

5. FACILITY IMPLEMENTATION PLAN

The implementation plan is necessary to provide guidance to the airport sponsor on how to implement the conclusions of the preferred airfield development alternative. A realistic, sequenced plan is developed to ensure that airport development is completed to meet aviation demand, rules, regulations, and grant requirements. The implementation plan consists of a sequenced listing of projects over the 20 year planning period.

Development projects are grouped into short-term (present – 5 years), mid-term (6 – 10 years), and long-term stages (11 – 20 years). The development discussed within this document and depicted on the Airport Layout Plan (ALP) update corresponds to the recommended development for each of the stages. Planning level development cost estimates in 2014 dollars are included for each item in the facility implementation plan. The projects are based on the recommended facility requirements and alternatives presented and analyzed in this report.

Actual completion of the projects listed in this implementation plan depend on project justification (i.e. critical aircraft, aircraft operations) and funding (i.e. availability of Federal and State grant dollars and local funds). The comprehensive implementation of all airport projects is linked to the Airport Capital Improvement Program (CIP), updated each year by the airport sponsor and submitted to MnDOT Office of Aeronautics and FAA. The 2015 CIP for SGS is included in **Appendix D**.

5.1. FUNDING INFORMATION

The City of South St. Paul and the South St. Paul Municipal Airport-Fleming Field use funding from the FAA, State of Minnesota, and local sources to maintain the airport and complete airport improvements.

As a NPIAS airport, South St. Paul is eligible to receive Airport Improvement Program (AIP) funds for planning and development projects. This funding source covers the vast majority of the cost of major capital improvements. AIP funds currently cover 90 percent of eligible planning, development, and equipment costs. Under the current authorization bill, general aviation airports are entitled to \$150,000 per year, or up to \$600,000 to use for eligible airport planning and development projects. Additional funds, designated as discretionary, are allocated to airports based on the FAA's national priority system.

Accepting AIP funds also requires the City of South St. Paul to follow Grant Assurances which ensure that the airport sponsor maintains the federal development investment in the airport. Grant assurances require airports to be maintained as a public-use airport, abide by federal regulations, and operate in a safe manner.

The City of South St. Paul receives state airport funding from the Minnesota Department of Transportation Office of Aeronautics. Airport grant funds are gathered from aviation fuel taxes and aircraft registration fees. Grant programs include the Airport Construction Grant Program to provide funding for airport safety, planning and development projects, the Airport Maintenance and Operations Program providing assistance for day-to-day airport operating and maintenance expenses, and the Hangar Loan Revolving Account Program that provides interest free loans for the construction of hangar infrastructure. State funding participation ranges from 50 to 80 percent, depending on the type of project. However, due to funding changes at the state level, beginning in calendar year 2014 through 2017 there is the potential for additional MnDOT funding participation. The additional funding could increase participation rates to 90 percent for state projects and an additional five percent for federally eligible projects. The additional funding will be evaluated on a yearly basis by MnDOT so therefore it is not

certain that it will be available each year. After 2017, the funding rates would go back to what they were prior to 2014. The additional funding participation will make the local funding share of the project less than it currently exists today.

Locally, the City of South St. Paul collects revenues from fuel sales, hangar rental, and private hangar ground leases. Other funding sources may include city general funding, private funding, or general obligation bonds. Bonds can be used to cover the local share of major airport improvement projects, such as runway rehabilitation.

Funding the local portion of the capital improvement costs is not the only financial obligation the City has for operating the airport. There are maintenance expenses, personal services, supplies, and other various services. A Strategic Business Plan was developed for the airport, which 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 Strategic Business 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. A copy of the completed Strategic Business Plan for the South St. Paul Municipal Airport can be found in **Appendix E**.

5.2. PROJECT SCHEDULE

Below is a list of the proposed capital improvement projects over the next 20 years for Fleming Field. The following sections will provide details for each project such as a project description, timing of each project, interrelated projects, special considerations, and project costs. The projects for calendar years 2014 through 2017 will show the additional state funding options. The City should continue to plan conservatively in the event that the additional state funding does not come through. There are also three figures located at the end of this chapter that summarize the development projects planned for each stage of development including a figure for short-term projects, mid-term projects, and long-term projects.

