions of Airport Equipment
- Law Enforcement
- Advertising Programs
- Sponsorship Opportunities

2.6 Summary

The purpose of this section was to provide an overview of the general aviation industry at both the national and state levels. Additionally, general information was provided on the businesses activities and uses occurring at SGS, as well as, a high-level overview of comparable airports at the national and regional levels. The information in this section and Section 1 – Airport & Regional Overview form the foundation of the analysis in the next section. By understanding the overall status of the general aviation industry and relevant attributes at SGS and comparable airports, it will be possible in Section 3 – Airport Business and Financial Analysis to identify additional potential revenue streams that may be realized at SGS.

Specifically, the efforts in *Section 3 – Airport Business and Financial Analysis* include the following:

- Profile of SGS's current financial situation
- Comparison of SGS's operational analysis to MWC and OJC
- Identification of potential new revenue streams

SECTION 3: AIRPORT BUSINESS AND FINANCIAL ANALYSIS

This section examines various facets of the current business practices at South St. Paul Municipal Airport (SGS), as well as examines current revenue sources, including a review of rates and charges, and the current leasing policy. A review of these existing business elements has been conducted to ensure that the Airport remains competitive for potential tenants while maintaining the ability to generate sufficient short-term and long-term revenues. Examples of business and financial operations from various other airports, as well as industry best practices, have been used as benchmarks for comparison in this analysis.

The analysis is presented in the following subsections:

- Rates and Charges Review
- Financial Overview
- Lease Review
- Rules, Regulations, and Minimum Operating Standards Review

3.1 Rates and Charges Review

When examining rates and charges, SGS should be aware of the many factors that influence airport tenants, transient operators, and local aircraft operators when selecting an airport. The fees charged by an airport such as hangar rental rates, aircraft parking rates, and landing fees also influence potential customer decision-making. The proximity of the airport to the final destination is certainly one of the primary considerations. Also, the presence of navigational aids such as an instrument approach, a control tower, and a full service fixed base operator (FBO) are often desirable.

3.1.1 Comparable Airports

SGS is one of nine public-use airports (with a paved runway) located within the Minneapolis-St. Paul metropolitan area. While these airports serve a wide range of users, SGS competes with each of these airports for based and transient customers who own and/or operate a full range of general aviation aircraft.

For the purpose of the rates and charges review, nine public-use airports in the Minneapolis-St. Paul metropolitan area are outlined in **Table 19**. Also included in Table 19 are the two national level airports that are comparable to SGS that were identified in *Section 2 – Aviation Industry Overview and Market Analysis*.

As shown in Table 19, there are six airports in the region with paved runways greater than 4,000 feet that represent those airports within the SGS local service area. These airports have a total of 1,346 based aircraft with Anoka County Blaine, Flying Cloud, and SGS accounting for nearly 70% of all based aircraft in the metropolitan region.

Table 19: Comparable Airport General Aviation Airport Information

	Airport ID	Longest Runway	Based Aircraft	Total Operations	Acres	ILS	ATCT
Regional Airports							
Minneapolis-St. Paul Int'l	MSP	11,006	163	436,506	2,930	Y	Yes
Airlake	LVN	4,098	137	65,000	425	Y	No
Anoka County-Blaine	ANE	5,000	386	195,650	1,900	Y	Yes
Crystal	MIC	3,263	192	187,859	436	N	Yes
Flying Cloud	FCM	5,000	332	124,567	543	Y	Yes
Forest Lake	25D	2,650	18	8,000	330	N	No
Lake Elmo	21D	2,850	183	74,227	640	N	No
St. Paul Downtown	STP	6,491	108	158,783	540	Y	Yes
South St. Paul Municipal	SGS	4,002	220[1]	58,100[2]	270	N	No
National Airports							
Lawrence J Timmerman	MWC	4,103	79	32,637	420	N	Yes
Johnson County Executive	OJC	4,100	210	53,326	568	N	Yes

Source: 2030 Twin Cities Aviation System Plan, FAA 5010 Form
[1] SGS 2012 Hangar Inspection yielded 262 total based aircraft.
[2] Airport management records.
Note: ILS = Instrument Landing System; ATCT = Air Traffic Control Tower
Prepared: May 2013

3.1.2 Rates and Charges Comparison

There are several factors to consider when analyzing an airport's rates and charges and comparing the rates and charges to those at other airports. Transient aircraft will typically prefer to use an airport that is located closest to their final destination, assuming that the needed infrastructure and services are available at the airport. Additionally, the airport must safely and efficiently accommodate the aircraft equipment being used by the transient operator. For this analysis, the amenities and level of services offered at four public-use airports (Airlake, Lake Elmo, Lawrence J. Timmerman, and Johnson County Executive) were reviewed. **Table 20** provides a comparison of the services available at SGS and these four airports.

There are 19 aviation services listed in Table 20. Fifteen of these services are offered at SGS. The four services not offered by SGS are air charter, air ambulance, bottled oxygen, and on-site rental car services. SGS does have an agreement with a local rental car company to provide cars to the airport when needed. On average, the other comparison airports offered 16 of the services.

Table 20: Airport Services Comparison

	South St. Paul Municipal	Airlake	Lake Elmo	Lawrence J Timmerman	Johnson County Executive
Aviation Services					
Aerial Photography/Surveys	X				X
Air Ambulance					X
Air Charter		X		X	X
Aircraft Rental	X	X	X	X	X
Aircraft Repair	X	X	X	X	X
Aircraft Sales	X	X	X	X	X
AvGas	X	X	X	X	X
Avionics Repair	X	X	X	X	X
Bottle Oxygen		X		X	X
Car Rental (on-site)		X		X	X
Courtesy Car/Loaner Car	X	X	X	X	X
Flight Instruction	X	X	X	X	X
Hangar Rental	X	X	X	X	X
Jet Fuel	X	X		X	X
Public Telephone	X	X	X	X	X
Self Service Fueling	X	X	X		X
Tie Downs	X	X	X	X	X
Vending	X	X	X	X	X
Number of FBO's	1	2	1	1	2

Source: Marr Arnold Planning
Prepared: May 2013

Tables 21 and **22** contain the results of a rental rate survey that was completed in May and June 2013 by individually contacting the four comparison airports and collecting available rate data. Airport revenues are typically generated through user fees charged by the airport. These user fees are normally established by the airport based on market conditions in the area and can therefore vary from airport to airport. The airport's pricing strategy should be to charge "market" rents for land and improvements as mandated by the Federal Aviation Administration (FAA).

Table 21: Rates and Charges Comparison

	South St. Paul Municipal	Minneapolis-St. Paul Metro Area		Comparable National Metropolitan Markets	
		Airlake	Lake Elmo	Lawerence J Timmerman (Milwaukee)	Johnson County Executive (Kansas City)
Unimproved Land Lease (sf)	$0.21	NA	NA	$0.20	$0.16-$0.18
Improved Land Lease (sf)	$025-$0.36	NA	NA	$0.20	$0.12
Agricultural Land Lease (acre)	NA	NA	$120.20	NA	$16.25/$44.00
Building Ground Lease (sf)	NA	$0.41	$0.41	NA	NA
Fuel Flowage Fee (gallon)	NA	$0.11	$0.11	$0.05-$0.07	$0.08
Tie-Down Fees (month)					
single engine aircraft	$60.00	1.5% Commission from FBO Sales	1% Commision from FBO Sales	$55.00	$17.50
twin engine aircraft	$60.00			$55.00	$17.50
turbine/jet aircraft	$60.00			$55.00	$17.50
Transient Landing Fee (per 1,000 lbs MTOW)	$0.00	$0.00	$0.00	$0.00	$0.00
Transient Parking Fees (monthly)					
single engine aircraft	$50 Summer Rate/ $75 Winter Rate	1.5% Commission from FBO Sales	1% Commission from FBO Sales	$10 per night	FBO Only
twin engine aircraft	$50 Summer Rate/ $75 Winter Rate				
turbine/jet aircraft	$75 Summer Rate/ $125 Winter Rate				
Office Space Fee/Lease (sf)	$364/month	1.5% Commission from FBO Sales	NA	NA	NA
Non-Aviation/Complementary Business License Fee (monthly)	NA	$173.89	$173.89	NA	NA
Facility Acquisition Fee (sf)	NA	$1.15	$1.15	NA	NA
Administration Fee (rate per request for transaction)					
approval of tenant modification of leased area	NA	$105.00	$105.00	NA	NA
consent to leashold mortgage and subordination agreement	NA	$115.00	$115.00	NA	NA
consent to sublease-commercial lease	NA	$243.00	$243.00	NA	NA
standared amendment	NA	$185.00	$185.00	NA	NA
standard assignment	NA	$185.00	$185.00	NA	NA
standard termination	NA	$105.00	$105.00	NA	NA
Gate Openers	$20-$30	NA	NA	NA	NA
Meeting Room	$30-$90	NA	NA	NA	NA

