CHAPTER 6: IMPLEMENTATION PLAN

Introduction

A plan for the recommended future airport development was identified in **Chapter 5: Alternatives Development and Evaluation** based on the existing conditions, aviation forecasts and facility requirements. The improvements needed at the Sioux Falls Regional Airport over the next 20-year period have been determined.

The implementation plan provides guidance on how to implement the preferred development recommendations from this Master Plan. This chapter includes the following sections:

- Considerations
- Implementation Summary
- Implementation Process
- Project Phasing & Descriptions
- Financial Overview
- Capital Improvement Plan

Considerations

Each project is sequenced to balance demand, schedule, other projects, environmental/agency approval, funding and financial constraints. The project plan may change over time to react to changing conditions, but is flexible so that the airport can react to change and re-prioritize projects based on actual demand.

The implementation plan is divided into four phases:

- Short-Term (2015 through 2017)
- Mid-Term (2018 to 2023)
- Long-Term (2023 to 2033), and
- Ultimate (beyond 2033)

The short-term phase accounts for the first five years of projects since the Master Plan began in 2013. Many of these projects are in process. A more detailed facility implementation and financial feasibility plan is identified for the short-term and mid-term as the project needs can be more realistically anticipated based on available funding and actual activity demand. After this phase there is more uncertainty in project funding, demand and local project importance.

All planning-level project costs developed are in 2014 dollars. Final project costs are subject to change based on actual construction and project formulation needs.

Many of the projects identified are demand-driven based on the Planning Activity Levels (PALs) from the approved aviation forecasts. Each PAL corresponds to an estimated year. The timing of implementation is estimated from the FAA-approved activity forecasts. Any change in the actual airport activity and forecasts may affect the timing of these improvements. For example, a higher design hour departing passenger count from changes in flight schedule may require terminal expansion planning to begin sooner than anticipated requiring a quicker implementation schedule than anticipated. Projects are implemented based on actual demand.

The development strategy it vital to creating a realistic implementation plan. These considerations for the Sioux Falls Regional Airport include:

- Maintain a safe airport. Address key safety/security/standards projects while providing adequate funding for other necessary improvements.
- Maintain airport pavements and facilities in a functional condition. Priority projects in the short-term includes the reconstruction of Runway 3-21.
- Build capacity at the airport to meet growing demands. Key projects include the construction of a terminal parking structure, aircraft remain-overnight (RON) parking, as well as meeting the aeronautical needs of corporate and air cargo users.
- Sequence airport improvement projects considering a realistic funding plan with a mix of federal, state and local funds. Consider available grant funding and maintain adequate reserves in the airport enterprise fund balance for unforeseen events.

For this implementation plan, projects fall into one of three broad categories:

- **Safety/Security/Standards (S)** – projects required to meet existing or projected future FAA design standards, TSA security regulations or other regulatory requirements to provide an adequate level of safety for airport users and the general public.
- **Demand/Capacity (D)** – projects required to expand the airport facility to safely and efficiently accommodate increasing number/types of aircraft and passenger movements. Projects are necessary when aviation activity meets anticipated future demand levels. These projects are triggered when activity hits a certain activity threshold.
- **Pavement/Equipment/Facility Maintenance (P)** - projects required to meet an anticipated pavement and facility maintenance/replacement schedule to meet functional needs. Many of these projects require completion to maintain and operate the airport facility regardless of demand.

Based on the PALs and other regular pavement and safety needs, some airport development capacity projects may not able to be sequenced to meet PALs within a realistic funding plan. These projects are initiated within a few years of their PAL demand trigger to account for anticipated available funding.

Implementation Summary

Recommended infrastructure projects are identified in one of the four development schedules. These projects are then prioritized and sequenced based on a variety of factors previously described including demand triggers, scheduled improvements and available funding. The actual implementation will vary depending upon demand and financial considerations. Each project identified requires detailed planning, environmental documentation, design and construction steps prior to its completion.

Table 6-1: Implementation Plan Summary summarizes the recommended development projects and sequencing.

Table 6-1 - Implementation Plan Summary

Type	Year/ Seq.	Project	Cost	FAA Funds	Airport Funds*	State/ Other
Short-Term (2015-2018)						
P	2015	Reconstruct/Rehab Taxiway B	$2,500,000	$2,250,000	$125,000	$125,000
P	2015	Rehabilitate Runway 3-21, Blast Pad	$2,400,000	$2,160,000	$120,000	$120,000
S	2015	Rehabilitate Existing Customs and Border Patrol (CBP) Facility	$150,000	$0	$150,000	$0
D	2015	Construct Rental Car Wash/Maintenance Facility (Design)	$200,000	$0	$200,000	$0

Type	Year/ Seq.	Project	Cost	FAA Funds	Airport Funds*	State/ Other
Short-Term (cont'd)						
D	2015	Construct Security Checkpoint/Main Lobby Expansion (Phase 1B)	$5,973,960	$0	$5,973,960	$0
P	2016	Reconstruct Runway 3-21 (Design)	$600,000	$540,000	$30,000	$30,000
P	2016	Reconstruct Taxiway A (825' to 125' South of Terminal to Apron), Construct Paved Shoulders	$1,300,000	$1,170,000	$65,000	$65,000
P	2016	Rehabilitate Hangar Street, National Guard Drive/Intersection, Other Landside Roadways	$1,120,000	$990,000	$55,000	$55,000
S	2016	Submit FAA Modification to Standards	$0	$0	$0	$0
S	2016	Reclassify Runway 9/27 for Small Aircraft	$0	$0	$0	$0
S	2016	Upgrade Airport Perimeter Fence (North & West)	$650,000	$585,000	$32,500	$32,500
S	2016	Remove Critical Airspace Obstructions	$50,000	$45,000	$2,500	$2,500
D	2016	Construct Security Checkpoint/Main Lobby Expansion (Phase 2)	$5,973,960	$0	$5,973,960	$0
D	2016	Expand South Public Parking Lot (500 stalls)	$1,000,000	$0	$1,000,000	$0
P	2017	Reconstruct Runway 3-21 (5,570 ft.), Construct Paved Shoulders	$15,830,000	$14,247,000	$791,500	$791,500
P	2017	Rehabilitate Taxiway A, B, K, A2; Reconstruct Taxiway B1, B3, B4, B5	$3,500,000	$3,150,000	$175,000	$175,000
P	2017	Rehabilitate Cell Phone Lot, Rental Car Ready Lot	$180,000	$0	$180,000	$0
S	2017	Construct/Replace East General Aviation Hangar (300' x 51')	$1,050,000	$0	$1,050,000	$0
D	2017	Construct Runway 3 Holding Bay	$1,610,000	$1,449,000	$80,500	$80,500
D	2018	Construct Passenger Terminal Apron Expansion/RON/Deicing (Phase 1A)	$2,075,000	$1,867,500	$103,750	$103,750
D	2018	Construct Rental Car Wash/Maintenance Facility	$3,160,000	$0	$3,160,000	$0
D	2018	Construct Baggage Claim/Handling Terminal Expansion (Design)	$200,000	$0	$200,000	$0
P	Varies	Short-Term Equipment Acquisition (Mowers, Broom, Vehicle, Plow/Sander)	$1,140,000	$832,500	$66,250	$280,750
		Total Short-Term:	$50,642,920	$29,286,000	$19,539,920	$1,817,000
Mid-Term (2019-2023)						
P	2019	Rehabilitate/Reconstruct Passenger Terminal Apron Pavement	$940,000	$846,000	$47,000	$47,000
D	2019	Construct Passenger Terminal Apron Expansion/RON/Deicing (Phase 1B)	$2,075,000	$1,867,500	$103,750	$103,750
D	2019	Conduct Air Cargo Master Plan Study	$250,000	$225,000	$12,500	$12,500
D	2019	Expand East General Aviation Taxilane, Access Road, Rehabilitate Taxilanes	$1,290,000	$1,161,000	$64,500	$64,500
D	2019	Construct Baggage Claim/Handling Terminal Expansion	$4,000,000	$0	$4,000,000	$0
D	2019	Construct Terminal Parking Structure (Feasibility Study/Design)	$750,000	$0	$750,000	$750,000
P	2020	Rehabilitate Landside Pavements	$310,000	$279,000	$15,500	$15,500
S	2020	Remove Taxiway E/F, Construct Taxiway F, Rehabilitate Taxiway D	$1,830,000	$1,647,000	$91,500	$91,500
D	2020	Construct East GA Taxilane, Access Road	$800,000	$720,000	$40,000	$40,000
D	2020	Construct Terminal Parking Structure	$21,000,000	$0	$21,000,000	$0
P	2021	Rehabilitate Runway 15-33, Txy A, A1, M	$1,460,000	$1,314,000	$73,000	$73,000
S	2021	Upgrade Runway 21 VGSI to PAPI	$140,000	$126,000	$7,000	$7,000
S	2021	Develop Multi-Jurisdictional Airport Land Use Zoning Ordinance	$50,000	$0	$50,000	$0
D	2021	Expand East Cargo Apron Taxilanes, Remove Direct Access	$650,000	$585,000	$32,500	$32,500
D	2021	Demolish On-Site Facilities in Cargo Area	$560,000	$504,000	$28,000	$28,000
D	2021	Install Approach Lighting System to Runway 15 or 33	$950,000	$0	$950,000	$0
D	2021	Construct Runway 33 Holding Bay, Upgrade Blast Pad	$2,500,000	$2,250,000	$125,000	$125,000

Type	Year/ Seq.	Project	Cost	FAA Funds	Airport Funds*	State/ Other
Mid-Term (cont'd)						
D	2021	Conduct Air Traffic Control Tower Study	$250,000	$225,000	$12,500	$12,500
P	2022	Rehabilitate East & West Air Cargo Apron, Taxiways G, H, J	$660,000	$594,000	$33,000	$33,000
P	2022	Rehabilitate Runway 9-27, Runway 15/21 Hold Aprons	$350,000	$315,000	$17,500	$17,500
P	2022	Rehabilitate North GA Taxilanes, Helipad	$185,000	$166,500	$9,250	$9,250
S	2022	Construct Airport Perimeter Fence Replacement (Northwest)	$400,000	$360,000	$20,000	$20,000
D	2022	Construct West General Aviation Hangar Taxilanes, Realign Perimeter Road	$870,000	$783,000	$43,500	$43,500
D	2022	Construct 10-Unit T-Hangar (231' x 51')	$880,000	$0	$880,000	$0
S	2023	Update Airport Master Plan Study	$500,000	$450,000	$25,000	$25,000
D	2023	Expand East Air Cargo Apron (South), Realign Taxiway G	$2,800,000	$2,520,000	$140,000	$140,000
D	2023	Expand Runway 15, 21 Holding Bays	$1,300,000	$1,170,000	$65,000	$65,000
		Total Mid-Term:	$47,440,000	$17,829,000	$28,620,500	$990,500
Long-Term						
S	12	Construct Consolidated Receiving Facility	$2,000,000	$1,800,000	$100,000	$100,000
D	24	Upgrade Runway 3 to Category II ILS	$5,600,000	$5,040,000	$280,000	$280,000
D	25	Construct West Access Road and Bridge	$5,000,000	$0	$5,000,000	$0
S	13	Decommission Runway 9/27, Convert to Taxiway, Realign Taxiway A2	$6,000,000	$5,400,000	$300,000	$300,000
D	26	Expand Terminal Building (General Use)	$2,200,000	$0	$2,200,000	$0
D	27	Expand Terminal Building (Rental Car)	$3,000,000	$0	$3,000,000	$0
D	28	Expand East Air Cargo Apron (North)	$2,800,000	$2,520,000	$140,000	$140,000
D	29	Construct Passenger Terminal Apron Expansion/RON/Deicing (Phase 2)	$2,800,000	$2,520,000	$140,000	$140,000
D	30	Expand Terminal Concourse (+2 gates)	$7,400,000	$6,660,000	$370,000	$370,000
D	31	Expand East General Aviation Apron	$2,600,000	$2,340,000	$130,000	$130,000
D	32	Expand West General Aviation Apron	$1,100,000	$990,000	$55,000	$55,000
D	33	Construct West General Aviation Small Aircraft Hangar Area (Phase I)	$600,000	$540,000	$30,000	$30,000
D	34	Construct Rwy 3 High-Speed Exit Taxiway	$2,000,000	$1,800,000	$100,000	$100,000
D	35	Construct Air Cargo Building, Road, Parking	$8,300,000	$4,410,595	$3,644,372	$245,033
P	Varies	Airside Pavement Rehabilitation/Reconstruction	$28,810,000	$25,929,000	$1,440,500	$1,440,500
P	Varies	Landside Pavement Rehabilitation/Reconstruction	$1,450,000	$801,000	$684,500	$44,500
		Total Long-Term:	$77,940,000	$57,197,927	$17,769,819	$3,166,852
		TOTAL Planning Period:	$176,022,920	$104,312,927	$65,930,239	$5,974,352
Ultimate (Beyond Planning Period)						
S	-	Construct Runway 15-33 Paved Shoulders	$4,200,000	$3,780,000	$210,000	$210,000
S	-	Reconstruct/Realign Taxiway B	$15,000,000	$13,500,000	$750,000	$750,000
D	-	Construct Rwy 21 High-Speed Exit Taxiway	$1,900,000	$1,710,000	$95,000	$95,000
D	-	Construct Terminal Parking Lot Canopy	$2,500,000	$0	$2,500,000	$0
D	-	Expand South Public Parking Lot (700 spaces)	$1,400,000	$0	$1,400,000	$0
D	-	Construct South RON Apron	$2,400,000	$2,160,000	$120,000	$120,000
D	-	Construct Runway 15-33 Exit Taxiway	$700,000	$630,000	$35,000	$35,000
D	-	Expand Terminal Building (Concessions)	$1,700,000	$0	$1,700,000	$0
D	-	Expand Passenger Terminal Apron, Terminal Concourse (16 gates), Federal Inspection Services (FIS)	$60,000,000	$54,000,000	$3,000,000	$3,000,000
		Total Ultimate:	$89,800,000	$75,780,000	$9,810,000	$4,210,000