Short-term (present – 5 years) (Figure 5-1)

- South apron crack seal & seal coat reconstruction
- South Gate Road 185-foot extension construction
- Runway 16/34 approach/departure surface obstruction removals
- Property acquisition – Runway 16 RPZ
- Property easements – Runway 16 RPZ
- Obstruction removals, Runway 16 approach surface
- Perimeter security fence, south boundary
- 16-Unit T-hangar construction
- Obstruction removals, Runway 34 approach surface
- SRE – loader with plow
- Environmental Assessment – Runway 16/34 stopways and land acquisition (parcels 01-020, 01-030)
- Land acquisition (parcels 01-020, 01-030)
- Taxiway A realignment and reconstruction

- Construction Runway 16 120-foot stopway
- Construction Runway 34 300-foot stopway

Long-term (11 – 20 years) (Figure 5-3)

- Snow plow
- Apron expansion
- Extend parallel Taxiway B to the Runway 34 end
- West connecting taxiway relocation
- West parallel Taxiway B holding bay construction

Mid-term (6 – 10 years) (Figure 5-2)

- Jet A fuel truck
- 100-foot x 80-foot transient aircraft hangar construction

5.2.1. KEY PROJECTS – SHORT-TERM (PRESENT – 5 YEARS)

Project Name:	South apron crack seal & seal coat reconstruction	
Project Scope:	Apply crack seal and seal coat to the south apron	
Project Purpose:	Pavement maintenance is critical to maintaining the useful life of airport pavement. The 2011 PCI for the south apron area is “Fair” with a drop in PCI of 2.9 per year. Based on this analysis, major rehabilitation is recommended in the near future	
Interrelated Projects:	This project can be completed with the South Gate Road extension	
Special Considerations:	A Categorical Exclusion will be required before the project begins	
Estimated Cost:	\$44,000 Federal funding (90%) = \$39,600 Local funding (10%) = \$4,400	Potential State funding support: \$44,000 Federal funding (90%) = \$39,600 State funding (5%) = \$2,200 Local funding (5%) = \$2,200

Project Name:	South Gate Road 185-foot extension construction	
Project Scope:	Extend South Gate Road by 185 feet	
Project Purpose:	Extending South Gate Road farther north by 185 feet will connect it to existing pavement. Currently, there is grass between the existing road and apron that is worn down due to automobile traffic	
Interrelated Projects:	This project can be completed with the south apron crack seal project	
Special Considerations:	A Categorical Exclusion will be required before the project begins	
Estimated Cost:	\$19,000 State funding (70%) = \$13,300 Local funding (30%) = \$5,700	Potential State funding support: \$19,000 State funding (80%) = \$15,200 Local funding (20%) = \$3,800

Project Name:	Runway 16/34 approach/departure surface obstruction removals	
Project Scope:	Removal of objects penetrating the approach/departure surface	
Project Purpose:	Objects penetrating the approach/departure surface for the runway need to be removed for the airport to maintain night time approach procedures for aircraft that currently use the runway	
Interrelated Projects:	An aeronautical survey revealed many penetrations to the FAA Part 77 airspace and approach/departure surfaces at the airport. The obstruction removal projects will be phased with the most critical high risk obstructions being removed first	
Special Considerations:	An environmental assessment has been completed for removal of all obstructions at the airport	
Estimated Cost:	\$350,000 Federal funding (90%) = \$315,000 Local funding (10%) = \$35,000	Potential State funding support \$350,000 Federal funding (90%) = \$315,000 State funding (5%) = \$17,500 Local funding (5%) = \$17,500

Project Name:	Property acquisition – Runway 16 RPZ (2 Parcels)	
Project Scope:	Acquisition of two residential parcels	
Project Purpose:	Two residential homes are located within the Runway 16 RPZ and are considered incompatible land uses. Acquisition of these parcels and removal of these homes will meet FAA compliance requirements for airport sponsor ownership of the RPZ	
Interrelated Projects:	An aeronautical survey revealed many penetrations and incompatibilities to the FAA Part 77 airspace, approach/departure surfaces, and Runway 16 RPZ at the airport. The obstruction removal projects will be phased with the most critical high risk obstructions being removed first	
Special Considerations:	An environmental assessment has been completed for removal of all obstructions and incompatible land uses at the airport. The Federal Uniform Relocation Act will be followed for the residential acquisitions	
Estimated Cost:	\$650,000 Federal funding (90%) = \$585,000 Local funding (10%) = \$65,000	Potential State funding support \$650,000 Federal funding (90%) = \$585,000 State funding (5%) = \$32,500 Local funding (5%) = \$32,500