Note: NA = Service not provided, or fee not available, or does not apply to the airport
Source: Airport Management
Prepared: July 2013

Table 22: Hangar Rate Comparison

Facility Description	SF	South St. Paul Municipal	Minneapolis-St. Paul Metro Area		Comparable National Metropolitan Markets	
			Airlake	Lake Elmo	Lawerence J Timmerman (Milwaukee)	Johnson County Executive (Kansas City)
T-Hangars						
Small Hangars	<1,400	$213-$280 (based on location on field)	$0.41/sq for Non-Commercial Use	$0.41/sq for Non-Commercial Use	$225.00	$235.00
Small End Hangars	+200-400	$213-$280 (based on location on field)				$265.00
Large Hangars	1,400- 2,100	None			$300.00	$280.00
Large End Hangars	+200-500	None				$305.00
Corporate/Box Hangars						
		$462 - $7, 167 depending on size and type of aeronautical/commerical use	$0.41/sf for Non-Commercial Use; 1.5% Commission from FBO Sales for Commercial Use	$0.41/sf for Non-Commercial Use; 1% Commission from FBO Sales for Commercial Use	$40-$150 depending on size of aircraft and whether the hangar is heated or unheated	FBO Only
Hangar Wait List						
Yes/No		Yes	Yes	Yes	Yes	Yes
Fee or Deposit?		No	Yes/$500	Yes/$500	No	$100
Hangar Lease Term		Monthly and Yearly	Monthly and Yearly	Monthly and Yearly	Monthly and Yearly	Monthly

Note: NA = Service not provided, or fee not available, or does not apply to the airport
Source: Airport Management
Prepared: July 2013

The comparison to the Minneapolis-St. Paul metropolitan airports and the national airports were conducted by directly contacting airport sponsors and FBOs. The results of this analysis represent the current fees being charged for services at these airports.

Utilizing the FAA's policy on establishing "fair and reasonable" rates and charges, as well as, following best practices within the general aviation industry, the complex task of determining rates and charges for an individual airport can be lessened. A summary of the best practices occurring at today's general aviation airports, which can be applied to SGS are presented here:

- The airport's rates, charges, and leasing policies should reflect the overall goals and mission of the Airport as determined by the City of South St. Paul. Understand that SGS's primary purpose is to act as a tool for the City in achieving these goals. As such, careful consideration for these rates and charges must be given, because they not only represent an airport's primary revenue streams, but they also have the capability to impact the long-term direction of the airport.
- It is important to review and update fees for SGS regularly to ensure that the Airport has not priced their services above or below the market threshold for aviation services. An annual review and update to rates and charges is ideal.
- Lease agreements support and reinforce the application of the rates and charges schedule at SGS. In this regard, as the legal framework for sponsor/tenant relationships have evolved, it is prudent to review and update standard lease agreements used for both aviation and non-aviation operators to ensure that the proper terms and protections are in place.
- When considering an adjustment to rates and charges it is important to communicate with the current airport tenants during the entire process. Doing so will maintain a strong working relationship and minimize opposition.

- Maintain a good relationship with existing and transient clients/customers by regular communications, transparency regarding rates and charges, and understanding their concept of value and service.

3.2 Financial Overview

The relationship between SGS's operating revenues and operating expenditures is one representation of the overall financial condition of the Airport. The comparison of operating revenues and expenditures can identify, from a cash flow perspective, whether the revenues generated at SGS are sufficient to cover the facility's operating costs. The revenue and expense comparison provides an important, but narrow, view of the financial and economic implications of the Airport. This financial data must also be examined and evaluated in the context of other economic benefits and tax revenues that are accrued as a result of Airport operations. This overview does not examine revenue and expenses associated with airport improvement grants. This analysis solely looks at the general financial condition associated with day-to-day operations at SGS. The next section, *Section 4: Airport Business and Financial Plan*, will analyze expenses associated with airport improvement grants.

In general, where operating revenues are greater than operating expenditures, an airport can be considered profitable, and excess revenues are often used to establish airport reserve funds and/or help fund airport capital development. Where operating revenues are less than operating expenses, an airport experiences a net operating loss and requires some form of subsidy to meeting operating requirements. In many cases, the operating loss of a general aviation airport can be maintained at a reasonable level if the public sponsor is willing to subsidize airport operations because of the economic benefit that the facility brings to the area, such as the tax revenues generated by the airport and airport-related businesses, as well as the social and quality of life benefits that the airport supports. SGS operates as a separate fund center for the City of South St. Paul and has not needed to be subsidized by the City's general fund to cover losses in operating revenue in many years.

3.2.1 Airport Operating Revenues and Expenditures

An important consideration in examining the feasibility of the recommended development plan included in the Master Plan is the sponsor's ability to fund the local share of project costs. As discussed in previous sections, airport revenues are typically generated through leases and user fees charged by the airport for the facilities and services that are provided. These fees are typically established by the airport based on market conditions and vary from airport to airport. Further, these fees or revenue are maintained by the airport solely for use on airport-related activities and follow the policies of the Federal Aviation Administration (FAA) under Order 5190.6B (FAA Airport Compliance Manual) Section 15, Permitted and Prohibited Uses of Airport Revenue. SGS uses its Rates and Charges schedule as adopted by City Council each year. Airport operating revenues are collected at SGS from the following primary sources:

- **Fuel Receipts** – The Airport currently marks up each gallon of fuel sold on the Airport. The markup fee ranges from $0.65 per gallon on AvGas to as much as $1.50 per gallon of Jet fuel. The fuel receipts accounted for 56% of airport-generated revenue in 2012.
- **Land/Hangar Leases** – The majority of Airport tenants lease (rent) land and hangar areas from the Airport on which they have constructed hangars or other aviation-related facilities. The majority of these leases are based on a "per square foot per year" rate. Land/facility leases currently account for 29% of the total airport revenue.

At most airports, landside facility development and levels of aviation activity are usually the primary factors affecting airport operating revenues. As additional development occurs at SGS and as the number of based aircraft and itinerant aircraft operations increases, it is likely that SGS's operating

revenues will increase in a corresponding fashion. Projections of future airport operating revenues will be outlined in *Section 4: Airport Business and Financial Plan*.

Airport operating expenses are comprised of the day-to-day costs incurred by the Airport sponsor in the operation of SGS. Included in operating expenses are salaries, benefits, supplies, services and capital outlay that includes equipment and projects. Salaries and benefits have stayed relatively constant throughout the last 5 years. Other expenditures such as capital outlays for projects tend to fluctuate and are not predictable. These were not examined because they vary on an annual basis and are typically funded primarily through federal and state grants.

Table 23 presents a summary of SGS revenues, expenses, and operating income for fiscal years 2008 through 2012. The figures used for 2012 are year-end revised figures. The City of South St. Paul's fiscal year starts January 1. Revenues from airport operations are derived from the following:

- Intergovernmental Revenue – This revenue category captures State grants and aid for projects at the airport.
- Charges for Services – Revenues generated from ground/building/hangar leases, tie-down fees, and fuel receipts.
- Miscellaneous – These revenues include all other fees collected at the airport (vending, copies, gate cards, etc.)
- Operating Transfers – Revenues transferred from other City Funds to subsidize the airport.