*Source: KLJ Analysis; *Airport Operating Funds, Passenger Facility Charges, Customer Facility Charges; S=Safety/Security/Standards, D=Demand/Capacity, P=Pavement/Equipment/Facility Maintenance*

Implementation Process

Once funding has been identified, the airport must go through an established process to receive the federal funds to complete an airport development project. FAA requires long lead times to complete

all project steps and incorporate projects into funding plans. Additional coordination is required to prepare National Environmental Policy Act (NEPA) environmental documentation. Common steps in the project implementation process for a complex project include:

- Professional Services: Select a qualified consultant / engineer for the project planning, survey, design, construction administration, or environmental reviews for the project.
- Five (5) Years Prior to Construction: Update the Capital Improvement Plan (CIP) to identify the project scope, eligibility, justification and funding. Close coordination with FAA is required.
- Four (4) Years Prior to Construction: Identify the project on the Airport Layout Plan, complete necessary airport planning studies and collect supporting documentation to demonstrate the project is justified for AIP funding, and is compatible with the Airport Layout Plan.
- Three (3) Years Prior to Construction: Initiate any aeronautical surveys, navigational aid agreements (reimbursable agreements) or special FAA coordination for flight procedures which may be necessary prior to construction. Solidify project funding plan and final justification with FAA.
- Two (2) Years Prior to Construction: Complete required NEPA environmental documentation and analysis for the proposed action. Prepare 30 percent project design, refine cost estimates and prepare benefit/cost analysis as necessary. Acquire land for project and initiate airspace studies.
- One (1) Year Prior to Construction: Obtain environmental clearance and permits for the proposed action. Prepare detailed project plans and specifications including design report, airspace studies, Safety Management Systems (SMS) and construction safety/phasing plan. Finalize project schedule.
- Year of Construction: Complete final design. Solicit bid proposals from companies engaged in the project construction. Prepare grant application and accept Federal grant. Issue notice to proceed and monitor construction. Maintain FAA grant compliance and payments.
- After Construction: Submit final report and close out the AIP grant.

For complex projects requiring federal discretionary funding such as runway extensions, these steps may take up to five years prior to the issuance of an AIP grant for construction. Less complex projects using entitlements such as pavement rehabilitation will require less lead times, typically no less than three years prior to grant issuance.

Project Phasing & Descriptions

Summary

The recommended project phasing at Sioux Falls Regional Airport is based on anticipated needs and available funding. A more detailed review of the short-term and mid-term is completed as airport standards, demand and local priorities change over time which require updated planning and re-evaluation. Long-term and ultimate projects are identified for airport planning purposes based on forecasted needs.

Safety/Standards and Demand/Capacity projects are described in this section along with information about the project purpose, scope and triggering events. Significant pavement/facility maintenance

projects are also identified. This information provides guidance to the airport sponsor on future implementation steps.

Short-Term Projects (0-5 Years)

Short-term projects cover the beginning of the planning period for the next five years through 2018 or forecasted PAL 1. The identified sequencing is based on years because activity and funding can be reasonably anticipated. Projects also require actions to be taken several years ahead of implementation, requiring a solid project and funding plan to be developed for projects within the next five years.

Projects in this phase are primarily sequenced based on priority pavement/preservation needs. Other projects include safety/standards and demand/capacity-driven projects are needed now, or anticipated to be triggered within the next five years. Projected funding sources are based on current legislation and forecasted activity levels including FAA AIP (passenger/cargo entitlement and discretionary at 90 percent), State funding (AIP match at 5 percent) and local funding sources (airport operating fund, Passenger Facility Charge and Customer Facility Charges). Local funds are allocated to match AIP funds and the highest priority short-term projects not eligible for AIP funding.

At FSD, the most critical short-term project is **Runway 3/21, Taxiway Reconstruction** scheduled for design in 2016 and construction in 2017 to maintain existing infrastructure. All other projects are sequenced around this critical project. With the project cost estimated to be approximately $20 million, Federal discretionary funding is proposed with entitlement funds to be utilized on needed pavement rehabilitation and critical demand/capacity projects. Other demand-driven short-term needs are being funded entirely with local funds such as expanding the south automobile parking lot (airport operating funds) and constructing consolidated rental car wash/maintenance facility (CFCs).

In this phase, ongoing and previously approved/completed projects are not described in detail as they have been identified for funding and approved by the airport for completion. Basic landside pavement maintenance/rehabilitation projects are also not described in detail as they are needed to meet the airport's ongoing pavement management program and do not require special sequencing for funding. Equipment projects are also not described as they are needed for the airport's equipment replacement program at the scheduled year.

The short-term projects are further described in **Table 6-2: Short-Term Implementation Plan**.

Mid-Term Projects (6-10 Years)

Mid-term projects cover the beginning of the planning period for the next six to ten years through 2023 or forecasted PAL 2. The identified sequencing is still based on years. Although the sequencing can be more fluid than the short-term, mid-term projects can still be reasonably anticipated based on project activity and funding. Again, projects require actions to be taken several years ahead of implementation so a project plan out 10 years should be established. Projects in this phase may change sequence, however the bulk of the identified projects need to be implemented unless an unforeseen event occurs that changes the basis for the plans developed.

Projects in this phase are sequenced based on anticipated regular pavement/preservation needs, but also consider standards and demand/capacity-driven projects. These are needed to meet activity thresholds triggered between PAL 1 and PAL 2 in the mid-term. Projected Federal, State and local funding sources are still based on current legislation and forecasted activity levels. No projects funded with Federal discretionary dollars are identified in the mid-term. Local funds are allocated to match AIP funds and the highest priority projects not eligible for AIP funding.

The priority mid-term project is the **Construct Parking Structure** project scheduled for design in 2019 and construction in 2020. This project will be entirely funded with local funds (airport operating fund,

CFCs). This is needed as peak parking capacity is forecasted to be met in 2021. This project also enhances passenger convenience and creates airport revenue generating opportunities. All other mid-term projects are sequenced around this critical project. Federal entitlement funds to be utilized on other pavement rehabilitation, standards and triggered demand/capacity projects. The "hot-spot" taxiway intersection is a priority safety/standards project will be addressed in this phase.

In this phase, pavement maintenance/rehabilitation projects are not described in detail as they are needed to meet the airport's ongoing pavement management program and do not require special sequencing for funding. A pavement project with a scheduled reconstruction is described as these projects typically have a higher project cost that requires other projects to be sequenced around it.

The mid-term projects are further described in **Table 6-3: Mid-Term Implementation Plan**.

Long-Term Projects (PAL 3-4)

Long-term projects cover the remainder of the planning period for the next 11 to 20 years through year 2033 or forecasted PAL 3 and 4. Projects are identified based on forecasted project activity and funding. The project sequencing for demand driven projects in this phase may change as a result of change in aviation activity, new standards, funding or even new local priorities. Long-term projects are important to consider in airport master planning so that appropriate steps, funding and resources can be allocated. Additionally, it allows the ability for the airport to react to changes in airport activity.

In this phase, only significant pavement reconstruction projects are described as their schedules are not typically flexible and funding needs tend to be higher. Projects in this phase are based on future standards and anticipated demand/capacity-driven needs. Demand projects are required to adequately meet activity thresholds triggered between PAL 3 and PAL 4. Projected Federal, State and local funding sources continue to be based on current legislation and forecasted activity levels. Projects that may require Federal discretionary funds include **Reconstruct Taxiway A & B**, **Expand Terminal Concourse** and **Reconstruct Runway 3-21** projects. Local funds are allocated to match AIP funds and the highest priority projects not eligible for AIP funding. Because of changing considerations, actual funding needs are likely to vary between the completion of this master plan study and the long-term.

Long-term project priorities tend to change over time. A change in activity from the forecasts, for example, will require modification to the demand/capacity projects implementation schedule and available passenger entitlement funding. It is important however for the airport to identify potential needs and be prepared to react accordingly. Pavement preservation projects will continue to be a higher priority. If enplanements continue to grow as forecasted, one larger long-term project could be the **Expand Terminal Concourse** and associated apron expansion project when PAL 3 is reached. Other needs include expansion of general aviation hangar and parking aprons to meet capacity needs, additional air cargo facilities, runway capacity improvements, and reconfiguring Runway 9-27 into a taxiway to meet safety needs. A realistic funding plan has been developed for the long-term to identify a financing plan to best address the forecasted needs.

The long-term projects are further described in **Table 6-4: Long-Term Implementation Plan**.

Ultimate Projects (Beyond PAL 4)

It is important to identify ultimate phase projects so that decisions can be made in other planning periods that preserve the ability to achieve these longer term goals. These projects are identified without sequencing or a funding plan. Pavement preservation projects are not identified as their development area does not tend to affect other projects. One ultimate project is to **Realign/Reconstruct Taxiway B** to an alignment to meet standards. Other improvements should be designed around this ultimate airport improvement. Another example is the **Expand Terminal Concourse** project that allows the airport to construct up to a 16 gate facility to meet ultimate

demands. The long-term expansion project fits in with this ultimate development. The ultimate projects are described in **Table 6-5: Ultimate Implementation Plan**.

Table 6-2 – Short-Term Implementation Projects

Type	Year	Project	Purpose	Scope	Trigger	Prerequisites/ Environmental	Estimated Cost
Short-Term							
P	2016	Reconstruct Runway 3-21 (5,570 ft.), Construct Paved Shoulders, Reconstruct Taxiway B1, B3, B4, B5, Rehabilitate Taxiway B, K, A2, A (Design)	The 2012 pavement evaluation reports Runway 3-21 has a PCI rating of 77. The actual PCI is believed to be much lower from previous maintenance efforts, engineer inspection and airport maintenance staff. The pavements were originally constructed in 1976 and last rehabilitated in 2003. The pavement is failing and reconstruction in needed for the pavement to safely function for air operations. Paved shoulders are needed to meet FAA design standards. Design is needed to complete necessary engineering work ahead of the project.	Prepare project plans and specifications for future project.	The pavement section is failing and pavement is more than 40 years old. Major rehabilitation should occur when PCI values fall below 59 or pavement surface is failing. Reconstruction should occur when PCI values fall below 39 or pavement section is failing.	Documented CATEX for project construction	$600,000
P	2016	Reconstruct Taxiway A (825' to 125 South of Terminal to Apron), Construct Paved Shoulders	The 2012 Pavement Evaluation did not identify this section with a PCI rating. The pavement was last constructed in 1979 and has continuous maintenance issues. The pavement is failing and reconstruction in needed for the pavement to safely function for air operations.	Reconstruct 5,900 SY of concrete pavement, Construct 30' wide asphalt paved shoulders (4,700 SY)	The pavement section is failing. Reconstruction should occur when PCI values fall below 39 or pavement section is failing.	Documented CATEX	$1,300,000
S	2016	Submit FAA Modification of Standards (MOS)	Demonstrate to FAA a minimum level of safety is achieved with the current airport design, particularly with Runway 15/33 Object Free Area. The airport fence and Minnesota Avenue within the OFA have existed for many years without incident and no reasonable alternatives exist without impacting airport operational capability and capacity.	Prepare MOS documents in Airport Master Plan	Airport Master Plan	Submitted ALP	Staff effort
S	2016	Reclassify Runway 9/27 for Small Aircraft Exclusively	Reduce the size of the Runway 9-27 Runway Protection Zone to protect for actual critical runway operations in aircraft of 12,500 pounds or less. This will allow additional land in the constrained terminal area to be open to compatible development.	Update Airport Layout Plan (ongoing), prepare and submit revised FAA Airport Master Record (Form 5010-1) to FAA	Airport Master Plan	Approved ALP, notification of airport users, establish overweight waiver policy	Staff effort