Project Name:	Property easements – Runway 16 RPZ (2 Parcels)	
Project Scope:	Purchase easements over two residential parcels	
Project Purpose:	There is a portion of the Runway 16 RPZ that is not under airport sponsor control. Purchase of easements over these areas will ensure land use incompatibilities are not developed within this area	
Interrelated Projects:	An aeronautical survey revealed many penetrations and incompatibilities to the FAA Part 77 airspace, approach/departure surfaces, and Runway 16 RPZ at the airport. The obstruction removal projects will be phased with the most critical high risk obstructions being removed first	
Special Considerations:	An environmental assessment has been completed for removal of all obstructions and incompatible land uses at the airport.	
Estimated Cost:	\$350,000 Federal funding (90%) = \$315,000 Local funding (10%) = \$35,000	Potential State funding support \$350,000 Federal funding (90%) = \$315,000 State funding (5%) = \$17,500 Local funding (5%) = \$17,500

Project Name:	Obstruction removals, Runway 16 approach surface	
Project Scope:	Remove obstructions to the Runway 16 approach surface	
Project Purpose:	Tree and man-made objects have been identified as obstructions to the Runway 16 approach surface. This project will remove those obstructions and allow for a clear airspace for aircraft using the airport	
Interrelated Projects:	An aeronautical survey revealed many penetrations to the FAA Part 77 airspace and approach/departure surfaces at the airport. The obstruction removal projects will be phased with the most critical high risk obstructions being removed first	
Special Considerations:	An environmental assessment has been completed for removal of all obstructions around the airport	
Estimated Cost:	\$150,000 Federal funding (90%) = \$135,000 Local funding (10%) = \$15,000	Potential State funding support \$150,000 Federal funding (90%) = \$135,000 State funding (5%) = \$7,500 Local funding (5%) = \$7,500

Project Name:	Perimeter security fence, south boundary	
Project Scope:	Extend the existing security fence an additional 8,000 linear feet on the south side of the airport to enclose the entire airport boundary within the perimeter fence	
Project Purpose:	There is currently an area of airport property south of the airport that is outside of the existing security fence. This project will ensure the entire airport property is secured	
Interrelated Projects:	This is a stand-alone project	
Special Considerations:	Environmental documentation needs will be determined prior to construction of the project	
Estimated Cost:	\$150,000 Federal funding (90%) = \$135,000 Local funding (10%) = \$15,000	Potential State funding support \$150,000 Federal funding (90%) = \$135,000 State funding (5%) = \$7,500 Local funding (5%) = \$7,500

Project Name:	T-Hangar Construction	
Project Scope:	Construct a 16-unit T-hangar	
Project Purpose:	Some pilots prefer to rent hangar space than build a private hangar. Therefore, the City can construct a T-hangar at the airport and rent out hangar space	
Interrelated Projects:	This is a stand-alone project	
Special Considerations:	Environmental documentation needs will be determined prior to construction of the project	
Estimated Cost:	\$500,000 – Potential funding available through the hangar loan program Local funding (100%) = \$500,000	

Project Name:	Obstruction removals, Runway 34 approach surface	
Project Scope:	Remove obstructions to the Runway 34 approach surface	
Project Purpose:	Tree and man-made objects have been identified as obstructions to the Runway 34 approach surface. This project will remove those obstructions and allow for a clear airspace for aircraft using the airport	
Interrelated Projects:	An aeronautical survey revealed many penetrations to the FAA Part 77 airspace and approach/departure surfaces at the airport. The obstruction removal projects will be phased with the most critical high risk obstructions being removed first	
Special Considerations:	An environmental assessment has been completed for removal of all obstructions around the airport	
Estimated Cost:	\$150,000 Federal funding (90%) = \$135,000 Local funding (10%) = \$15,000	Potential State funding support \$150,000 Federal funding (90%) = \$135,000 State funding (5%) = \$7,500 Local funding (5%) = \$7,500