Airport operating expenses are made up of the following items:

- Personal Services – This includes salary and benefit costs of airport workers/staff.
- Supplies – This category includes such things as office/building supplies, postage, and uniform expenses.
- Other Services & Charges – This includes professional services, contractual maintenance services, and conference/training expenses.
- Capital Outlay – This category includes machinery and equipment and buildings and equipment.
- Miscellaneous – Includes expenses for dues, subscriptions, and emergency contingencies.
- Debt Service – This includes long-term debt principal, which currently is for the 20-unit south t-hangar.
- Operating Transfers – These are transfers to the Airport Capital Improvement Fund for the airport's share of capital improvement projects.

Table 23: Historic Airport Operating Revenues, Expenses, and Income

Categories	FY2008	FY2009	FY2010	FY2011	FY2012
Operating Revenues					
Intergovernmental Revenue	$118,635	$29,269	$29,269	$38,588	$78,269
Charges for Services	$996,234	$810,249	$1,025,634	$1,210,741	$1,219,229
Miscellaneous	$1,736	$13,878	$6,686	$23,002	$69,856
Total Operating Revenues	*$1,116,605*	*$853,396*	*$1,061,589*	*$1,272,331*	*$1,367,354*
Operating Expenditures					
Personal Services	$140,924	$160,658	$158,454	$139,054	$144,810
Supplies	$673,733	$470,163	$589,281	$728,683	$727,608
Other Services & Charges	$142,755	$131,846	$193,977	$161,524	$186,969
Capital Outlay	$11,275	$0	$7,695	$0	$67,983
Miscellaneous	$0	$0	$949	$1,023	$1,160
Debt Service	$109,508	$74,066	$81,163	$97,412	$78,696
Total Operating Expenditures	$1,078,195	$836,733	$1,031,519	$1,200,954	$1,214,726
Net Operating Income (Loss)	$38,410	$16,663	$30,070	$71,377	$152,628

Source: City of South St. Paul 2010, 2011, 2012, and 2013 Budgets
Prepared: June 2013

For the purposes of this strategic business plan, the ability of SGS to generate revenues and cover operating costs is a top concern. From a historical perspective, operating revenues have increased 4.13% annually and operating expenditures have increased 2.41% annually between FY2008 and FY2012. It is this historical information, which will form the baseline of projecting financial information conducted in the next section. It is important to note that, despite the recent economic recession, SGS has been able to continue to generate the revenues needed to remain self-sufficient.

3.2.2 Indirect Revenue

In addition to direct operating revenues generated at SGS from leases and fuel flowage fees, SGS also generates indirect revenues. Indirect revenues include those generated by taxes on real property improvements and business personal property, including aircraft.

In addition to taxes generated, SGS also plays a large role in the economic vitality of the community and the state. The State of Minnesota and City of South St. Paul both receive a significant amount of indirect revenues from SGS and the total economic impact realized in the area generated by the activity at SGS equates to more than $47.8 million as determined by the 2012 Study of the Economic Impact of Minnesota Airports. In addition to the economic output, 464 jobs[1] within the local community, can be attributed to the numerous tenants and aviation-related businesses at SGS.

3.3 Lease Review

For a general aviation airport one of the more challenging jobs is the management of leases and leased property. It is important to have leases or rental agreements that will help protect the airport from exposure to liability, as well as, provide for an increasing source of income. The City of South St. Paul owns all of the land and numerous hangars and buildings. In 2012, nearly 30% of SGS's income was generated from land leases.

3.3.1 Lease Function Overview

The FAA requires airports to establish fair and reasonable fees without unjustly discriminating against a specific aeronautical user. This same policy states that airports should maintain a fee and rental structure that makes the airport as financially self-sustaining as possible. Airports are expected to establish rents and airport user fees that generate enough revenue to meet airport funding

[1] Study of the Economic Impact of Minnesota Airports, 2012.

requirements without discriminating against airport users, subsidizing tenants, or diverting revenue off-airport.

SGS has several long-term land leases. Lease start dates range from 2007 to present with the nearest expiration date being 2029. Even though the lease policy review, which follows, is based on a general review of the leases at SGS, the specific lease comments are based on the most recent version of the airport's land lease agreements.

There are several guiding documents that should be in place at an airport to help support airport leases: Airport Rules and Regulations and Minimum Standards. SGS has an Airport Rules and Regulations document. The Airport Rules and Regulations document will be discussed in more detail later in this section. Updates to this document are important since it provides additional levels of control for the airport and helps strengthen airport leases. The combination of a Rules and Regulations document with an Airport Minimum Standards document provides clarification and helps avoid confusion and misunderstanding about airport tenant activity and business operations. These guidelines are important to help today's general aviation airport to operate in a professional, business-like manner. If the airport develops new or additional leases, it should support the items noted in these documents.

3.3.2 Lease Type Overview

This section includes many best practices related to the structuring and developing a standard lease agreement at general aviation airports. The information detailed below includes some of the areas that should be covered in the development of lease agreements. However, since the particular requirements of states, local governments, and airport sponsors can vary dramatically, the finalization of any leasing agreements must be coordinated with the sponsor's attorney or an attorney who specializes in the area of landlord-tenant law.

A description of the various lease types and items to consider when structuring land, facility, tie-down parking, FBO/SASO, and hangar rental leases are detailed here.

3.3.2.1 Land Lease

The most common lease offered at general aviation airports are land or ground leases. For this lease, the airport sponsor makes undeveloped sites available for the development of aviation businesses and private hangars on airport property. As such, this lease is often utilized by an airport sponsor as a means to generate development of facilities on the airport that the sponsor may not otherwise have the ability to fund or complete. Typically, airport sponsors face many competing demands on their funding and bonding capabilities, and in some states there is a constitutional or other prohibition against using the credit of the public sector to aid the private sector. Without leveraging public/private partnerships, most airports would be comprised of just the basic airfield infrastructure. Note that development on any airport properties (such as facilities and infrastructure) through a ground lease are typically subject to reversion to the airport after a specific period, often 25 to 50 years.

As is the current practice, land leases should be negotiated individually; however, they still should follow the basic format of the facility lease (described below) and include the same references to the Airport Minimum Standards and Airport Rules and Regulations documents. The land lease price per square foot should vary by location and possibly by the length of the term. The land lease may also be tied to a business permit or a Fixed Base Operator (FBO) lease. Some conditions that are typical of land leases include the following:

- Requires significant tenant capital investment – tenant must develop a proposed

improvement on site within specified time frame;
- Specifies type of improvement (i.e. t-hangars or hangar for aeronautical services);
- General as a long-term lease (25 – 50 years to allow tenants to amortize their investments and make a reasonable profit);
- Often includes provisions for lease extension options up to a specified number of years;
- Often includes provision for improvement to revert to the airport at the end of the lease plus all extensions;
- Generally requires tenant to maintain safe building, minimum level of aesthetics and cleanliness; and
- Subleasing allowed only under certain, limited conditions.

3.3.2.2 **Hangar Rental Lease**

A hangar lease agreement should be able to accommodate small to large t-hangars and conventional hangars. The only part of this lease that will vary between each type of hangar would be the rental price. The rental price of the building may vary based on size, amenities, location, access, condition or type of door operating mechanism for each type of hangar. It is not uncommon for the same size hangar to have different prices based on amenities. This type of lease needs to specify that hangars are for aircraft storage only. Hangars leased for any type of business purposed should be covered under an FBO or SASO lease. Hangar leases should prevent a tenant from using the property for conducting a business or storing other items. The lease should require compliance with Airport Rules and Regulations and Minimum Standards.

3.3.2.3 **Facility Lease**

The facility lease agreement should follow the basic format of the hangar lease and include all of the same references to the Airport Rules and Regulations and Minimum Standards. There are many items that may affect a facility lease price such as amenities, location, condition or type of use. The facility lease should also be flexible enough so that it would accommodate both aviation and non-aviation operations.

3.3.2.4 **Tie-Down Parking Lease**

A tie-down parking lease, or agreement, should be able to accommodate parking for both small and large aircraft. The only part of this lease that will vary is the rental price of the tie-down space. The rental price of the tie-down may vary based on the location or proximity to other services on the airport. This type of lease needs to be for the sole purpose of aircraft storage. It should be designed to prevent a tenant from using a tie-down for an unauthorized business. It should require compliance with Airport Rules and Regulations and Minimum Standards. SGS does not currently have any formal tie-down parking leases in place. In order to protect the airport, it is important that any tenant in the future who wishes to lease tie-down space in a month-to-month manner, should be obligated to sign a tie-down parking lease.