Type	Year	Project	Purpose	Scope	Trigger	Prerequisites/ Environmental	Estimated Cost
Short-Term (cont'd)							
S	2016	Upgrade Airport Perimeter Fence (North & West), Realign Perimeter Road	Minimum airport fence height standard is 10 feet agreed to by airport and TSA. Project will help protect flying public from wildlife and security hazards entering the airport operations area.	Replace approx. 12,400 LF of 6-foot high fence with an 8-foot high fence plus security top, relocate 2,000 LF of perimeter road	Wildlife Hazard Assessment (WHA) approval	Approved ALP for roadway realignment, Documented CATEX	$650,000
S	2016	Remove Critical Airspace Obstructions	There are objects of natural growth within airport property that penetrate critical airspace surfaces. Address any man-made objects identified in the ALP. Clear critical airspace obstructions from the FAA approach surfaces to maintain a safe airport facility.	Remove natural growth obstructions on-airport property. Additional actions may need to be taken in other areas (Runway 15 approach) depending on the results of the FAA airspace evaluation in the Airport Layout Plan.	Airport Layout Plan, Aeronautical Survey	Approved ALP, Documented CATEX	$50,000
D	2016	Expand South Public Parking Lot (500 stalls)	There is a deficiency of nearly 100 automobile parking spaces to meet current peak demand. Nearly 500 spaces are required when enplanements reach 550,000 annually. Project will meet current and anticipated peak passenger on-site automobile parking needs for next five years.	Expand south economy lot by approximately 500 stalls to the east of the existing lot.	None; demand/capacity thresholds met now and project would meet forecasted needs for next five years.	Approved ALP, Documented CATEX with no historical properties impacted finding	$1,000,000
P	2016	Rehabilitate National Guard Drive, Reconstruct Intersection; Rehabilitate Landside Pavements	The pavement was constructed in 2003 and maintenance is needed to extend their useful life. The intersection of National Guard Drive at the West Air Cargo Access Road does not provide through access and requires reconfiguration.	Rehabilitate 29,400 SY of landside pavement, remove/construct 800' x 24' of roadway pavement.	Pavement age; The last construction occurred 13 years prior to this project. Pavement maintenance should occur every 7-15 years based on a pavement management program.	Approved ALP for intersection, CATEX with no historical properties impacted finding	$1,100,000
P	2017	Reconstruct Runway 3-21 (5,570 ft.), Construct Paved Shoulders, Reconstruct Taxiway B1, B3, B4, B5, Rehabilitate Taxiway B, K, A2, A	The 2012 pavement evaluation reports Runway 3-21 has a PCI rating of 77. The actual PCI is believed to be much lower from previous maintenance efforts, engineer inspection and airport maintenance staff. The pavements were originally constructed in 1976 and last rehabilitated in 2003. The pavement is failing and reconstruction in needed for the pavement to safely function for air operations. Paved shoulders are needed to meet FAA design standards.	Prepare project plans and specifications for future project.	The pavement section is failing and pavement is more than 40 years old. The pavement section is failing. Reconstruction should occur when PCI values fall below 39 or pavement section is failing.	CATEX for project construction	$19,330,000

Type	Year	Project	Purpose	Scope	Trigger	Prerequisites/ Environmental	Estimated Cost
Short-Term (cont'd)							
D	2017	Construct/Replace East General Aviation Hangar (300' x 51')	Existing public T-hangars T1 and T4 were constructed in the 1960s, have reached the end of its useful life and are expensive to maintain. There is also a need to increase available storage space with four new small aircraft forecasted to be based at FSD by 2023. Recommended small aircraft development area is north side of east GA development area.	Recommend replacing Hangar T1 with a new hangar structure up to 300' x 51' in size with up to 12 aircraft storage units.	Available local funding for entire project.	Approved ALP, Documented CATEX with no historical properties impacted finding	$1,050,000
D	2017	Construct Runway 3 Holding Bay	Runway 3 is the primary air carrier departure runway the and currently needs to have bypass capability for the design aircraft. Project would meet existing airport capacity needs and provide flexibility and minimize aircraft delays when aircraft have departure holds.	Construct approx. 12,500 SY of new pavement with paved shoulders to the east of Taxiway B near the Runway 3 departure end.	Available FAA entitlement funding given other project funding needs.	Approved ALP, Documented CATEX with no historical properties impacted finding	$1,610,000
D	2018	Construct Passenger Terminal Apron Expansion, RON, Deicing (Phase 1A)	Terminal currently has 9 scheduled overnight aircraft filling the existing terminal frontage. There is no space for larger aircraft or non-scheduled aircraft parking. Additional capacity is needed currently with 24 percent more flights in larger average aircraft forecasted through the planning period. Separate deicing pad is needed currently based on four departures during peak hour. Project would meet aircraft parking needs. A separate deicing area improves aircraft circulation in the terminal area and reduce departure delays during peak departure blocks. It also provides opportunity for general aviation deicing operations.	Construct approx. 27,500 SY of new pavement for 2-3 RON aircraft with one 220' x 200' seasonal deicing pad with containment accommodating the design aircraft. Project is split into phases due to available funding.	None; demand/capacity thresholds met now and project would meet forecasted needs for at least next five years.	Approved ALP, Documented CATEX or short-form Environmental Assessment (EA) with no historical properties impacted finding	$2,075,000

Type	Year	Project	Purpose	Scope	Trigger	Prerequisites/ Environmental	Estimated Cost
Short-Term (cont'd)							
D	2018	Construct Rental Car Wash/Maintenance Facility	A larger facility (8,300 SF) is needed currently based on existing number of rental car operators. Existing facilities (5,700 SF) are owned by the rental car companies and undersized to meet current needs. A larger facility would meet current forecasted future needs for all airport car rental operators. It would provide car rental operators with a non-exclusive use facility for car rental maintenance and operations. Facility should be sized to meet planning period needs (13,000 SF in PAL 4).	Construct approx. 13,000 SF consolidated car wash, maintenance and fueling facility located south of the rental car storage parking lot on a newly prepared site.	None; demand/capacity thresholds met now and project would meet forecasted needs for the planning period (PAL 4).	Approved ALP, Completed Design, Runway 9-27 designated for small aircraft exclusively, City of Sioux Falls Water Department approval (tank within 1,000 feet of water well), Documented CATEX with no historical properties impacted finding, rental car operator concurrence/financial plan, CFC implementation	$3,160,000
D	2018	Expand Terminal Building - Baggage Claim/Handing (Design)	The existing facility is 7,000 SF when CBP is in operation. An expanded baggage claim facility is needed currently to meet basic passenger circulation needs as well as existing and future baggage claim needs for design hour arriving passengers. Up to 40 percent more baggage claim frontage is needed for peak arriving aircraft size. Project would reduce congestion and delay during peak arrival periods and concurrent CBP operations, and enhance overall passenger convenience and level of service.	Prepare project plans and specifications for future project.	None; demand/capacity thresholds met now and project would meet forecasted needs for the planning period (PAL 4).	Approved ALP, Documented CATEX for construction	$200,000

Source: KLJ Analysis; S=Safety/Security/Standards, D=Demand/Capacity, P=Pavement/Equipment/Facility Maintenance, LF = Linear Feet, SY = Square Yards

Table 6-3 - Mid-Term Implementation Projects

Type	Year	Project	Purpose	Scope	Trigger	Prerequisites/ Environmental	Estimated Cost
Mid-Term							
P	2019	Rehabilitate or Reconstruct Passenger Terminal Apron Pavement	The 2012 Pavement Evaluation identified portions of this pavement to have a PCI value as low as 53. This pavement was originally constructed in 1969. The pavement will likely be failing requiring reconstruction. Pavement maintenance should occur in areas constructed in 1999 based on a pavement management program to extend their useful life to function for safe airport operations.	Reconstruct or rehabilitate 50,500 SY of concrete pavement	The original pavement is up to 50 years old and the pavement surface or section is failing. Reconstruction should occur when PCI values fall below 39 or pavement section is failing. Major rehabilitation should occur when PCI values fall below 59.	Documented CATEX	$940,000
D	2019	Construct Passenger Terminal Apron Expansion, RON, Deicing (Phase 1B)	Terminal currently has 9 scheduled overnight aircraft filling the existing terminal frontage. There is no space for larger aircraft or non-scheduled aircraft parking. Additional capacity is needed currently with 24 percent more flights in larger average aircraft forecasted through the planning period. Separate deicing pad is needed currently based on four departures during peak hour. Project would meet aircraft parking needs. A separate deicing area improves aircraft circulation in the terminal area and reduce departure delays during peak departure blocks. It also provides opportunity for general aviation deicing operations.	Construct approx. 27,500 SY of new pavement for 2-3 RON aircraft with one 220' x 200' seasonal deicing pad with containment accommodating the design aircraft. Project is split into phases due to available funding.	None; demand/capacity thresholds met now and project would meet forecasted needs for at least next five years.	Completion of Phase 1A, Approved ALP, Documented CATEX or short-form EA with no historical properties impacted finding	$2,075,000
D	2019	Conduct Air Cargo Master Plan Study	The airport continues to see increased air cargo activities that may require expanded facilities in the future. The airport has a goal to consolidate all air cargo operations into the east air cargo area. A future plan working together with air cargo operators to develop consensus is needed. The focused planning study allow the airport to be ready to implement an air cargo development plan if/when demand thresholds are met.	Review inventory, develop forecasts, facility requirements, development alternatives and preferred implementation plan for air cargo facilities.	None	Administrative CATEX	$250,000

Type	Year	Project	Purpose	Scope	Trigger	Prerequisites/ Environmental	Estimated Cost
Mid-Term (cont'd)							
D, S	2019	Expand and Construct East Corporate GA Taxilane (ADG-II), Construct Access Road, Rehabilitate Taxilanes	Existing taxilane object free area is limited to aircraft with wingspans of 55' or less. A shifted taxilane is needed to meet full ADG-II standards and provide public taxilanes for future development of a "jet park" for corporate aircraft hangar development. Forecasts show 2 new turbojet aircraft by PAL 2.	Expand taxilane (2,800 SY) and construct taxilane (2,600 SY) to accommodate ADG-II aircraft (up to 79' wingspan), construct access road to "jet-park" and site improvements, rehabilitate 5,000 SY of taxilane pavement.	None; demand/capacity thresholds met now and project would meet existing and forecasted needs.	Completed Design, Approved ALP, Documented CATEX	$1,290,000
D	2019	Expand Terminal Building - Baggage Claim/Handing	The existing facility is 7,000 SF when CBP is in operation. An expanded baggage claim facility is needed currently to meet basic passenger circulation needs as well as existing and future baggage claim needs for design hour arriving passengers. Up to 40 percent more baggage claim frontage is needed for peak arriving aircraft size. Project would reduce congestion and delay during peak arrival periods and concurrent CBP operations, and enhance overall passenger convenience and level of service.	Construct an 8,000 SF (approx.) expansion of baggage claim/handing area, rehabilitate the existing baggage claim and public areas, replace baggage claim devices.	None; demand/capacity thresholds met now and project would meet forecasted needs for the planning period (PAL 4).	Approved ALP, Documented CATEX	$4,000,000
D	2019	Construct Terminal Parking Structure (Feasibility Study/Design)	After PAL 1 (2018), there is projected to be a deficiency of parking spaces to meet current peak demand. Project would add 1,000 spaces to meet current and anticipated peak passenger on-site automobile parking needs until enplanements reach 750,000 annually.	Complete planning study to determine parking expansion project scope and location. Prepare project plans and specifications for future project.	Demand/capacity thresholds met at 550,000 enplanements and project would meet forecasted needs until enplanements reach 750,000 annually.	Approved ALP, Documented CATEX for construction with no historical properties impacted finding	$750,000
S, P	2020	Remove Taxiway D/E; Construct Taxiway D, Strengthen Taxiway F	The "five-corners" intersection of Taxiway A, B and E is identified as "hot-spot" by FAA because it is a complex taxiway intersection in close proximity to runways. Action should be taken by the Airport to correct this condition to enhance operational safety. Remaining taxiways should be enhanced to meet operational capability to serve the east GA apron and be aligned to meet future terminal development needs.	Remove Taxiway D and E, Construct Taxiway D (3,500 SY) and Paved Shoulders, Strengthen Taxiway F to 90,000 lbs.	None	Approved ALP, Documented CATEX for construction with no historical properties impacted finding	$1,830,000