Project Name:	SRE Loader with plow	
Project Scope:	Purchase a new loader with plow and pusher attachments	
Project Purpose:	Additional equipment is needed at the airport for snow removal operations	
Interrelated Projects:	This is a stand-alone project	
Special Considerations:	None	
Estimated Cost:	\$225,000 Federal funding (90%) = \$202,500 Local funding (10%) = \$22,500	Potential State funding support \$225,000 Federal funding (90%) = \$202,500 State funding (5%) = \$11,250 Local funding (10%) = \$11,250

Project Name:	Environmental Assessment – Runway 16/34 stopways and land acquisition (Parcels 01-020, 01-030)
Project Scope:	This project involves the examination of potential environmental impacts associated with on-airport primary runway projects including construction of stopways to each runway end and land acquisition for the parallel Taxiway A realignment
Project Purpose:	This project is necessary to satisfy the local, state, and federal environmental regulations and the National Environmental Policy Act of 1969 (NEPA) of the proposed action. The existing users of the airport require additional pavement for Accelerate Stop Distance Available (ASDA) calculations. In addition, additional land is required to realign Taxiway A to meet existing FAA design standards. All projects will be justified in the Purpose and Need section of the report
Interrelated Projects:	Project work on the runway including construction of a stopway to each runway end and purchasing land for the realignment of Taxiway A
Special Considerations:	None
Estimated Cost:	\$125,000 Federal funding (90%) = \$112,500 Local funding (10%) = \$12,500

Project Name:	Land Acquisition (Parcels 01-020, 01-030)
Project Scope:	Acquire land for the realignment of parallel Taxiway A
Project Purpose:	The existing Taxiway A does not meet the 34 end of the runway at a 90 degree angle nor does it provide the appropriate separation distance from the runway centerline. The non-standard alignment makes it difficult for pilots to see both approach ends of the runway prior to takeoff. This does not meet FAA design standards and is proposed to be corrected
Interrelated Projects:	Realignment of Taxiway A
Special Considerations:	Necessary mitigation will be determined through the environmental process completed prior to this project
Estimated Cost:	\$350,000 Federal funding (90%) = \$315,500 Local funding (10%) = \$35,000

Project Name:	Taxiway A Realignment and Reconstruction
Project Scope:	Realign and reconstruct parallel Taxiway A to the Runway 34 threshold
Project Purpose:	The existing Taxiway A does not meet the 34 end of the runway at a 90 degree angle nor does it provide the appropriate separation distance from the runway centerline. The non-standard alignment makes it difficult for pilots to see both approach ends of the runway prior to takeoff. This does not meet FAA design standards and is proposed to be corrected
Interrelated Projects:	Land acquisition for completion of this project
Special Considerations:	Necessary mitigation will be determined through the environmental process completed prior to this project
Estimated Cost:	\$750,000 Federal funding (90%) = \$675,000 Local funding (10%) = \$75,000

5.2.2. SHORT-TERM (PRESENT – 5 YEARS) PROJECT SUMMARY

The goals of the projects presented over the next five years are to rehabilitate the existing airport pavements to maintain the existing infrastructure, remove obstructions, and add stopways to both runway ends. The short-term project funding is summarized in **Table 5-1**.