3.3.2.5 **FBO/SASO Lease**

FBO leases need to be negotiated individually. However, these leases should still follow the basic format of the hangar lease and include all the same references to the Airport Rules and Regulations and Minimum Standards. From a practical standpoint, the term “FBO” is defined within the context of the market place. An FBO is an airport based service provider that would operate under a lease, use, or operating agreement with the airport with the specific purpose of providing aircraft fueling services and engage in one or more aviation-related service areas. Some examples of service areas might include but are not limited to aircraft storage, ground handling, maintenance and repair, flight instruction, aircraft rental, and aircraft sales.

While an FBO could provide fueling service and engage in one or more aviation-related services, a Specialized Aeronautical Service Operator (SASO) provides specialized products and services in only one of the aviation-related service areas such as flight training or maintenance but does not include selling fuel. SASOs may operate under a lease of their own or as a sub-tenant of an FBO.

The majority of general aviation airports require an FBO to provide a variety of services that are identified in advance by the airport and in return for providing this full package of services, the FBO receives the ability to sell fuel. Fuel sales are typically a FBO's primary source of income. SASOs are generally not permitted to sell fuel.

3.3.3 Lease Recommendations

As noted previously, one of the more challenging tasks at a general aviation airport is the management of leases and leased property. SGS owns all of the land and has numerous lease agreements. It is important to have leases or rental agreements that will protect the Airport from exposure to liability as well as provide for an increasing source of revenue.

In recent years, the Airport has made an effort to "clean up" and standardize its leases. After reviewing SGS's standard leases (building leases, t-hangar agreements, and miscellaneous leases), it has been determined that most of the current leases and terms are generally consistent with the best management practices established within the industry, as well as, those standards established at other comparable airports. The Airport's efforts to standardize its leases have been successful. It is important to note that this review of current leases was not performed by an attorney and should not be taken as legal advice.

The primary recommendation with respect to SGS's leases and terms is that they continue to be reviewed regularly and updated as necessary. Revisions should include a thorough review process, including by that of airport legal counsel. As noted above, "most" of the current leases have been updated and are consistent with best practices; however, there is one lease that has not been updated since it became effective in 1996. It is recommended that when the lease expires, that it be updated.

3.4 Rules, Regulations, and Minimum Operating Standards Review

As discussed previously, in addition to leases, SGS has Airport Rules and Regulations in place (*South St. Paul Airport-Fleming Field Rules & Regulations*). This document was last revised in April 2005, which is prior to the issuance of the Federal Aviation Advisory Circular No. 150/5190-6, *Exclusive Rights at Federally Obligated Airports*, dated January 4, 2007 and Advisory Circular 150/5190- 7, *Minimum Standards for Commercial Aeronautical Activities*, dated August 28, 2006. These Advisory Circulars (ACs) provide basic information about the FAA's prohibition on the granting of exclusive rights at federally obligated airports, as well as, provides recommendations on minimum standards and policies. These recommendations are made in an effort to minimize the potential violations of grant assurances at federally obligated airports.

3.4.1 Airport Rules and Regulations

A Rules and Regulations document is generally established to facilitate in safe, orderly, and efficient use of an airport for the benefit of its users and investors. Its primary purpose is to ensure that airport tenants and customers operate in a safe and orderly fashion in order to protect the public health, safety, interest, and welfare on the airport, as well as to restrict (or prevent) any activity which would interfere with the safe and orderly use of the airport. The document should be applicable and enforced at all times and is designed to focus on all persons or entities that use the airport for any purpose, including lessees (operators and tenants), sub-lessees, consumers, and users.

Airport Rules and Regulations as an individual document should establish the necessary administrative, operational, and safety rules and regulations for the management governing the use of SGS. The Rules and Regulations should also ensure that airport tenants and customers operate in a safe, secure, and orderly fashion and to restrict (or prevent) any activity or actions that would interfere with the use of an airport. A key purpose of the Rules and Regulations is to enhance the ability of the airport to fulfill its role in the Minnesota airport system and the Twin Cities airport system. These Rules and Regulations apply to everyone using the airport.

The Airport Rules and Regulations document should be geared to the everyday airport user such as an aircraft owner. For this purpose the document should be easy to read and should include separate sections that make it easy to locate and reference information. Additionally, this document should be readily available. Some airports have links to these documents on their website and have printed it in booklet form with a hard cover, making it easy to store in a person's flight bag.

While a Rules and Regulations document should be developed to meet the unique circumstances of an individual airport, there are several areas of focus that should be included in the document. These general areas of focus include, but are not limited to, the following:

- Airport Management and associated roles (authority, responsibility, and accountability)
- Description of standard airport operations (primary contact information and periods of operation; standards of tenant and operator behavior; insurance and liability requirements and waivers; and security and access standards and responsibilities);
- Description of aircraft operational areas and standard procedures (traffic patterns, details of surrounding terrain, weight limitations, noise abatement, etc.)
- Description of ground vehicular operational areas and standard procedures (vehicular requirements)
- Airport Security Plan
- Description of airport maintenance programs (mowing, snow removal, pavement maintenance, etc.)

At a minimum, the Rules and Regulations document should give a clear description of airport areas to which the general public is not allowed free access for reasons of safety and interference with airport operations, and distinguish those areas to which the public has unrestricted rights and access (i.e. airport roads, public parking areas, public terminals, etc.). The following are some basic topics that are can be included in a standard Rules and Regulations document:

- Definitions
- Proper conduct within the Airport Operational Area (AOA)
- Security procedures
- Fire safety
- Removal of disabled aircraft
- Aircraft registration
- The use and storage of paints, dopes, and thinners
- Storage and transport of aviation fuels
- Self-fueling regulations
- Procedures for the clearing of non-airworthy aircraft, wreckage, or unsightly major components
- Environmental restrictions and protections
- Motor vehicle operation requirements and parking

The basic elements found in the *South St. Paul Airport-Fleming Field Rules & Regulations* include the following:

- Forward
- Definitions
- General Rules and Regulations
- Fire and Safety
- Aircraft Operations
- Airport Operational Restrictions
- Taxi & Ground Rules
- Motor Vehicles
- Penalties
- Hazardous Waste
- Aircraft Hangars

Upon review of SGS's Rules and Regulations document, it has been determined that the Airport's current Rules and Regulations are generally consistent with the best management practices established within the industry as well as those standards established at other comparable airports. There are several sections that should be added to this document which would help make it more complete and they include but are not limited to: defining the Minimum Standards and referencing a Minimum Standards document that should be in place for commercial aeronautical activities, more information on fueling operations and security responsibilities. Additionally, the airport user could also benefit from a small airport layout plan and an airport traffic pattern map.

The current document is now eight years old and that the FAA has issued an updated AC with minor changes since SGS's document was last updated. As a result, the primary recommendation for the *South St. Paul Airport-Fleming Field Rules & Regulations* is that they should be reviewed regularly and, if necessary, revised in order to maintain rules and regulations that are appropriate to current airport operational circumstances and in compliance with FAA criteria. Note that any changes to this document should be conducted with full participation of the Airport's tenants and users. Revisions should also include opportunities for public comment, a thorough review process, and review by airport legal counsel.

3.4.2 Airport Minimum Standards

Minimum Standards are established for commercial operators on the airport, not for private and corporate tenants. Their primary purpose is to set the threshold requirements for aeronautical service providers who want to operate on a particular airport. By definition, Minimum Standards are the "qualifications that may be established by an airport owner/operator as the minimum requirements to be met as a condition for the right to conduct an aeronautical activity at the airport." These standards should consider the individual circumstances of an airport, including its existing and future development and the role the airport plays in the regional aviation system. Simply put, once established, Minimum Standards help the sponsor to ensure that undercapitalized or hesitant operators are not awarded use of the a public facility to operate their business and those aviation businesses seeking to operate at the airport agree to offer a minimum level of service to be allowed to do business on the airport.

When consistently applied, Minimum Standards help the airport evaluate businesses wishing to locate on the airport and provide a mechanism to achieve the following:

- Ensure safe, efficient, and quality service at the airport,
- Establish a template for safe airport operations,

- Minimize exposure to claims of discrimination or unfair treatment of providers of aeronautical services and their users,
- Address environmental liability, and
- Assure that prospective tenants are treated equally and without unjust discrimination.