Type	Year	Project	Purpose	Scope	Trigger	Prerequisites/ Environmental	Estimated Cost
Mid-Term (cont'd)							
D	2020	Construct East Small GA Taxilane (ADG-I), Construct Access Road	The Master Plan identifies small aircraft development in the north portion of the east GA development area. Forecasts show 10 new single and multi-engine based aircraft by PAL 2. Hangar development space is needed. A new taxilane is needed to facilitate small private hangar development (Up to 12 60' x 60' hangars) and the development of a future T-hangar building to meet new based aircraft needs. There are only two available sites for hangar development and no T-hangar building sites available. Water main relocation is needed to remove alignment from exclusive use/building development areas.	Construct Taxilane (1,600 SY), Construct Access Road (1,600 SY) and site improvements, Relocate Water Main (950 LF)	Planning should begin when one private hangar site available or two T-hangar units available so that project is implemented when demand requires additional space.	Approved ALP, Documented CATEX	$800,000
D	2020	Construct Terminal Parking Structure	After PAL 1, there is projected to be a deficiency of parking spaces to meet current peak demand. Project would add 1,000 spaces to meet current and anticipated peak passenger on-site automobile parking needs until enplanements reach 750,000 annually. Project would enhance passenger convenience by locating parking closer to terminal, eliminating long walking distances or waiting for a shuttle.	Construct a 4-level (600' x 163') parking structure in front of the terminal or an 7-level (380' x 140') parking structure south of the existing terminal complex	Available local funding or financing; Demand/capacity thresholds met at 550,000 enplanements and project would meet forecasted needs until enplanements reach 750,000 annually.	Completed Design, Approved ALP, Documented CATEX for construction with no historical properties impacted finding	$21,000,000
P	2021	Rehabilitate Taxiway A, A1, M, Runway 15-33	Runway 15-33 pavement was constructed in 2002, which will be 19 years old year 2021. Pavement maintenance should occur based on a pavement management program to extend their useful life to function for safe airport operations.	Rehabilitate 120,000 SY of concrete or asphalt pavement	The pavement is approaching 20 years old and requires rehabilitation. Regular pavement maintenance should occur based on a pavement management program.	Documented CATEX	$1,460,000

Type	Year	Project	Purpose	Scope	Trigger	Prerequisites/ Environmental	Estimated Cost
Mid-Term (cont'd)							
S	2021	Upgrade Runway 21 VGSI to PAPI	Existing visual NAVAID will be approaching end of useful life and require replacement. VASI system is obsolete. Visual Guidance Slope Indicator (VGSI) equipment standard for a jet runway is a 4-box PAPI system.	Remove Runway 21 Visual Approach Slope Indicator (VASI), Install Runway 21 4-box Precision Approach Path Indicator (PAPI).	When equipment has reached the end of its useful life.	Documented CATEX, FAA Flight Check coordination	$140,000
S	2021	Develop Airport Land Use Zoning Overlay Ordinance	Create land use and airspace safety standards to prevent the creation of new airport hazards in accordance with the ALP.	Develop land use and airspace safety standards, and implement overlay zoning with City of Sioux Falls, Minnehaha and Lincoln Counties.	Available airport staff to facilitate process locally.	Approved ALP	$50,000 plus staff effort
D, S	2021	Expand East Air Cargo Apron Taxilanes, Remove Direct Access Taxilane	Existing East Air Cargo Apron is configured for large aircraft to park, load and unload along taxilane centerlines. To increase capacity and maximize apron utilization a separate taxilane is needed and nose-in large aircraft parking. This requires the east cargo taxilane/apron to be expanded. Direct access from air cargo apron to Runway 21 should also be removed in the project to meet FAA standards.	Expand East Air Cargo Apron (1,400 SY), Remove Taxilane (3,600 SY) and Construct Taxilane (2,300 SY) with access to Taxiway B.	Planning should begin when additional concurrent large or feeder air cargo aircraft operations are expected to occur.	Approved ALP, Documented CATEX with for construction with no historical properties impacted finding, air cargo user coordination and concurrence.	$650,000
D	2021	Demolish On-Site Facilities in Air Cargo Development Area	Existing buildings (old airport maintenance structures, CBP building) must be removed to facilitate future east air cargo area development including cargo apron expansion to the south and new air cargo sort building.	Remove Buildings 40, 41, 42, 43, 44 and 45 (23,800 SF)	None	Approved ALP, Documented CATEX with for construction with no historical properties impacted finding.	$560,000
D	2021	Install Approach Lighting System for Runway 33 or 15 Approach	Runway 15-33 is better aligned for the prevailing wind. Runway 15-33 sees 4.62% more observations with acceptable wind coverage for a typical small corporate aircraft (ARC B-II) than Runway 3-21 when visibilities are less than 1 mile. Runway 15-33 is currently established with visibility minimums as low as 1 mile. Visibility minimums as low as ¾ mile would increase airfield utilization and reduce crosswind conditions. Funding thresholds not met until PAL 3 for FAA funded Runway 3-21 ILS upgrades.	Install ODALS along Runway 33 or MALSR along Runway 15 approach, remove REILs, acquire land for approach protection (Runway 33).	Available local funding for entire project.	Approved ALP, Aeronautical Survey, FAA Flight Procedures Office Feasibility Study, FAA Reimbursable Agreement establishment, Documented CATEX or short-form EA	$950,000

Type	Year	Project	Purpose	Scope	Trigger	Prerequisites/ Environmental	Estimated Cost
Mid-Term (cont'd)							
D, S	2021	Construct Runway 33 Holding Bay, Upgrade Runway 33 Blast Pad	Runway 33 is the secondary air carrier departure runway. Current bypass is owned by SDANG, requires crossing an active runway and is not sized for the design aircraft. Project would meet existing airport capacity needs and provide flexibility and minimize aircraft delays when aircraft have departure holds. Larger blast pad is required to meet FAA standards.	Construct approx. 15,200 SY of new pavement with paved shoulders to the east of Taxiway A near the Runway 33 departure end, construct paved shoulders, construct 200' x 200' Runway 33 blast pad	None	Approved ALP, SDANG coordination, Documented CATEX with no historical properties impacted finding	$2,500,000
D	2021	Conduct Study for Airport Traffic Control Tower Facility	The existing air traffic control tower is located in a constrained area between the passenger terminal and general aviation area, and has line-of-sight issues. Major upgrades of the tower should consider potential relocation. A comprehensive study should be completed to aid in FAA and airport decision making.	Review facility requirements, develop alternatives, perform line-of-sight shadow study and identify preferred implementation plan for ATCT facilities.	Prior to major ATCT site improvements	Administrative CATEX	$250,000
S	2022	Upgrade Airport Perimeter Fence (Northwest)	Minimum airport fence height standard is 10 feet agreed to by airport and TSA. Project will help protect flying public from wildlife and security hazards entering the airport operations area.	Replace approx. 6,800 LF of 6-foot high fence with an 8-foot high fence plus security top	Wildlife Hazard Assessment (WHA) approval	Approved ALP for roadway realignment, Documented CATEX	$400,000
D	2022	Construct West GA Hangar Taxilanes (ADG-III), Realign Perimeter Road	The Master Plan identifies large corporate aircraft development in the west GA area. An existing apron/taxilane can accommodate up to two 120' x 120' hangars with the object free area cleared. Forecasts show 13 multi-engine piston/turboprop and 4 new turbojet based aircraft by PAL 3. Hangar development space is needed. A new taxilane is needed to facilitate ADG-III private hangar development to meet new based aircraft and corporate needs. There are only two available sites for ADG-III hangar development sites available.	Construct Taxilane (3,900 SY), Construct Perimeter Road (2,400 SY)	Planning should begin when one private corporate hangar site available so that project is implemented when demand requires additional space.	Approved ALP, Documented CATEX with no historical properties impacted finding	$870,000

Type	Year	Project	Purpose	Scope	Trigger	Prerequisites/ Environmental	Estimated Cost
Mid-Term (cont'd)							
D	2022	Construct 10-unit T-Hangar in East GA Development Area	There is a need to increase available storage space with seven new small aircraft forecasted to be based at FSD by PAL 3. Recommended small aircraft development area is north side of east GA development area. This hangar may also be constructed to replace an older hangar in the south corporate development area.	Construct 231' x 50' Aircraft Storage Hangar for Small Aircraft north of Building 6.	Waiting list for public aircraft storage space, replacement of Building T4, available local funding for entire project.	Construct Hangar Site Taxilane (2020), Approved ALP, Documented CATEX with no historical properties impacted finding	$880,000
S, D	2023	Update Airport Master Plan Study	An update is recommended every 10 years for commercial service airports or as needs change. This planning study would address new considerations, develop an updated implementation plan and generally aid in airport decision making and to meet safety and operational needs. It is needed to help the airport and FAA make sound airport investment decisions.	Inventory existing facilities, update aviation forecasts, review facility requirements, perform alternatives analysis, prepare preferred implementation plan and update ALP. Conduct Terminal Building Master Plan	Ten (10) years after last Master Plan was completed (2013) or if there is a significant change in traffic or other airport needs.	Administrative CATEX	$500,000
D	2023	Expand East Air Cargo Apron (South), Realign Taxiway G	The existing east air cargo apron is nearing capacity during peak operations in large air carrier aircraft and small feeder aircraft. If operations continue to grow then additional apron space will be needed. An additional 17,500 SY of apron is needed to meet PAL 3 facility needs.	Remove Taxiway G (1,900 SY), Construct Apron Expansion and Taxiway G (18,000 SY).	Planning should begin when additional UPS/feeder occur, cargo operations move from the GA to the cargo apron, or when 80 million pounds of annual air cargo/mail is processed.	Approved ALP, Air Cargo Master Plan Study, Documented CATEX or short-form EA with no historical properties impacted finding	$2,800,000
D	2023	Expand Runway 15 and 21 Holding Bays	Runway 21 is a primary air carrier runway and currently needs to have bypass capability for the design aircraft. This end is used particularly by air cargo aircraft. Project would meet existing airport capacity needs and provide flexibility and minimize aircraft delays when aircraft have departure holds. Runway 15 also needs to have an expanded holding bay for the design aircraft.	Expand Runway 21 Holding Bay and Construct Paved Shoulders (4,300 SY), Expand Runway 15 Holding Bay and Construct Paved Shoulders (4,300 SY),	None	Approved ALP, SDANG coordination, Documented CATEX with no historical properties impacted finding	$1,300,000

*Source: KLJ Analysis; *Airport Operating Funds, S=Safety/Security/Standards, D=Demand/Capacity, P=Pavement/Equipment/Facility Maintenance*

Table 6-4 - Long-Term Implementation Projects

Type	Seq.	Project	Purpose	Scope	Trigger	Prerequisites/ Environmental	Estimated Cost
Long-Term							
S	1	Construct Consolidated Receiving Facility	There is currently no dedicated facility to process vendor deliveries. Escorted vehicles currently enter the active apron area to unload and go through security, creating a potential safety hazard. A dedicated facility to security screen and process vendor deliveries is needed to replace this current procedure.	Construct 6,000 SF processing facility, fencing, access roads and parking lot. Relocate ATCT entry roadway and parking.	None	Approved ALP, ATCT/TSA/airport vendor coordination, Documented CATEX with no historical properties impacted finding	$2,000,000
D	2	Upgrade Runway 3 to Category II ILS (1200 RVR)	Runway 3 is better aligned into the prevailing wind during IFR conditions providing 65% wind coverage. There will be a need to improve the approach procedure given the volume of commercial traffic. A Category II ILS would allow weather minimums as low as 100' ceiling and ¼ mile (1200 RVR). An additional 0.76% or 807 hourly observations over a 10 year period could be accommodated. This saves the operator cost from costly diversions and improves airport utility and operational performance.	Replace MALSR with ALSF-II lighting, install in-pavement touchdown zone lighting, install midfield RVR equipment, relocate existing equipment.	Planning should begin when 2,500 annual instrument cargo/passenger operations, or 37,000 annual operations, is forecasted within five years	Approved ALP, Benefit/Cost Analysis, Aeronautical Survey, FAA Flight Procedures Office Feasibility Study, FAA Reimbursable Agreement establishment, Environmental Assessment	$5,600,000
S, P	3	Rehabilitate East Cargo Apron, Reconstruct West Cargo Apron, Relocate Taxiway K	West Air Cargo Apron pavement will be in need of reconstruction in the early period of the long-term. Taxiway K has direct access from the apron to the Runway 21 end. This does not meet FAA design standards and should be corrected to enhance air operations safety.	Rehabilitate East Air Cargo Pavement, Reconstruct West Air Cargo Pavement, Remove Taxiway K, Construct Taxiway K (2,400 SY) to the west side of the apron.	West Air Cargo Apron Reconstruction	Documented CATEX with no historical properties impacted finding	$2,200,000
D	4	Construct West Airport Access Road and Bridge	The west aviation area is accessible through National Guard Drive under the Runway 21 approach. This causes an additional 1 mile of travel for the public to access this area. An additional access point to/from the west is needed to improve access and open up development opportunities of airport property west of the Big Sioux River.	Construct 6,300 LF of roadway and bridge over Big Sioux River from National Guard Drive to Bobhalla Drive (extended)	Documented need from current or future west GA users.	Environmental Assessment with no historical properties impacted finding	$5,000,000