**Table 5-1
Short-Term Project Funding Summary**

Year	Project	Total Cost	Funding Rate Percentages			Federal Funding	State Funding	Local Funding
			Federal	State*	Local			
2014	South Apron Crack Seal Construction	\$44,000	90%	5%	5%	\$39,600	\$2,200	\$2,200
2014	South Gate Road Extension Construction	\$19,000	--	80%	20%	--	\$15,200	\$3,800
2015	TERPs Obstruction Removals	\$350,000	90%	5%	5%	\$315,000	\$17,500	\$17,500
2015	Property Acquisition	\$650,000	90%	5%	5%	\$585,000	\$32,500	\$32,500
2015	Property Easements	\$350,000	90%	5%	5%	\$315,000	\$17,500	\$17,500
2016	Obstruction Removal, Runway 16 Approach	\$150,000	90%	5%	5%	\$135,000	\$7,500	\$7,500
2016	Security Fence 8,000LF	\$150,000	90%	5%	5%	\$135,000	\$7,500	\$7,500
2016	16-Unit T-Hangar	\$500,000	--	--	100%	--	--	\$500,000
2017	Obstruction Removal, Runway 34 Approach	\$150,000	90%	5%	5%	\$135,000	\$7,500	\$7,500
2017	SRE with plow	\$225,000	90%	5%	5%	\$202,500	\$11,250	\$11,250
2018	Environmental Assessment	\$125,000	90%	--	10%	\$112,500	--	\$12,500
2018	Land Acquisition	\$350,000	90%	--	10%	\$315,000	--	\$35,000
2018	Realign Taxiway A	\$750,000	90%	--	10%	\$675,000	--	\$75,000
Totals		\$3,813,000				\$2,964,600	\$118,650	\$729,750

* This column depicts the funding participation rates should MnDOT provide additional funding support. This percentage could change if additional funding is no longer provided.

5.2.3. KEY PROJECTS – MID-TERM (6 – 10 YEARS)

Project Name:	Jet A fuel truck
Project Scope:	Purchase a Jet A fuel truck
Project Purpose:	A Jet A fuel truck will allow mobility when fueling aircraft
Interrelated Projects:	This is a stand-alone project
Special Considerations:	None
Estimated Cost:	\$130,000 State funding (50%) = \$65,000 Local funding (50%) = \$65,000

Project Name:	Transient aircraft hangar construction
Project Scope:	Build a 100-foot x 80-foot conventional hangar for overnight storage of transient aircraft
Project Purpose:	To meet the need of additional transient hangar storage
Interrelated Projects:	This is a stand-alone project
Special Considerations:	Environmental documentation needs will be determined prior to construction of the project
Estimated Cost:	\$500,000 – Potential funding available through the hangar loan program Local funding (100%) = \$500,000

Project Name:	Construction Runway 16 120-foot stopway
Project Scope:	Construct a 120-foot stopway off the Runway 16 end
Project Purpose:	To increase the Accelerate Stop Distance Available (ASDA) for aircraft taking off on Runway 34
Interrelated Projects:	This project may be completed in conjunction with the Runway 34 stopway
Special Considerations:	Necessary mitigation will be determined through the environmental process completed prior to this project
Estimated Cost:	\$150,000 Federal funding (90%) = \$135,000 Local funding (10%) = \$15,000

Project Name:	Construction Runway 34 300-foot stopway
Project Scope:	Construct a 300-foot stopway off the Runway 34 end
Project Purpose:	To increase the Accelerate Stop Distance Available (ASDA) for aircraft taking off on Runway 16
Interrelated Projects:	This project may be completed in conjunction with the Runway 16 stopway
Special Considerations:	Necessary mitigation will be determined through the environmental process completed prior to this project
Estimated Cost:	\$350,000 Federal funding (90%) = \$315,500 Local funding (10%) = \$35,000

5.2.4. MID-TERM (6 – 10 YEARS) PROJECT SUMMARY

The goals of the projects presented over the six to ten year period include the purchase of a Jet A fuel truck, building a transient hangar, and the construction of the stopways for the Runway 16 and Runway 34 ends. The farther out the improvement projects are, the less firm timing and funding availability become. The mid-term project funding is summarized in **Table 5-2**.

**Table 5-2
Mid-Term Project Funding Summary**

Year	Project	Total Cost	Funding Rate Percentages			Federal Funding	State Funding	Local Funding
			Federal	State	Local			
2019	Jet-A Fuel Truck	\$130,000	--	50%	50%	--	\$65,000	\$65,000
2020	Transient Hangar	\$500,000	--	--	100%	--	--	\$500,000
2020	Runway 16 Stopway	\$150,000	90%	--	10%	\$135,000	--	\$15,000
2020	Runway 34 Stopway	\$350,000	90%	--	10%	\$315,000	--	\$35,000
	Totals	\$1,130,000				\$450,000	\$65,000	\$615,000