The following outline reflects best practices for a Minimum Standards document and establishes a baseline for which SGS can use when developing its Minimum Standards document. However, it is important to note that not every Minimum Standards document needs to include all of these elements; only those that are deemed appropriate for a particular need at a specific airport.

- Introduction (definitions and general administrative, policy, application, waiver, and contractual requirements)
- General Requirements (general airport information regarding experience/capabilities; agreement or permit approvals; payment of rents, fees, and charges; leased premises; facility maintenance; products, services, and facilities; non-discrimination; licenses, permits, certifications, and ratings; personnel; aircraft, equipment, and vehicles; hours of activity; security; insurance; indemnification and hold harmless; taxes; and multiple activities)
- Fixed Based Operator (FBO)(FBO specific information regarding definitions; scope of activity; leased premises; fuel storage; fuel reporting; fueling equipment; ground service equipment; licenses and certifications; employees; hours of activities; aircraft removal; and insurance)
- Specialized Aeronautical Service Operator (SASO) (SASO specific information regarding definition; leased premises; licenses and certifications; employees; equipment; and insurance. (SASOs include the following aviation operations: aircraft maintenance operators, avionics or instrument operator, aircraft rental or flight training operator, aircraft sales operator, aircraft storage operator, other commercial aeronautical activities, and temporary specialized aviation service operators.)
- General Aviation Permit (application, approval process, and permit definition (including validity/duration, assignment or transferability, temporary or special use, and fees))
- Non-Commercial Aviation Activities – (definition, leased premises, employees, equipment, and insurance for non-commercial hangars, non-commercial self-fueling, and non-commercial (private) flying clubs)

As noted, SGS does not have a Minimum Standards document in place. It is recommended that a Minimum Standards document be developed, referenced in the Airport's Rules and Regulations document, and adopted by the City Council. It is also recommended that as this document is developed, it should be conducted with the full participation of the Airport's tenants and users, include opportunities for public comment, go through a thorough review process, and be reviewed by airport legal counsel.

3.5 Summary

This section provided a high-level review of various facets of the business operating conditions at SGS. This was done to help ensure that the Airport remains competitive for potential tenants while maintaining the ability to generate sufficient short-term and long-term reviews. The results of the review of rates and charges, airport leases, and rules, regulations, and minimum standards indicate that the Airport is generally following best management practices. However, as noted previously, there is room for improvement with the development and adoption of a Minimum Standards document.

The financial analysis of SGS revealed that the airport has been successfully maintaining a consistent, annual stream of revenues and has not had to rely on monies from the City's general fund in recent years. Related to rates and charges, SGS is generally in the middle end of the range of rates typically charged by comparable airports that were surveyed. This position can be viewed as an effective strategy for the

Airport with respect to competing with other comparable airports. The Airport's current stream of revenue is limited to its land/facility leases and fuel sales. To ensure continued growth SGS should evaluate additional revenue streams including but limited to concession fees and permits. The following section contains a summary of recommendations based on this review and its findings. These recommendations include development strategies, lease policy recommendations, rates and charges adjustments, and airport management/administrative recommendations.

SECTION 4: AIRPORT BUSINESS AND FINANCIAL PLAN

A Strategic Business Plan considers how an airport fits into the community and region's vision for the future economic viability, as well as identifies the future needs of the airport developed during the master planning process. The plan helps achieve the long-term goals of the airport and allows for airport management and local leaders to make more informed decisions regarding the management, operation, and development of the airport. Utilizing information from the market analysis and business analysis for South St. Paul Municipal Airport (SGS) and taking into consideration the recommendations from the Airport's Master Plan, this section will provide the business and financial plan for the airport including recommendations for business development.

The section is presented in the following subsections:

- Airport Role and Business Development Strategies
- Financial Plan
- Rates & Charges Adjustments
- Lease Policy Recommendations
- Rules, Regulations and Minimum Operating Standards Recommendations
- Potential Impacts of Recommendations
- Airport Management/Administrative Guidelines

4.1 Airport Role and Business Development Strategies

The Airport is an essential component of the City of South St. Paul. The importance of the Airport, as a vital part of the national transportation system, is recognized by the federal and state governments, by and through the Federal Aviation Administration (FAA), and the Minnesota Department of Transportation (MnDOT) Office of Aeronautics. These agencies require the City of South St. Paul to take the steps necessary to protect and maintain the Airport so that the general public can use it safely and efficiently. Further, the City of South St. Paul has an obligation to the federal government to operate SGS in accordance with Federal Grant Assurances and Airport Compliance Requirements, as described in FAA Order 5190.6B, dated September 2009.

South St. Paul Municipal Airport serves as a gateway to the region, providing businesses, tenants, and other visitors with access to the Minneapolis-St. Paul metropolitan area. In 2011, MnDOT Office of Aeronautics determined that SGS was responsible for more than $47 million in economic activity and the businesses located on airport property accounted for more than 450 direct jobs. The Airport plays a vital role in supporting its community and the region. Both the FAA and MnDOT recognize the importance of the airport including SGS in their categories that serve regional and national markets and are utilized by a variety of general aviation aircraft including corporate jets. As identified in *Section 4 – Demand and Facility Requirements* of the Master Plan, the Airport is expected to continue to accommodate small general aviation aircraft similar in size to the Cessna 208 Caravan, as well as, corporate jet aircraft similar in size to the Cessna Citation 560XL.

4.1.1 Personal/Recreational Aviation Market

Interest in basing personal/recreational aircraft at SGS must continue to be actively cultivated by the Airport. Beyond the aircraft owners located in the Airport's catchment area, as identified in the drive time analysis in *Section 2 – Aviation Industry Overview and Market Analysis*, outlying aircraft owners within the 30 minute drive-time area should also be targeted. Several Airport factors should be highlighted and offered to aircraft owners in a bid to base their aircraft at SGS. The highlighted aspects and benefits of SGS should include:

- **Airport Facilities – New and Planned:** Many general aviation airports consist of older facilities in various states of disrepair. Funding is designated for safety and operational purposes primarily, with limited dollars remaining for hangar, ramp, and terminal upgrades. SGS holds a distinct advantage in terms of facility condition and attractiveness for aircraft owners. In addition, the Airport has real estate available for additional hangar development.
- **Competitive Pricing:** Aircraft owners, when choosing where to base their aircraft, typically identify cost as a primary decision factor. The lease rates for aircraft storage must be competitive with surrounding airports.
- **Service Offerings:** In relation to competing airports in the Twin Cities area, SGS has the opportunity to highlight key services that include: instrument approach, a planned stopway extension to both runway ends to lengthen the accelerate stop distance available for aborted takeoff operation calculations, planned hangar development, and a fixed base operator (FBO). Again, these facilities and services must be highlighted to potential tenants who may be considering competing airports.

4.1.2 Corporate Aviation/Airside Business Market

Efforts to attract both corporate aircraft owners and potential new airside businesses to the Airport are similar to those used to attract personal/recreational aircraft owners. SGS facilities and services should be highlighted and offered to aircraft owners in a bid to base their aircraft at SGS. The points to highlight include:

- **Capabilities of the Airport:** Educate potential corporate users of the improvements, capabilities and cost of basing an aircraft at, or flying into, South St. Paul Municipal Airport. Ensure that both local representatives of the target firm and out-of-town decision makers are included in this marketing effort. Utilize site visits, mailings, promotional brochures and facility tours to influence interested parties. This should be done in conjunction with the City of South St. Paul's, the Minneapolis Saint Paul Regional Economic Development Partnership, and Minnesota Department of Employment and Economic Development.
- **Land Availability:** Aviation businesses need access to their aircraft and should have public access and parking. Prime space for the development of airport business space includes areas adjacent to the main apron, on the south side of the main apron, and the east side of the main apron. Land is also available on the west side of airport for private development for aviation purposes. As part of the Airport's Master Plan, a Building Area Drawing was developed to depict the land that is available to be developed in *Section 4 –Facility Requirements*.
- **Location and Convenience:** Reinforce the proximity and location of the Airport to the Twin Cities, its businesses and destinations.