Type	Seq.	Project	Purpose	Scope	Trigger	Prerequisites/ Environmental	Estimated Cost
Long-Term (cont'd)							
P	5	Reconstruct Taxiway B (South End), Taxiway A, A3	Taxiway B was originally constructed in 1976 and last rehabilitated in 2003. Taxiway A and A3 pavement would have been last rehabilitated in 2017. All pavement will likely require rehabilitation or reconstruction between 2026 and 2030. Work is needed for the pavement to safely function for air operations.	Reconstruct and/or construct 60,000 SY of taxiway pavement and paved shoulders.	Reconstruction should occur when PCI values fall below 39 or pavement section is failing. Major rehabilitation should occur when PCI values fall below 59.	Documented CATEX	$5,300,000
P, D	6	Reconstruct East General Aviation Apron, Strengthen to 90,000 lbs.	This pavement was originally constructed in 1969/1973 and last rehabilitated in 2014. The pavement will likely require reconstruction between 2026 and 2030. Additional strength is needed to accommodate the GA design aircraft (ADG-III). Work is needed for the pavement to safely function for air operations.	Reconstruct apron (47,200 SY) and construct paved shoulders (3,200 SY).	Reconstruction should occur when PCI values fall below 39 or pavement section is failing. Major rehabilitation should occur when PCI values fall below 59.	Documented CATEX	$6,700,000
S, P	7	Decommission Runway 9-27 (Convert to Taxiway), Reconstruct Taxiway, Realign Taxiway A2	Runway 9-27 has an overlapping pavement and Runway Safety Area with Runway 15-33 and Runway 3-21. FAA recommends decommissioning. This configuration should be corrected. The runway is not required to meet wind coverage and is proposed to be decommissioned, converted into a cross-field taxiway, and realigned to cross Runway 15-33 at a 90 degree angle. The connection with Runway 3-21 would be removed. Pavement is projected to be in need of major rehabilitation after 2031.	Remove Taxiway A2 (4,000 SY), Construct Taxiway A2 and Paved Shoulders (6,000 SY), Reconstruct Cross-Field Taxiway and Construct Paved Shoulders (42,000 SY), Remove Connecting Taxiways (15,600 SY).	Runway 9-27 major rehabilitation or reconstruction. Major rehabilitation should occur when PCI values fall below 59.	Documented CATEX with no historical properties impacted finding	$6,000,000
D	8	Expand Terminal Building (General Use)	Existing baggage claim corridor is constrained. General use expansion would increase general circulation space, improve entry/exit corridors and expand office/concession space.	Construct general-use space in front of terminal (3,800 SF), Remodel existing baggage claim area	None	Terminal Building Master Plan, Approved ALP, Documented CATEX	$2,200,000
D	9	Expand Terminal Building (Rental Car Concessions)	Existing rental car concession corridor does not have adequate queueing space when CBP operations are in use. A relocated ground transportation facility would move flow constraints.	Construct ground transportation facility south of existing terminal building (9,900 SF)	Parking Structure, General Use Expansion	Terminal Building Master Plan, Approved ALP, Documented CATEX	$3,000,000

Type	Seq.	Project	Purpose	Scope	Trigger	Prerequisites/ Environmental	Estimated Cost
Long-Term (cont'd)							
D	10	Expand East Air Cargo Apron (North)	The existing east air cargo apron is nearing capacity during peak operations in large air carrier aircraft and small feeder aircraft. If operations continue to grow then additional apron space will be needed. An additional 17,500 SY of apron is needed to meet PAL 3 facility needs.	Construct Apron (18,300 SY)	Planning should begin when additional mainline operations occur, cargo operations move from the GA to the cargo apron, and when 90 million pounds of annual air cargo/mail is processed.	Approved ALP, Air Cargo Master Plan Study, Documented CATEX or short-form EA with no historical properties impacted finding	$2,800,000
P	11	Reconstruct Taxiway M; Rehabilitate Taxiway A, A1, A4	This Taxiway M pavement was constructed in 1993 and 2008. Taxiway A, A1 and A4 was constructed in 2002/20015. The pavement will likely require reconstruction between 2031 and 2035. Work is needed for the pavement to safely function for air operations.	Reconstruct Taxiway M (4,000 SY), Construct Paved Shoulders (5,700 SY), Rehabilitate Taxiway A, A1, A4 (45,700 SY)	Reconstruction should occur when PCI values fall below 39 or pavement section is failing. Major rehabilitation should occur when PCI values fall below 59.	Documented CATEX	$1,640,000
D	12	Construct Passenger Terminal Apron Expansion, RON/Deicing Facility Expansion (Phase 2)	An expansion to the RON apron would be needed to meet scheduled and non-scheduled aircraft parking needs. An additional deicing pad would allow for adequate peak hour throughput. The project would enhance capacity, improve operational efficiency and reduce departure delays. An apron expansion would be needed to meet design standards for future terminal concourse expansion.	Construct approx. 17,000 SY of new pavement for 2 additional RON aircraft with one additional seasonal deicing pad, expand apron for future terminal expansion aircraft maneuverability (7,300 SY)	Documented demand for terminal expansion and/or peak hour demand for 3 deicing operations, daily remote RON needs exceed 1 aircraft plus one contingency.	Terminal Expansion Feasibility Study, Completion of Phase 1B, Documented CATEX or short-form EA with no historical properties impacted finding	$2,800,000
D	13	Expand Terminal Concourse (9 gates total)	Existing terminal concourse has 7 gates, sized for aircraft ranging in size from CRJ-200 to Boeing 757-200. An expansion to the concourse will be needed if there is insufficient number of gates or holdroom space as a result of larger average aircraft size and more frequent operations. The expansion will enhance passenger convenience and provide an adequate level of service.	Expand Terminal Concourse (15,700 SF each level), add 2 gates with jetways	Terminal expansion planning should be initiated when design hour departing passengers exceed 552 (number of holdroom seats), or about 662,500 annual enplanements. Expansion is also needed when peak hour departures exceed 7 or fleet mix increases in size more than forecast.	Terminal Expansion Feasibility Study, Apron Expansion, Approved ALP, Documented CATEX or short-form EA with no historical properties impacted finding	$7,400,000

Type	Seq.	Project	Purpose	Scope	Trigger	Prerequisites/ Environmental	Estimated Cost
Long-Term (cont'd)							
D	14	Expand East General Aviation Apron	The existing 47,600 SY aircraft apron will require additional space if wingspan setbacks are required for regular use of ADG-III aircraft. The expansion will accommodate additional aircraft storage space for overnight aircraft to meet capacity.	Construct apron expansion (17,000 SY) to the west of the existing apron in between the helipad and Taxiway D.	Documented need for regular use of ADG-III aircraft and additional aircraft parking space which may occur when GA operations reach 27,500 annually.	Approved ALP, Documented CATEX or short-form EA with no historical properties impacted finding	$2,600,000
D	15	Expand West General Aviation Apron	The existing 28,300 SY aircraft apron will require additional aircraft storage space for overnight aircraft is needed to meet capacity needs.	Construct Apron Expansion (7,700 SY) to the southeast of the existing apron.	Documented need for additional aircraft parking in ADG-III aircraft.	Approved ALP, Documented CATEX or short-form EA with no historical properties impacted finding	$1,100,000
D	16	Construct West General Aviation Small Aircraft Hangar Area Taxilanes (Phase I)	This area is identified to accommodate long-term small ADG-I aircraft storage. This area should be developed to meet based aircraft needs after the east GA area is fully developed.	Construct ADG-I Taxilanes (3,900 SY)	Planning should begin when four private hangar sites remain and last T-hangar is constructed in east GA area, or southeast GA corporate area is developed so that project is implemented when demand requires additional space.	Approved ALP, Documented CATEX or short-form EA with no historical properties impacted finding	$600,000
P	17	Rehabilitate and/or Reconstruct Runway 3-21	This pavement would have been last rehabilitated in 2015 and 2017. The pavement will likely be requiring rehabilitation or reconstruction between 2031 and 2035. Work is needed for the pavement to safely function for air operations.	Rehabilitate Runway (26,500 SY), Reconstruct Runway (29,500 SY), Construct Paved Shoulders (19,000 SY)	Reconstruction should occur when PCI values fall below 39 or pavement section is failing. Major rehabilitation should occur when PCI values fall below 59.	Documented CATEX	$6,400,000
D	18	Construct Air Cargo Sort Building, Access Road, Parking Lot	To accommodate forecasted growth in air cargo and peak activity, additional air cargo sort building space may be needed to the south of the current building.	Construct 41,000 SF Air Cargo Building, 8,500 SY of Parking Lot and Access Road	Documented need for additional air cargo sorting space.	Documented CATEX or short-form EA with no historical properties affected finding.	$8,300,000
D	19	Construct Runway 3 High-Speed Exit Taxiway	This runway is the primary IFR approach runway. A high-speed taxiway would reduce runway occupancy time and taxiing time, enhance arriving airport operational capacity and reduce aircraft delay.	Construct Runway 21 exit taxiway at 30 degree angle located 5,200 feet from landing threshold.	Project should be constructed when runway use meets 30 operations per hour or 76,150 annual operations.	Documented CATEX with no historical properties affected finding.	$2,000,000

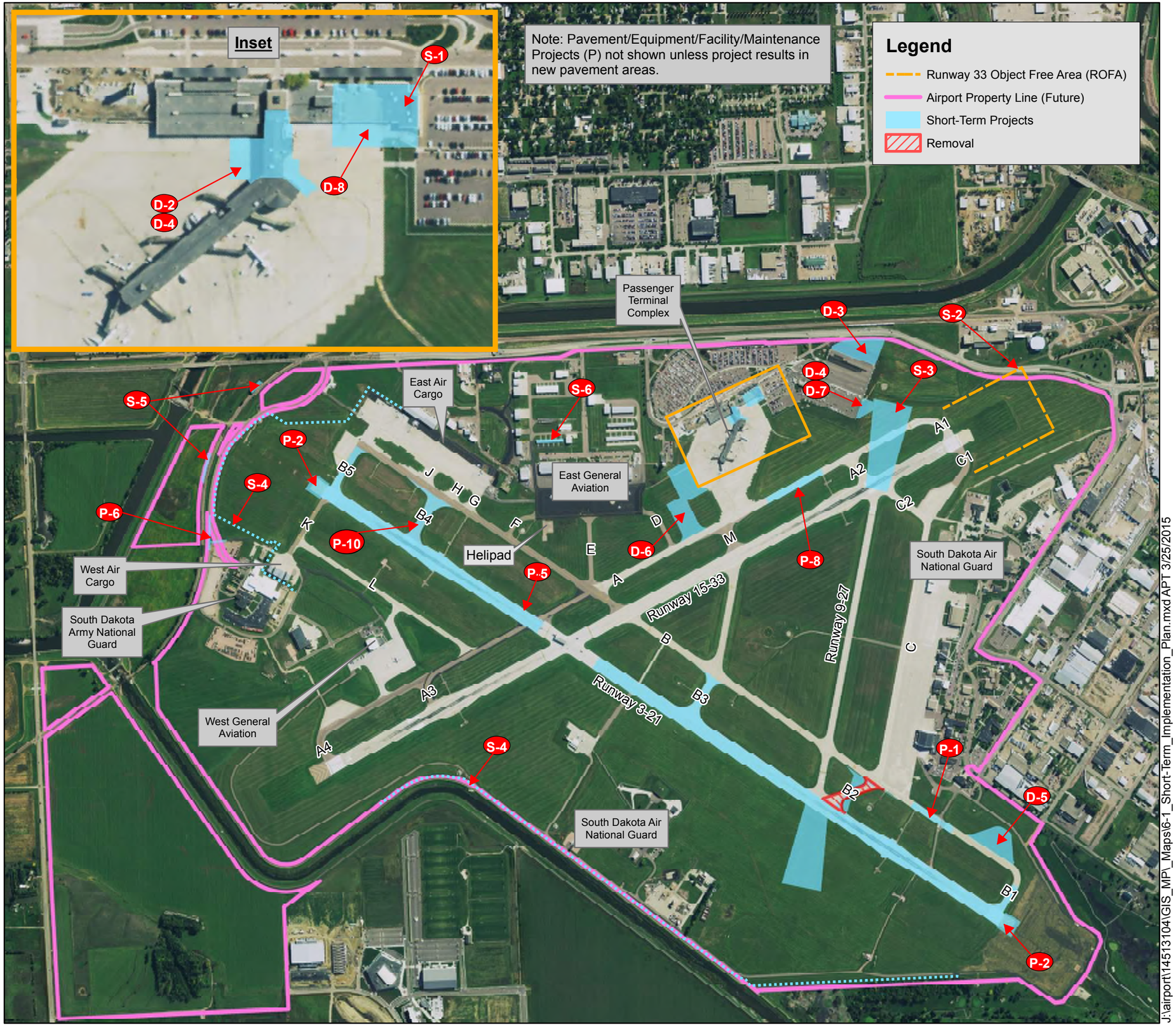
*Source: KLJ Analysis; *Airport Operating Funds, S=Safety/Security/Standards, D=Demand/Capacity, P=Pavement/Equipment/Facility Maintenance*