5.2.5. KEY PROJECTS – LONG-TERM (11 – 20 YEARS)

Project Name:	Snowplow
Project Scope:	Purchase a new snow plow
Project Purpose:	Additional equipment is needed at the airport for snow removal operations
Interrelated Projects:	This is a stand-alone project
Special Considerations:	None
Estimated Cost:	\$650,000 Federal funding (90%) = \$585,000 Local funding (10%) = \$65,000

Project Name:	Environmental Assessment – Apron expansion, Taxiway B extension, and holding bay construction
Project Scope:	This project involves the examination of potential environmental impacts associated with on-airport primary runway projects including the expansion of the apron, Taxiway B extension, and holding bay construction
Project Purpose:	This project is necessary to satisfy the local, state, and federal environmental regulations and the National Environmental Policy Act of 1969 (NEPA) of the proposed action. The existing users of the airport require additional pavement for the apron. In addition, the west side parallel taxiway does not go to the Runway 34 threshold and an extension to the runway end is desired. Holding bays allow pilots to conduct run-up operations while allowing other pilots to taxi by after exiting the runway. All projects will be justified in the Purpose and Need section of the report
Interrelated Projects:	Project work on the runway including expansion of the apron, extension of Taxiway B, and construction of holding bays
Special Considerations:	None
Estimated Cost:	\$100,000 Federal funding (90%) = \$90,000 Local funding (10%) = \$10,000

Project Name:	Apron Expansion
Project Scope:	Expand the apron for additional aircraft parking
Project Purpose:	An apron expansion will satisfy the requirement for the number of aircraft forecast to be on the ground at the same time during peak hours within the 20 year planning period
Interrelated Projects:	This is a stand-alone project
Special Considerations:	Environmental documentation needs will be determined prior to construction of the project
Estimated Cost:	\$650,000 Federal funding (90%) = \$585,000 Local funding (10%) = \$65,000

Project Name:	Extend parallel Taxiway B
Project Scope:	Extend parallel Taxiway B on the west side of the runway to the Runway 34 end
Project Purpose:	To prevent back taxiing on the runway, the west parallel Taxiway B will be extended to the Runway 34 end
Interrelated Projects:	This project may occur in conjunction with construction of a holding bay on Taxiway B
Special Considerations:	Environmental documentation needs will be determined prior to construction of the project
Estimated Cost:	\$500,000 Federal funding (90%) = \$450,000 Local funding (10%) = \$50,000

Project Name:	Connecting taxiway relocation & holding bay construction
Project Scope:	Relocate the existing connecting taxiway from the runway to parallel Taxiway B in addition to constructing a holding bay on Taxiway B
Project Purpose:	Relocating the existing connecting taxiway is recommended because it currently provides direct access to the west building area which may cause unintended access onto the runway by a taxiing aircraft. A holding bay allows pilots to perform pre-flight checks prior to takeoff while allowing other aircraft to safely taxi by the parked aircraft.
Interrelated Projects:	This project may occur in conjunction with extension of the parallel Taxiway B to the Runway 34 end
Special Considerations:	Environmental documentation needs will be determined prior to construction of the project
Estimated Cost:	\$750,000 Federal funding (90%) = \$675,000 Local funding (10%) = \$75,000

5.2.6. LONG-TERM (11 – 20 YEARS) PROJECT SUMMARY

The focus of this time period will be the completion of Taxiway B projects. Project justification will need to be provided prior to beginning environmental review or construction of any projects listed for development. The farther out the improvement projects are, the less firm timing and funding availability become. Additional building area expansion can occur when the need is presented for additional based aircraft. The long-term project funding is summarized in **Table 5-3**.

**Table 5-3
Long-Term Project Funding Summary**

Year	Project	Total Cost	Funding Rate Percentages			Federal Funding	State Funding	Local Funding
			Federal	State	Local			
2025	Snowplow	\$650,000	90%	--	10%	\$585,000	--	\$65,000
2026	Environmental Assessment	\$100,000	90%	--	10%	\$90,000	--	\$10,000
2027	Apron Expansion	\$650,000	90%	--	10%	\$585,000	--	\$65,000
2029	Extend Parallel Taxiway B	\$500,000	90%	--	10%	\$450,000	--	\$50,000
2032	Connecting taxiway relocation & holding bay construction	\$750,000	90%	--	10%	\$675,000	--	\$75,000
Totals		\$2,650,000				\$2,385,000		\$265,000