4.1.3 Recommended Plan

The recommended business plan for South St. Paul Municipal Airport focuses on the long-term vision of positioning the Airport's facilities and services to better support and take advantage of its prime location in the Minneapolis-St. Paul metropolitan area. The recommended plan of action from this plan relies on the three following initiatives:

1. **Attracting Business Aviation:** The attraction of corporate aviation and aviation-related businesses will bolster fuel sales revenues and on-airport employment. Corporate and business aviation represent a large, lucrative segment of the general aviation market. SGS can compete for business related multi-engine propeller and jet aircraft that are registered in the Twin Cities area. Additionally, businesses and visitors located outside of the area may use these same types of aircraft to access the area. Attracting these users will help with fuel sales and itinerant aircraft storage fees.

2. **Hangar Development:** In concert with the marketing of corporate and business aviation, the development of hangars should be encouraged. Growth of the Airport's revenue base will depend, in part, on the availability of adequate hangar facilities. Based aircraft at the Airport are projected to increase to 363 and the airport should consider building t-hangars to provide storage for some of these aircraft, as well as, consider developing additional infrastructure and providing long-term land leases to interested parties for the purpose of constructing conventional "box" aircraft storage hangars. There are currently 36 public t-hangars and the airport has a waiting list of 10 aircraft for t-hangars.
3. **Rates and Charges:** The revision of rates and charges is an important component when evaluating revenue enhancement strategies. As identified in the previous section, a comparison of market values indicates a potential for higher rates at SGS. These rates should be negotiated with existing based aircraft owners and businesses to ensure their retention.

4.2 Financial Plan

Building on the previous sections discussions of the Airport's historic operating revenues and expenses, this section provides projections for future financial results based on recommendations. The projections of Airport revenues and expenses are for a 10-year period and the Master Plan's Capital Improvement Plan (CIP) projects are included. It should be noted that SGS's Master Plan CIP is used as a guideline, and that capital projects should be undertaken when demand warrants and funding becomes available.

4.2.1 Funding Sources

As discussed in the SGS Airport Master Plan's *Section 5 – Facility Implementation Plan*, the Airport utilizes funding from several sources to maintain its facilities and complete improvements. The primary sources of funding are highlighted as follows:

- **FAA Funding** – As an airport included in the National Plan of Integrated Airport Systems (NPIAS), SGS is eligible to receive Airport Improvement Program (AIP) funds for planning and development projects. AIP funds currently cover 90% of eligible costs. Under current authorization, general aviation airports are eligible for $150,000 per year or up to $600,000 (if accumulated over multiple years) to use for eligible projects. Additional funds, designated as discretionary, are allocated to airports based on the FAA's national priority system.
- **MnDOT Funding** – MnDOT's Office of Aeronautics provides airport funding through monies collected from aviation fuel taxes and aircraft registration fees. The Office of Aviation has several grant funding programs for which airports, including SGS, are eligible. State funding participation ranges from 50% to 90% depending on the type of project.
- **Local Funding (Net Operating Revenues/Cash Reserves)** – Through the collection of revenues from fuel sales, hangar rental, ground leases, and other sources, these monies can be utilized to fund projects at the airport. Other funding sources at the local level include city general funding, private funding, and general obligation bonds. Bonds are typically used to cover the local share of major airport projects, such as runway rehabilitation.

4.2.2 Estimated Project Costs and Development Schedule

Table 24 summarizes the proposed capital improvements over the 20-year planning period. These are presented in detail as part of *Section 5 – Facility Implementation Plan* of the Master Plan which provides estimates of the eligibility by funding source.

Table 24: Estimated Project Costs Summary

	FAA Share	State Share	Local Share	Total Cost
Short Term (2014-2018)	$2,964,600	$118,650	$729,750	$3,813,000
Mid Term (2019-2023)	$450,000	$65,000	$615,000	$1,130,000
Long Term (2024-2034)	$2,385,000	$0	$265,000	$2,650,000
Total	$5,799,600	$183,650	$1,609,750	$7,593,000

Source: South St. Paul Municipal Airport Master Plan
Prepared: May 2014

4.2.3 Projected Airport Operating Revenues and Expenses

The continued growth of SGS, in terms of activity, tenants, new leases, and facility development, will impact the Airport's operating revenues and expenses over the planning period. Actual future financial outcomes will be determined by a variety of factors, many of which are impossible to identify at this time. However, the projections, developed as part of this evaluation, depict future Airport operating revenues and expenses based on recent financial results, budgeted revenues and expenses for 2014, and activity and tenant growth trends identified as part of this business plan and as part of the Master Plan. Generally speaking, the projections are conservative in nature.

Projections of future Airport operating revenues and expenses for the period of 2015 through 2024 are presented in **Table 25**. The following information for operating revenues was established through close consideration of historical trends, as well as, proposed Airport development initiatives and how they might impact those future revenues. Additionally, the current and projected trends in the overall economy, both at the state and national levels, were considered. On the operating side, increases in salaries and wages, as well as overall operational activities, are based on Bureau of Labor and Statistics (BLS) data for the last 12 calendar months (1.7% growth) for the period of 2015 through 2019 and normal growth rate (3%) for the period 2020 through 2024 based on industry averages while also correlating to BLS projections.

Table 25: Projected Airport Operating Revenues, Expenses, and Income

Categories	FY2014 (Budget)	FY2015	FY2019	FY2024	CAGR 2014-2024
Operating Revenues					
Intergovernmental Revenue	$116,839	$29,269	$29,269	$29,269	
Rent	$9,622	$9,786	$10,468	$12,135	
Rent of Hangars	$188,417	$191,620	$204,986	$237,635	
Land Lease	$151,048	$153,616	$164,331	$190,505	
T-Hangar Rental	$87,888	$89,382	$150,291	$174,228	
Aircraft Parking Fees	$5,240	$5,329	$5,701	$6,609	
PILOT	$49,271	$50,109	$53,604	$62,142	
Airport Fuel Receipts	$826,779	$840,834	$899,486	$1,042,750	
Interfund Operating Transfers	$0	$0	$0	$0	
Miscellaneous Revenue	$9,430	$9,590	$10,259	$11,893	
Total Operating Revenues	*$1,444,534*	*$1,379,535*	*$1,528,395*	*$1,737,898*	*1.87%*
Operating Expenditures					
Personal Services	$166,873	$169,710	$181,548	$210,464	
Supplies	$783,927	$797,254	$852,865	$988,704	
Other Services & Charges	$198,264	$193,946	$203,952	$228,393	
Capital Outlay	$0	$0	$0	$0	
Debt Service	$68,696	$68,696	$80,124	$80,124	
Miscellaneous Expenses	$1,075	$1,075	$1,075	$1,075	
Total Operating Expenditures	*$1,218,835*	*$1,230,680*	*$1,319,564*	*$1,508,760*	*2.16%*
Net Operating Income (Loss)	**$225,699**	**$148,854**	**$208,831**	**$229,138**	0.15%

Source: City of South St. Paul 2014 Budget and Marr Arnold Planning
Note: CAGR – Compound Annual Growth Rate
Prepared: May 2014

4.3 Rates and Charges Adjustments

SGS revenues derived from user fees, including land leases, account for 100% of the Airport's income. As mentioned in the previous section, user fees are normally established by the airport based on market conditions in the area and often vary from airport to airport. The reasonable results of the rates and charges comparison from the previous section of this business plan indicated that SGS could benefit from various rate increases.

It is understood that the airport is a resource designed to be responsive to the needs of its city, stakeholders, and users. However, that fact should also be weighed against operating the airport to maximize its efficiency and potential economic and financial benefit for the city. As such, SGS should explore options for potential upward adjustments to their rates and charges structure. Nearly 50% of leases (hangar and ground) at SGS are eligible for renewal per the terms of lease in the next three years and all 36 t-hangar leases are renewed annually. As these leases, and all subsequent leases, are negotiated for renewal, it is recommended that the base rent be adjusted to correspond to the Airport's current rate schedule and/or increase the base rent a minimum of 10%.

When all leases are adjusted upwards of 10%, as they are renewed, the following revenues shown in **Table 26** could be realized with this competitive adjustment. It is important to note that each of the existing leases was reviewed to determine its base rate and terms of the lease agreement. The analysis included in Table 26 is cumulative over each of the time periods of an additional 10% in revenues based on the each lease's base rate, terms, and expected date of renewal.