Table 6-5 - Ultimate Implementation Projects

Type	ID	Project	Purpose	Scope	Trigger	Prerequisites/ Environmental	Estimated Cost
Ultimate							
S	1	Construct Runway 15-33 Paved Shoulders	Meet current FAA standards for design aircraft (ADG-IV) to reduce the effects of jet blast erosion	Construct 25' paved shoulder on each side of Runway 15-33	Runway 15-33 pavement reconstruction	Documented CATEX	$4,200,000
S	2	Reconstruct/Realign Taxiway B (560' Setback from Runway 3-21)	Provide true parallel taxiway meeting FAA standards for the design aircraft and provide operational flexibility during Runway 3-21 construction.	Remove and reconstruct Taxiway B north of SDANG to Runway 21 end, Construct and 30' paved shoulders	Taxiway B pavement reconstruction	Documented CATEX with no historical properties affected finding.	$15,000,000
D	3	Construct Runway 21 High-Speed Exit Taxiway	Reduce runway occupancy time and taxiing time, enhance arriving airport operational capacity and reduce aircraft delay.	Construct Runway 21 exit taxiway at 30 degree angle located 5,200 feet from landing threshold.	Runway 9-27 decommissioning into a cross-field taxiway.	Documented CATEX with no historical properties affected finding.	$1,900,000
D	4	Expand South Public Parking Lot (700 spaces)	Peak automobile parking if forecasted to be reached by PAL 4. Project will be needed to meet peak passenger on-site automobile parking needs.	Construct 5-6 acres of paved surface automobile parking south of existing South Economy Lot.	Additional rental car storage or public parking lot needs.	Documented CATEX with no historical properties affected finding.	$1,400,000
D	5	Construct Terminal Parking Lot Canopy	Enhance passenger convenience by protecting vehicles and public traversing to/from the short-term parking lot, and providing expanded short-term parking on a new second level	Construct approximately 2.7 acres of canopy over the short-term parking lot, sidewalks and walkways to terminal, construct approximately 350 parking spaces on a second level.	Additional short-term parking.	Documented CATEX with no historical properties affected finding.	$2,500,000
D	6	Construct South Remain Overnight (RON) Apron	An expansion to the RON apron would be needed to meet scheduled and non-scheduled aircraft parking needs. This project would separate deicing from the RON parking area. The project would enhance capacity, improve operational efficiency and reduce departure delays.	Construct 16,000 SY RON apron for up to three aircraft.	Daily remote RON needs exceed 2 aircraft plus one contingency.	Documented CATEX with no historical properties affected finding.	$2,400,000
D	7	Construct West General Aviation Small Aircraft Hangar Area Taxilanes (Phase II)	Continue to accommodate growth of small general aviation aircraft storage as an expansion of Phase I beyond east GA development area.	Phase II constructs ADG-I taxilanes for two 10-unit T-hangars and four additional private 50' x 50' hangars.	Two available private hangar sites or last T-hangar constructed.	Decision on Future ATCT Site, Documented CATEX with no historical properties affected finding.	$600,000

Type	ID	Project	Purpose	Scope	Trigger	Prerequisites/ Environmental	Estimated Cost
Ultimate (cont'd)							
D	8	Construct Runway 15-33 Exit Taxiway	Reduce runway occupancy time, enhance arriving airport operational capacity and reduce aircraft delay.	Construct Runway 33 exit taxiway at 90 degree angle located 5,750 feet from landing threshold.	Construction of west GA small aircraft development area (Phase I)	Documented CATEX with no historical properties affected finding.	$700,000
D	9	Construct Runway 3, 33, 21 Bypass Taxiways	Project would provide operational flexibility and minimize aircraft delays when multiple aircraft have departure holds.	Construct connecting taxiway within 500 feet of departing end of runways 3, 33 and 21.	Existing holding bays do not provide sufficient holding capacity during peak departure hours.	Documented CATEX with no historical properties affected finding.	$2,700,000
D	10	Expand Terminal Building (Concessions)	Enhance passenger convenience by providing pre-security passengers, meters/greeters and the public the opportunity to purchase goods and services at the airport.	Remodel and expand existing pre-security concessions area (6,500 SF)	Documented need for additional pre-security concession space by vendors.	Documented CATEX with no historical properties affected finding.	$1,700,000
D	11	Expand Passenger Terminal Apron, Terminal Concourse (16 gates), Construct FIS	Terminal expansion needed to meet ultimate concourse capacity needs. The plan allows the existing terminal building to be replaced while maintaining operations.	Demolish existing concourse, expand terminal concourse (90,000 SF each floor) for a total of 16 gates, expand terminal apron (61,500 SY), construct Federal Inspection Services (FIS) facility. Project may be phased based on actual demand.	Departure peak passenger exceed 8 during the peak hour.	Focused Terminal Area Master Plan Study, Environmental Assessment (EA) with no historical properties impacted finding	$60,000,000

*Source: KLJ Analysis; *Airport Operating Funds, S=Safety/Security/Standards, D=Demand/Capacity, P=Pavement/Equipment/Facility Maintenance*



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Short-Term Projects (2015-2018; PAL 1)

Safety/Standards (S) Projects

S-1. Rehabilitate Existing Customs and Border Patrol (CBP) Facility
S-2. Submit FAA Modification to Standards (MOS) to Demonstrate Minimum Level of Safety
S-3. Reclassify Runway 9/27 for SamII Aircraft
S-4. Construct Airport Perimeter Fence Replacement (North and West)
S-5. Removal of Critical Obstructions Identified in Master Planning Effort
S-6. Construct/Replace East General Aviation Hangar (NW Quadrant; 300' x 51')

Demand/Capacity (D) Projects

D-1. Construct Car Wash Facility - Design
D-2. Construct Security Checkpoint Expansion/Main Lobby (Phase 1B)
D-3. Expand South Public Parking Lot (500 Stalls)
D-4. Construct Securtiy Checkpoint Expansion/Main Lobby (Phase 2)
D-5. Construct Runway 3 Holding Bay
D-6. Construct Passenger Terminal Apron Expansion/RON/Deicing (Phase 1A)
D-7. Construct Car Wash Facility
D-8. Construct Baggage Claim/Handling Terminal Expansion - Design

Pavement/Equipment/Facility/Maintenances (P) Projects

P-1. Reconstruct/Rehab Taxiway B (Phase 1 and 2)
P-2. Rehabilitate Runway 3-21, Blast Pad (Panel Replacement)
P-6. Rehabilitate Hangar St., National Guard Dr. (Intersection), John Orr Dr., Knapp Brown Pl.
P-8. Reconstruct Taxiway A (825' to 125' of Terminal to Apron)
P-9. Reconstruct Runway 3-21 (5,570 ft), Construct Paved Shoulders
P-10. Rehabilitate Taxiway B, K, A2, A; Reconstruct Taxiway B1, B3, B4, B5

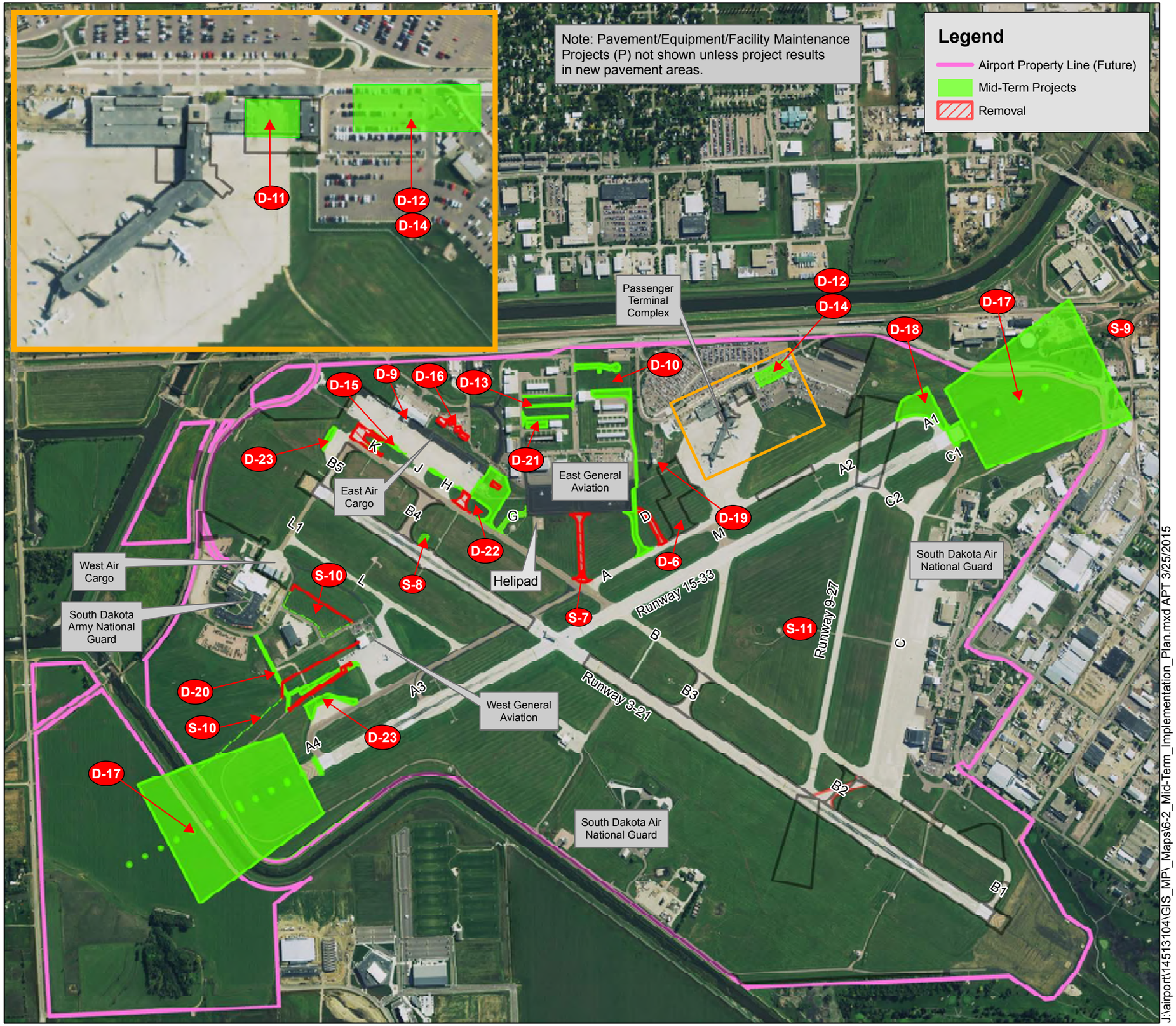
N

0 750 1,500 3,000 Feet

*Intended for Planning Purposes Only

PRELIMINARY

Exhibit 6-1
Preferred Implementation Plan: Short-Term (0-5 Years)



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Mid-Term Projects (2019-2023; PAL 2)

Safety/Standards (S) Projects

S-7. Remove Taxiway D/E; Construct Taxiway D, Strengthen Taxiway F
S-8. Upgrade Runway 21 VGSI to PAPI
S-9. Develop Multi-Jurisdictional Airport Land Use Compatibility Overlay Zoning Ordinance
S-10. Construct Airport Perimeter Fence Replacement/Gates (Northwest)
S-11. Update Airport Master Plan Study

Demand/Capacity (D) Projects

D-6. Construct Passenger Terminal Apron Expansion/RON/Deicing (Phase 1B)
D-9. Conduct Air Cargo Master Plan Study
D-10. Expand East Corporate General Aviation Taxilane (ADG-III), Construct Access Road, Rehab Taxilanes
D-11. Construct Baggage Claim/Handling Terminal Expansion
D-12. Construct Terminal Parking Sturcture - Design
D-13. Construct Northeast Small Aircraft General Aviation Taxilane, Construct Access Road
D-14. Construct Terminal Parking Structure
D-15. Expand East Air Cargo Apron Taxilanes, Remove Direct Acces Taxilane
D-16. Demolish On-Site Facilities in Air Cargo Development Area
D-17. Install ALS and upgrade Runway 33 or 15 Approach to 3/4 mile Visibility
D-18. Construct Runway 33 Holding Bay, Upgrade Blast Pad
D-19. Conduct Study for Airport Traffic Control Tower Facility
D-20. Construct West General Aviation Hangar Taxilanes (ADG-III), Realign Perimeter Road
D-21. Construct 10-Unit T-Hangar in East GA Development Area
D-22. Expand East Air Cargo Apron (South), Realign Taxiway G
D-23. Expand Runway 15, 21 Holding Bays