Table 26: Projected Additional Lease Revenues (10% Adjustment)

Type of Lease	2014 Mid-Year	2015	2019	2024
Commercial Land	$2,100	$2,300	$4,100	$5,800
Non-Commercial	$1,500	$3,900	$9,400	$15,000
T-Hangar (Existing)	$9,900	$10,000	$10,800	$12,500
T-Hangar (New)*	--	--	$4,100	$4,800
Total	**$13,500**	**$16,200**	**$28,400**	**$38,100**

Source: Marr Arnold Planning
Note: New T-hangars are planned to be constructed within the next 5-7 years.
Prepared: May 2014

In addition, it is also prudent for the Airport to consider other potential revenue streams paid for by the users of the airfield to increase revenues. Five new user driven revenue sources have been identified and their projected impact on the Airport's budget are shown in **Table 27**. It is important to note that projected revenues shown in 2014 are for mid-year implementation and subsequent years will be for full calendar years. Transient ramp fee and transient overnight fee growth rates are based on the growth rates utilized in the Master Plan's activity projections for the aircraft. The identified miscellaneous fees are shown with no growth and it is recommended that these fees be reviewed every 3 to 5 years to determine if they need to be adjusted to be more competitive.

Table 27: Projected New Operating Revenue

Type of Operating Revenue	2014 Mid-Year	2015	2019	2024
Transient Ramp Fees	$6,800	$13,600	$13,900	$14,700
Transient Over Night Fees	$2,500	$5,100	$5,200	$5,500
Miscellaneous – Administrative Fee	$600	$1,200	$1,200	$1,200
Miscellaneous – Sublease Fee	$50	$100	$100	$100
Miscellaneous – Aircraft Tow Fee	$300	$500	$500	$500
Total	**$10,250**	**$20,500**	**$20,900**	**$22,000**

Source: Marr Arnold Planning
Prepared: May 2014

It is important to note that these estimates are based on the rates and fees currently being charged within the Airport's market area and comparable airports across the United States. Additionally, these revenue sources are not atypical and are utilized by numerous other general aviation airports across the United States at airports of all sizes.

4.4 Lease Policy Recommendations

As discussed in *Section 3 – Airport Business and Financial Analysis*, it was determined that most of the current leases and terms are generally consistent with the best management practices established within the industry, as well as, those standards established at other comparable airports. The Airport's efforts to standardize its leases over the last several years has been successful and it is recommended that the Airport continue to regularly review and update their leases and terms as necessary.

4.5 Rules, Regulations, and Minimum Operating Standards Recommendations

The primary recommendation for the *South St. Paul Airport-Fleming Field Rules & Regulations* is that it should be reviewed regularly and, if necessary, revised in order to maintain Airport Rules and Regulations that are appropriate to current airport operational circumstances and in compliance with FAA criteria.

Any changes to this document should be conducted with full participation of the Airport's tenants and users. Revisions should also include opportunities for public comment, a thorough review process, and review by Airport legal counsel.

As indicated in the previous section, the Airport does not have a Minimum Standards document in place. It is recommended that a Minimum Standards document be developed, referenced in the Airport's Rules and Regulations document, and adopted by the City Council. It is also recommended that as this document is developed, it should be conducted with the full participation of the Airport's tenants and users, include opportunities for public comment, go through a thorough review process, and be reviewed by Airport legal counsel.

4.6 Potential Implication of Recommendations

Based on the results of the findings and recommendations, a financial analysis has been conducted to identify the potential impacts of the recommended changes to leases, rates, and charges over the next 10-year period (2014 through 2024) as shown in **Table 28**.

Table 28: Projected On-Airport Operating Revenues and Expenses with Recommendations Implemented

Categories	FY2014 (Budget)	FY2015	FY2019	FY2024	CAGR 2014-2024
Operating Revenues					
Intergovernmental Revenue	$116,839	$29,269	$29,269	$29,269	
Rent	$9,622	$9,786	$10,468	$12,135	
Rent of Hangars	$188,417	$191,620	$204,986	$237,635	
Land Lease	$151,048	$153,616	$164,331	$190,505	
T-Hangar Rental	$87,888	$89,382	$150,291	$174,228	
Add'l Lease Revenues	***$13,500***	***$16,200***	***$28,400***	***$38,100***	
Aircraft Parking Fees	$5,240	$5,329	$5,701	$6,609	
PILOT	$49,271	$50,109	$53,604	$62,142	
Airport Fuel Receipts	$826,779	$840,834	$899,486	$1,042,750	
Interfund Operating Transfers	$0	$0	$0	$0	
Miscellaneous Revenue	$9,430	$9,590	$10,259	$11,893	
New Operating Revenues	***$10,250***	***$20,500***	***$20,900***	***$22,000***	
Total Operating Revenues	*$1,468,284*	*$1,416,235*	*$1,577,695*	*$1,827,266*	*2.21%*
Operating Expenditures					
Personal Services	$166,873	$169,710	$181,548	$210,464	
Supplies	$783,927	$797,254	$852,865	$988,704	
Other Services & Charges	$198,264	$193,946	$203,952	$228,393	
Capital Outlay	$0	$0	$0	$0	
Debt Service	$68,696	$68,696	$80,124	$80,124	
Miscellaneous Expenses	$1,075	$1,075	$1,075	$1,075	
Total Operating Expenditures	*$1,218,835*	*$1,230,680*	*$1,319,564*	*$1,508,760*	*2.16%*
Net Operating Income (Loss)	**$249,449**	**$185,554**	**$258,131**	**$318,506**	2.47%

Source: South St. Paul Municipal Airport 2013, Marr Arnold Planning
Note: Projections are based on the Airport's current business model; CAGR – Compound Annual Growth Rate
Prepared: May 2014

4.7 Airport Management/Administrative Guidelines

An airport's organizational and administrative structure can vary greatly depending on its size, ownership, and market focus, among other considerations. For example, a large metropolitan area served by several airports meeting multiple aviation market demands might have one governmental body, or authority, over all area aviation operations, which would require one particular type of administrative structure. However, airports run by cities may be operated so as a separate city department or within a department

of public works, economic development, transportation, or public utilities, which would require another type of structure.

While there is no set standard or practice for a "typical" airport administrative structure, there are some basic considerations that should be identified to provide a baseline of understanding. These are presented in the following sections.

According to Airports Council International (ACI), most airports in the United States are public non-profit organizations, run directly by or sponsored by government entities or government-created authorities. Generally, there are six primary entities that encompass the sponsorship of airports; City Operated, County Operated, State Operated, Port Authority Operated, Airport Authority Operated, and Other.

4.7.1 Airport Administrative Structures

Airport administrative structures are as diverse as the types of airports that they serve. The structures are typically based on multiple factors, including staffing levels and organizational funding; airport operational types, market and levels; airport sponsor requirements; and airport accountability requirements. However, there are some basic roles and responsibilities that must be fulfilled at every airport, whether by one person or a staff of many.

The person charged with overseeing an airport can be identified by a variety of titles, including Airport Manager and Aviation Director. This person bears the ultimate responsibility for the day-to-day operation of the airport, and typically acts as the interface between the airport sponsor in determining policy direction, and the implementation of that policy through the airport organization. A description of typical airport departments and their responsibilities is included below. It is important to note that regardless of the number of employees, these responsibilities must ultimately be addressed at every airport, albeit to varying degrees.

- Legal
  - Reviews all contracts and other agreements
  - Represents the airport in any legal proceedings
- Marketing and Public Affairs
  - Markets the airport to users
  - Handles press inquiries and publicizes airport activities
  - Provides customer service and community relations
- Finance and Administration
  - Sets/monitors the annual budget
  - Monitors capital improvement plan
  - Prepares airport bond issues
  - Provides oversight of contractors
  - Provides accounting, purchasing, statistics, and personnel services
- Engineering and Maintenance
  - Oversees all work done at the airport airfield, in the terminal, and other airport properties
  - Provides building, vehicle, and equipment maintenance
  - Maintains runways, taxiways, and roads
- Operations
  - Ensures efficient operation of the airfield and terminal
  - Interfaces with federal agencies such as the FAA, Transportation Security Administration (TSA), and Customs and Border Protection
  - Manages terminal and landside facilities and airside operations
  - Provides general planning

- Safety and Security
  - Provides fire, crash, and rescue services
  - Retains medical staff to respond to aircraft emergencies
  - Secures public areas of the airport

It is important that the performance requirements and implications for these departments tend to vary directly with a given airport's type and level of aviation activity. As such, larger, busier, and higher profile airports (primarily commercial service airports) tend to have larger staffs to accommodate those larger demands, whereas small airports tend to have small demands attached to each of these requirements.