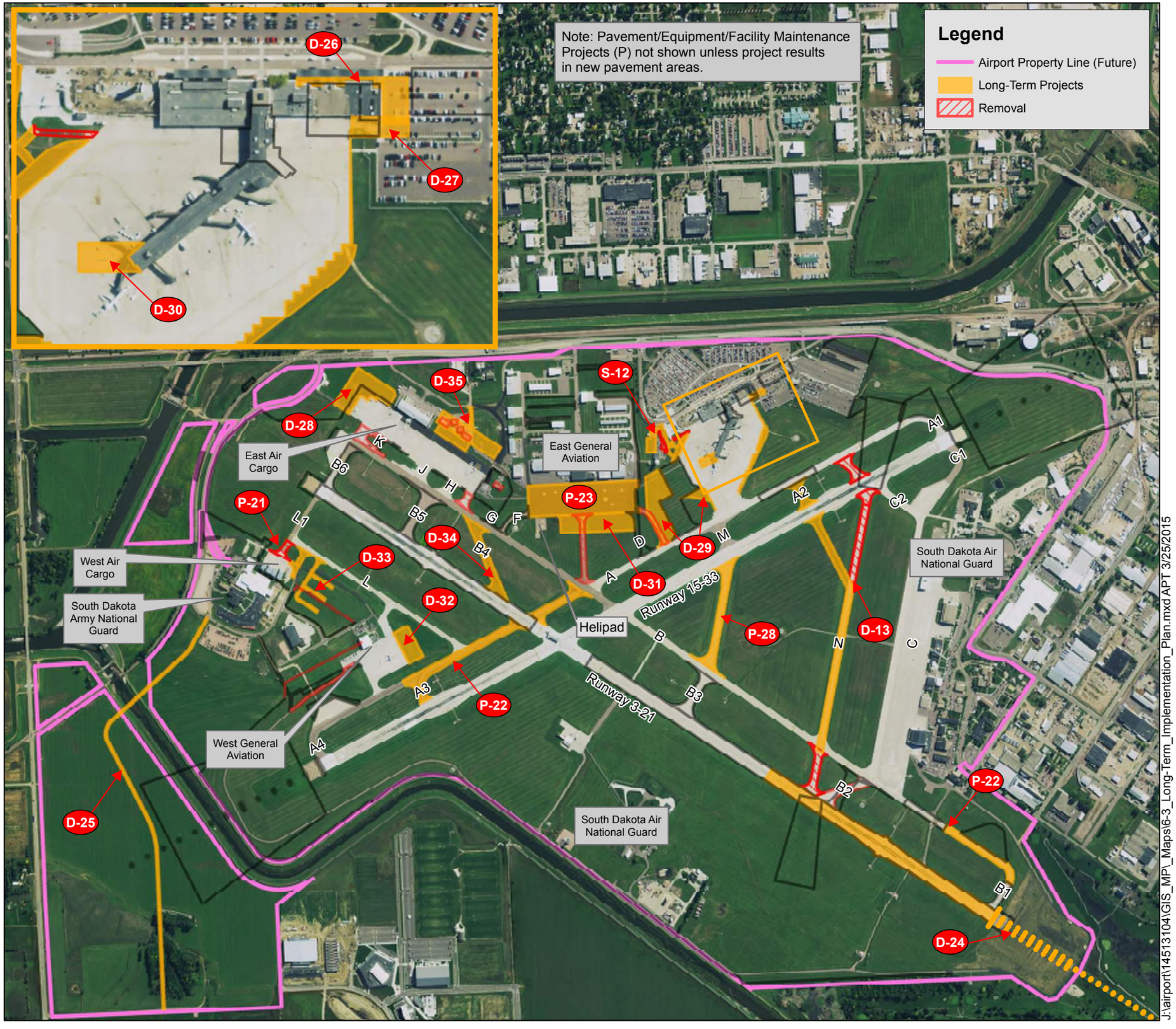
N

0 750 1,500 3,000 Feet

*Intended for Planning Purposes Only

PRELIMINARY

Exhibit 6-2
Preferred Implementation Plan: Mid-Term (6-10 Years)



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Long-Term Projects (2024-2033; PAL 3/4)

Safety/Standards (S) Projects

S-12. Construct Consolidated Receiving Facility
S-13. Decommission runway 9-27 (Convert to Taxiway), Reconstruct Taxiway, Realign Taxiway A2

Demand/Capacity (D) Projects

D-24. Upgrade Runway 3 to Category II ILS (1200 RVR)
D-25. Construct West Airport Road and Bridge
D-26. Expand Terminal Building (General Use)
D-27. Expand Terminal Building (Rental Car Concessions)
D-28. Expand East Air Cargo Apron (North)
D-29. Construct Passenger Terminal Apron Expansion/RON/Deicing (Phase 2)
D-30. Expand Terminal Concourse (Add 2 Gates; 9 Gates Total)
D-31. Expand East General Aviation Apron
D-32. Expand West General Aviation Apron
D-33. Construct West General Aviation Small Aircraft Hangar Area Taxilanes (Phase I)
D-34. Construct Runway 3 High-Speed Exit Taxiway
D-35. Construct Air Cargo Sort Building, Access Road, Parking Lot

Pavement/Equipment/Facility/Maintenances (P) Projects

P-21. Rehabilitate East Cargo Apron, Reconstruct West Cargo Apron, Relocate Taxiway K
P-22. Reconstruct Taxiway B (South End), Taxiway A (A3 to B), A3, Paved Shoulders
P-23. Reconstruct East General Aviation Apron, Strengthen to 90,000 lbs.
P-28. Rehabilitate Taxiway A, A1, A4; Reconstruct Taxiway M, Paved Shoulders

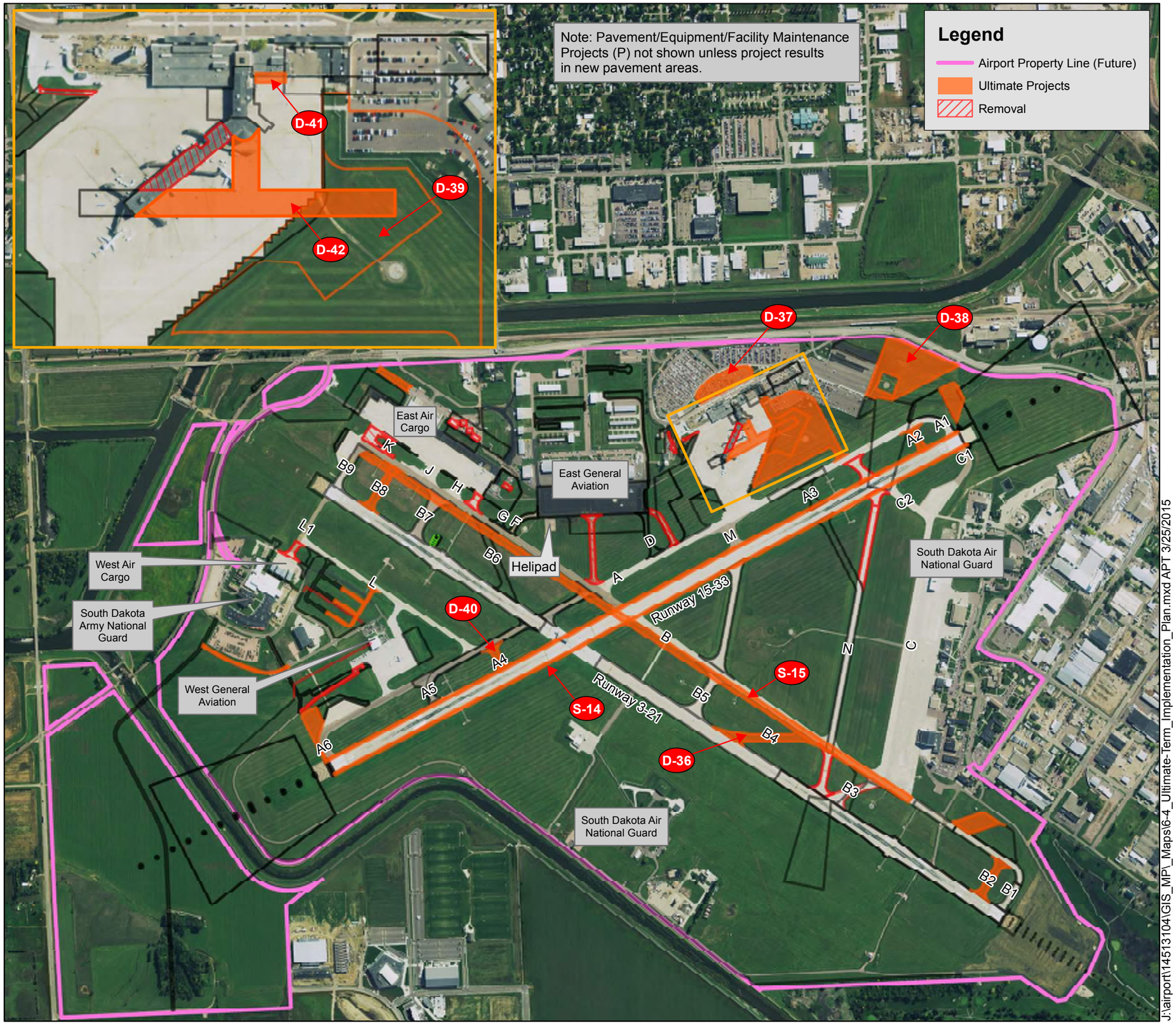
N

0 750 1,500 3,000 Feet

*Intended for Planning Purposes Only

PRELIMINARY

Exhibit 6-3
Preferred Implementation Plan: Long-Term (11-20 Years)



Ultimate Projects (After 2033; Beyond PAL 4)

Safety/Standards (S) Projects

S-13. Construct Runway 15-33 Paved Shoulders
S-14. Reconstruct/Realign Taxiway B (560' Setback)

Demand/Capacity (D) Projects

D-36. Construct Runway 21 High-Speed Exit Taxiway
D-37. Construct Terminal Parking Lot Canopy
D-38. Expand South Public Parking Lot (700 Spaces)
D-39. Construct South Remain Overnight (RON) Apron
D-40. Construct Runway 15-33 Exit Taxiway near Taxiway L
D-41. Expand Terminal Building - Concessions Area
D-42. Expand Passenger Terminal Apron, Expand Terminal Concourse/FIS (16+ Gates Total)

N

0 750 1,500 3,000 Feet

*Intended for Planning Purposes Only

PRELIMINARY

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Exhibit 6-4
Preferred Implementation Plan: Ultimate (20+ Years)

Financial Overview

The implementation plan considers the airport's ability to fund the projects identified in the master plan. Projects in the short-term and mid-term are discussed in more detail for realistic project sequencing based on identified needs, airport priorities and available funding. Financial feasibility is a major consideration in developing the implementation plan and Capital Improvement Plan (CIP).

Sources of Funding

Airport funding for projects is derived from many sources. Funding sources can be categorized into three main categories:

- Federal funding
- State funding
- Local or Private funding

FEDERAL FUNDING

Most funding for airport development comes from federal government programs. Currently the most predominant program is the Airport Improvement Program, commonly referred to AIP, managed by the Federal Aviation Administration (FAA).

FAA is allowed to issue grants for airport planning and development in the United States. The FAA normally needs two separate legislative actions in order to be able to issue grants and operate the AIP grant program: an **authorization** which sets annual funding levels and contract authority, and an **appropriation** which allows FAA to make payments.

AIP funds are not drawn from the government's General Fund, which consists primarily of tax payments from all sources. Instead, revenue for AIP is drawn from the Airport and Airway Trust Fund, commonly referred to as the Trust Fund. The Trust Fund is funded by a variety of revenue sources in the aviation industry, including a domestic ticket taxes/fees and fuel taxes.

The authorization and appropriation legislation determine the amount of AIP funding available in a given period. The current four-year AIP is authorized through September 30, 2015. With AIP due for congressional reauthorization after 2015, funding levels may change. For planning purposes this implementation plan assumes AIP funding is available according to current authorization. In general, AIP funding is distributed in the following categories:

Entitlements

Entitlement funds are AIP funds available to individual airports and fall into several categories. A project must be eligible and justified for entitlement funds to be released for a project.

Passenger Entitlements

These funds are available to airports with scheduled passenger service and enplaning more than 10,000 passengers per year. Sioux Falls Regional Airport is eligible to receive passenger entitlements. Passenger entitlements are calculated based on the following formula:

- $7.80 for each of the first 50,000 passenger enplanements
- $5.20 for each of the next 50,000 passenger enplanements
- $2.60 for each of the next 400,000 passenger enplanements
- $0.65 for each of the next 500,000 passenger enplanements
- $0.50 for each passenger enplanement greater than 1 million

By a special provision in the authorization, when $3.2 billion or more AIP is appropriated in the fiscal year, each level doubles (i.e., instead of $7.80 for each of the first 50,000, the rate becomes $15.60, etc.), the annual minimum becomes $1 million, and the maximum becomes $26 million per airport. The $3.2 billion threshold is met with the current authorization.