4.7.2 Additional Airport Administrative Considerations

As an airport owned and operated by a municipality, South St. Paul Municipal Airport is subject to several considerations that lie outside of what might typically be experienced by other entities within city government. It is important to note that these considerations are very important with respect to how the Airport operates within the City's organizational structure since they should help define requirements that are unique to that entity.

- While SGS is owned and operated by the City of South St. Paul, it is also falls under the regulatory requirements of the FAA. This point is very important, in that while the Airport operates as a limited entity within city government, it also operates as a vital component of the national air transportation system, fulfilling critical national and federal demands. This means that while the operational conditions of SGS are important to the City of South St. Paul from local transportation and economic development perspectives, it is equally important on the federal level to the FAA in terms of managing the national airport system. In other words, the Airport is not just a local resource, but also a national one.
- With respect to the abiding by federal requirements, SGS is subject to all appropriate FAA safety, design, airspace, capacity, security, maintenance, development and operational standards. As such, the Airport is responsible for helping to abide by these standards and potentially implement relevant requirements on the local level (such as appropriate land use). Additionally, in order to help meet these standards, the FAA provides significant funding through its AIP program. However, in order to secure such funding or grants, an airport must abide by a series of "grant assurances" that commit the airport to a series of operational, administrative, safety, and financial obligations. Therefore, as owner and operator of South St. Paul Municipal Airport, the City of South St. Paul assumes those federal obligations when it takes one of these grants. It should also be noted that two of the most important assurances as related to a city-owned airport include committing to maintaining the airport as a public use facility for a period of 20 years after receiving the grant, and that any monies derived from the direct operation of the airport must be maintained for its operation and maintenance, and not diverted to other city funds.
- By their very nature, airports tend to maintain a higher public profile within a community. From a positive perspective, airports are known to be economic generators for local communities and oftentimes can be the hub of economic activity and initiatives. Conversely, in terms of community concerns related to its activities, airports can also become a focal point for the local controversy. In either case, airports typically maintain a public profile unlike any other department within city government.
- One of the hallmarks of the aviation industry is that of competition. Competition, with respect to efficiency and profitability, drives all aspects of the aviation industry, including airports. Subject to any number of local, state, regional, national, and international market considerations; airports of all sizes must be able to respond to market conditions in a decisive and immediate manner; an inappropriate delay in response to evolving conditions

could result in inefficiencies and degraded market share. As such, an airport must be managed and operated as a business more so than any other department within a typical city government. Therefore, it is critical that within the city government organizational structure, airports be positioned in such a fashion as to ensure their flexibility in responding to market demands, while maintaining their accountability to the City.

4.7.3 Airport Management/Administrative Recommendations

Generally speaking, the Airport follows the best practices established in the industry. However, as discussed in *Section 1 – Airport and Regional Overview,* SGS currently operates with one full time position (Airport Manager), one intern (0.9 full time equivalent - FTE), two part-time (14 hours per week or 0.35 FTE) positions (maintenance and weekend building attendant), one seasonal position (0.25 FTE), and 0.1 FTE of the City Engineer's position is allocated to the operation of the airport.

Within the Minneapolis-St. Paul metropolitan area, the other general aviation reliever airports to Minneapolis-St. Paul International Airport (MSP) and MSP are owned and operated by the Metropolitan Airports Commission (MAC). This agency provides staff that operates and manages seven (MSP and six general aviation reliever airports) airports on a daily basis. With a staff of over 550, 26 are dedicated to the Reliever Operations & Administration Department (see **Table 29**). This department has an administration staff of eight and each reliever airport has between 1 and 7 assigned staff. MAC Reliever Airport staff are responsible for the operation, maintenance, and administration of the six reliever airports.

When looking at similarly-sized airports with a comparable number of yearly operations and tenants that are located outside of the Twin Cities and in other major metropolitan areas, staffing levels range from 5 to 24 with an average of 13 full time equivalent positions as shown in Table 29. It is worth noting that the Milwaukee County DOT Division of Aviation allocates 2.5 FTE for Lawrence J Timmerman Airport to provide for only ground maintenance (i.e. mowing, snow removal, etc.) All management and operational responsibilities are provided by the FBO through a contract with the County.

Current airport staffing levels of 3 FTE at SGS are not adequate to effectively and efficiently operate the Airport; coordinate with consultants and engineers on the development, management, and construction of airport projects; and manage over 125 leases on the airport which includes responding to tenant requests and monitoring tenant compliance with leases. It is recommended that the City consider approving an additional one to two full-time positions at SGS to more effectively and efficiently operate the airport. One of these positions would replace the intern position to provide for more stability and longevity in the position. These positions could be funded through increased revenue that is realized through lease adjustment and other fee adjustments proposed previously in the Strategic Business Plan to help offset the additional cost to the City.

Table 29: Comparative Airports: Staffing Comparison

	Airport ID	Dedicated Aviation Division, Commission, or Authority Responsible for Operations/Management	Airport Staff (FTE)
Regional Airports			
Minneapolis-St. Paul Int'l	MSP	▯	565[1]
Airlake	LVN	▯	1.75[2]
Anoka County-Blaine	ANE	▯	3.75[2]
Crystal	MIC	▯	3.75[2]
Flying Cloud	FCM	▯	3.75[2]
Forest Lake	25D		.5
Lake Elmo	21D	▯	1.75[2]
St. Paul Downtown	STP	▯	7.75[2]
South St. Paul Municipal	***SGS***		***2.95***
National Airports			
Lawrence J Timmerman, WI	MWC	▯	2.5[3]
Johnson County Executive, KS	OJC	▯	3.35
Add'l National Airports			
Essex County Airport, NJ	CDW	▯	6
Portland-Troutdale Airport, OR	TTD	▯	8[4]
Lee's Summit Municipal, MO	LXT		8.25
DeKalb Peachtree Airport, GA	PDK		24
Chandler Municipal Airport, AZ	CHD		5
Scottsdale Airport, AZ	SDL	▯	14
Front Range Airport, CO	FTG		22
Centennial Airport, CO	APA		22

FTE = Full Time Equivalent

[1] Metropolitan Airports Commission (MAC) total staff minus Reliever Operations & Administration staff.

[2] MAC Reliever Operations & Administration: Totals include designated staff amounts plus allocated FTE for Administration Staff.

[3] Staff levels for Milwaukee County DOT Division of Aviation that provide ground maintenance only at Lawrence J Timmerman. All operational, management, and property management responsibilities are contracted out to the FBO.

[4] Staff levels for Port of Portland General Aviation Airport's Department includes two airports, Portland-Troutdale and Hillsboro Airports.

4.8 Summary

The following provides a summary of the recommendations and action items that have been discussed in this section and should be considered and implemented at the discretion of Airport Management and the City of South St. Paul.

Airport Business Development Recommendations:

- Target corporate aircraft owners/operators for new facilities
- Seek to attract additional aviation related businesses
- Work with local economic development agencies to reach the desired target market

Rates and Charges Recommendations:

- Adjust current rates of all appropriate leases to meet the current rate schedule or a minimum of 10%
- Update current Airport leases and develop new leases as appropriate
- Implement new user fees. Publish a customer-friendly version of rates and charges and consider making it available through the Airport web site

Airport Management/Administrative Recommendations:

- Increase staffing levels to more efficiently and effectively operate the airport

These steps and actions provide the blueprint for SGS's vision for growth and financial viability. Due to the Airport's prime location in a high-growth area, SGS will experience growth. It should be the goal of Airport Management to direct the growth toward tenants and activity that will maximize the capabilities of the Airport, provide the greatest financial return, and offer the greatest benefit to the surrounding businesses and community as a whole.