Cargo Entitlements

Airports receiving cargo shipments may be eligible for cargo entitlements. The amount of entitlements are based on the distribution of 3.5 percent of the total AIP available for grants, divided on a pro-rata basis according to an airport's share of total US landed cargo weight. In 2013, Sioux Falls had more than 338 million pounds of total US landed cargo weight, ranking #65 nationally with a 0.084 percent share.

Nonprimary Entitlements

By a special provision in the authorization, when $3.2 billion or more AIP is appropriated in the fiscal year, airports not receiving passenger entitlements will receive nonprimary entitlements. These entitlements are the lesser of $150,000 or 20 percent of an airport's 5-year development costs listed in the biennial National Plan of Integrated Airport Systems (NPIAS) report to Congress. This category does not apply to Sioux Falls, a primary commercial service airport.

State Apportionment

These funds are available for eligible airport development projects within a state. Normally, 18.5 percent of the total AIP funds available for grants is apportioned for airports based on an area/population formula. When the amount of AIP funds available in a fiscal year are $3.2 billion or more, 20 percent of the total AIP funds is allocated to nonprimary entitlements with the remaining funds distributed by state based on an area/population formula. These funds are generally limited to commercial service nonprimary and general aviation airports.

Discretionary

These are the remaining appropriated funds after the other types of funds have been established. Roughly one-third of all AIP funding is considered discretionary. A portion of the discretionary funds are directed toward specific, or "set-aside," programs, such as noise-related projects or the Military Airport Program. Of the remaining discretionary funds, 75 percent are to be used for enhancing capacity, safety, security and noise compatibility planning and programs. The remaining 25 percent, known as pure discretionary funds, may be used for any eligible project at any airport, as determined by the FAA. As a general rule, pure discretionary funds typically account for less than four percent of the available AIP funds. Discretionary funding is used for higher priority AIP funded projects where passenger entitlements are not sufficient to cover the total federal share.

Federal Share of Project Funding

Federal AIP funds typically do not cover the entire cost of an airport development project. The project costs must be eligible for federal funding under current legislation. Then, the costs must be allowable, i.e., reasonable and justified. Once costs have been determined to be allowable, the federal share of allowable costs is limited to a fixed percentage of the total costs. Although there are some exceptions, the current legislation limits the federal share of allowable AIP costs at 90 percent for most non-hub primary or smaller airports. The remaining 10 percent is considered the local share. In South Dakota, the State provides a 5 percent match with all AIP funds leaving the airport sponsor with a 5 percent share of the project cost.

Types of Potential AIP Funding Available for Sioux Falls Regional Airport

By law, only public-use airports in the NPIAS are eligible for AIP funding. Sioux Falls Regional Airport is classified as a small hub commercial service airport, eligible to receive primary and cargo entitlements under the current AIP program. Passenger entitlements will increase but at a slower rate once airport achieves 500,000 annual enplanements. Cargo entitlements are pro-rated based on landed aircraft weight. Sioux Falls is expected to continue to qualify for this funding by ranking as a top 100 airport nationally.

Most AIP-eligible projects would be eligible for discretionary funding. However, as stated earlier, the assignment of discretionary funds is determined by the FAA, and extensive coordination with the FAA is required to determine the potential availability of discretionary funding for specific projects. Individual projects are given a weighted National Priority Rating based on project purpose, type, component and airport type. As one of two non-hub or small hub airports in South Dakota, Sioux Falls would rank high in this component. Safety and preservation projects of AIP funded runways rank the highest, but are ranked against other projects and facilities regionally and nationally.

Current AIP Funding Available for Sioux Falls Regional Airport

Based on 2013 data, Sioux Falls Regional Airport is eligible to receive $3,234,413 in passenger entitlements and $121,919 through AIP in 2015. Although that amount is subject to annual Congressional appropriation legislation, it is reasonable to expect continued funding at this level for the duration of the current FAA reauthorization law, which extends through 2015.

While projects may be eligible for discretionary funding, the availability of discretionary funding cannot be predicted with any degree of certainty. Assignment of discretionary funds to an AIP project depends on a variety of factors, including total funding availability, national priorities and project justification. To receive discretionary funds the project must meet all FAA process requirements and rank more favorably against other competing projects nationally given the available amount of money.

In-depth discussions with FAA representatives are necessary to determine the potential availability of discretionary funding for an AIP-funded project.

STATE FUNDING

State governments typically have a variety of funding programs available for airport development. The most predominant programs use of funds from a variety of sources, such as aviation fuel taxes or aircraft registration fees, to provide funding for a portion of an airport sponsor's local share of a federally-funded airport development project. This section describes the program of the state funding for the Sioux Falls Regional Airport.

South Dakota State Aviation Funding

State funding for airport development is managed by the South Dakota Department of Transportation's Office of Aeronautics, under the direction of the South Dakota Aeronautics Commission. This funding, held in the South Dakota Aeronautics Fund, comes primarily from aviation fuel taxes and aircraft registration fees.

Airports may apply for funds to cover up to 50 percent of the local share for federal AIP-funded projects. Currently the State AIP match rate is 5 percent, however officials at South Dakota Aeronautics have indicated that funding levels may be reduced to 4 percent in the future. Airports are also allocated a portion of the aviation fuel taxes collected from fuel sales on their airport and may request those funds for airport development projects including equipment.

AIRPORT FUNDING SOURCES

An airport does not typically satisfy its capital development needs with internal funding sources alone. Federal, state, and private funding, together with airport funds and bond proceeds, are usually combined to produce the total funds required for capital projects. These funding sources include: FAA, state, private funds (tenant or third party), airport funds, Passenger Facility Charges (PFCs), and loan or bond proceeds. Federal sources, including Airport Improvement Program (AIP) funds, are subject to modification by Congress or other entities having jurisdiction over a particular funding source.

The specific project eligibility criteria may vary depending on the funding source. In identifying potential sources of funds, it is necessary to examine each project element to determine its eligibility for funding. It's also important to consider the availability of funds for each funding source. AIP funding, as the primary source of federal funding, is described in the previous **Federal Funding** section, and potential state funding is described in the previous **State Funding** section. The following paragraphs briefly describe other funding sources available to the airport.

Passenger Facility Charge

The Aviation Safety and Capacity Expansion Act of 1990 authorized the Secretary of Transportation to grant public agencies the authority to impose a Passenger Facility Charge (PFC) to fund eligible airport projects. PFC revenue may be used on a "pay-as-you-go" basis or leveraged to pay debt service on bonds or other debt used to pay for PFC-eligible projects. Although the FAA is required to approve the collection and use of PFCs, the program permits local collection of PFC revenue through the airlines operating at an airport and provides more flexibility to airport sponsors than AIP funds. The current cap on PFC is $4.50 per revenue passenger.

Customer Facility Charge

A customer facility charge (CFC) is a fee paid by airport customers for the use of some non-aeronautical service at the airport. These charges are commonly collected from on-airport rental car agencies. The funds are collected by the rental car agency from their customers and then paid to the airport for use in paying the debt service on, for example, a consolidated rental car facility. The airport constructs the facilities on behalf of the agency, allowing them to finance major projects, but keeping the debt off their balance sheets. Airport CFCs are typically charged to each customer for each rental day, ranging from $1.50 per day up to $8 per day. Fees imposed are identified for specific projects.

Bonds

Bonds are a form of debt financing. They are loans where there is a promise of payback backed by the issuing agency such as an Airport Authority or a City/Municipality. A variety of bonds can be issued to support funding airport development projects.

General Obligation Bonds

These bonds are backed by the creditworthiness and taxing power of the municipality operating the airport. They usually bear low interest rates because of their high degree of security. However, state laws may limit a municipality's overall debt, and competition from other community financing requirements may preclude their use for an airport project. Some states have an exemption from the debt limitation rule for general obligation bonds because they are used for a revenue producing enterprise.

Revenue Bonds

Revenue bonds pledge the revenues of an airport sponsor to the repayment of debt service. These are the most common source of funding at larger commercial service airports. Revenue bonds are popular because they do not burden the taxpayer or affect the bonding capacity of the municipality. However, their use is limited to airports with a sufficient operating surplus to cover the debt service. Projected Net Revenues must exceed debt service requirements by at least 1.25 times and up to 2.0 times, depending on the strength of the bond issuer and the underlying assumptions with respect to the market risk for the bonds. Interest rates are dependent on the coverage ratio, but in any case will be higher than for general obligation bonds. Other factors that may affect the interest rates on revenue bonds are the strength of the local passenger market and the financial condition of the airlines serving the market.

Special Facility Revenue Bonds

These bonds are normally issued by the airport sponsor for the construction of a facility for a third party and backed by the revenues generated from that facility. This method of funding can be used for such facilities as maintenance hangars, airline reservation centers, terminal buildings and air cargo terminals.

Industrial Development Bonds

These types of bonds can be issued by states, local government, or an airport authority to fund the construction of an airport industrial park or other facilities that may attract business and increase non-aeronautical leasing revenues at the airport.

Third Party Development

Third party financing may be appropriate in a case where an airport sponsor uses a third party developer or a tenant to finance a construction project. Only projects with a strong positive cash flow can support this type of financing. Generally, the third party would lease the structure for a period of years to the tenant paying the airport ground rents. According to the terms of the agreement, the airport sponsor receives ownership of the asset upon expiration of the lease. This method of financing preserves the airport sponsor's cash to fund higher priority projects. Examples of projects that are funded in this manner include the development of passenger terminals, general aviation hangars, corporate hangars and cargo facilities.

Local Funds

The remaining portion of project costs must be funded from local sources. The local share of project costs can come from the annual cash flow at the airport or with unrestricted cash balances available to the airport sponsor. The local municipality may provide the local share from its annual cash flow or available cash reserves.

Non-Traditional Funding Sources

These include any other non-aeronautical funding sources that may be available for airport development. Local sources include the Sioux Falls Development Foundation. Other Federal agencies such as Transportation Security Administration (TSA) or Customs and Border Patrol (CBP) may also provide funding for airport improvements.

Airport Financial Structure

A pro-forma projection financial projection of local operating revenue, expenses and cash flow was not

prepared in this Master Plan. A cursory review of the airport's financial structure was completed. The airport is financially self-sustaining for operating expenses. Opportunities to maximize airport revenue and reduce expenses is an on-going effort completed by airport management. A summary of the revenues and expenses and enterprise fund is described below.

Airport Revenue

Sioux Falls Regional Airport collected approximately $7.8 million in revenue in 2013. Revenue is collected in the terminal, airfield and landside areas supporting the maintenance and operation of the airport. Revenue sources for the Sioux Falls Regional Airport include:

- Parking Lot Revenue (38.6% of total)
- Rental Car Fees (16.1% of total)
- Land Leases/Rents (11.7% of total)
- Other (8.6% of total)
- Landing Fees (8.1% of total)
- Airline Tenant Rents (6.8% of total)
- Air Flight Tax (6.2% of total)
- Deicing Fluid Sales (3.2% of total)
- Fuel Flowage Fees (0.7% of total)

Approximately 63.1 percent of operating revenue is collected from non-aeronautical sources. Both aeronautical and non-aeronautical revenue is collected based on established rates and charges Terminal rent is calculated based on expenses on a per square foot basis. Landing fees are established based on airfield expenses and charged on a landed weight basis. The 2013 fee is $0.75 per 1,000 pounds which is lower than Des Moines ($2.75), Minneapolis-St. Paul ($2.59), Omaha/Eppley ($2.53), Rapid City ($1.55), Sioux City ($0.99) and Grand Forks ($2.08) but higher than Fargo/Hector ($0.55). All rates and charges are set by the Sioux Falls Regional Airport Authority.

Revenue Enhancement

Revenue enhancement opportunities include pursuing development of approved non-aeronautical land uses. These areas are identified in this planning study and Airport Layout Plan as land not needed for aeronautical purposes. A long-term land lease would generate revenue at fair market value. Opportunities for this type of development are available at the corner of Hangar Street and Minnesota Avenue, the West General Aviation area as well as airport property to the west of the diversion channel near the Sanford Sports Complex.

Other opportunities for revenue enhancement include rates and charges. Rates and charges should be reviewed on an annual basis to cover fixed and variable airport expenses, including deprecation. Strategically collecting revenue to cover the local share of capital improvements should also be considered, including alternative local funding sources such as PFCs and CFCs. PFCs are proposed to be implemented starting in July 2015.

Airport Expenses

Sioux Falls Regional Airport incurred $7.7 million in estimated expenses in 2013. Revenue is collected in the terminal, airfield and landside areas supporting the maintenance and operation of the airport. Expense categories for the Sioux Falls Regional Airport include:

- Depreciation (46.7% of total)
- Other (15.8% of total)
- Utilities (7.7% of total)
- Parking Management Fees (6.2% of total)
- Wages, Salaries and Benefits (5.3% of total)
- Facility Maintenance (3.9% of total)
- Security (3.7% of total)
- Advertising & Promotion (2.9% of total)
- Forward Sioux Falls (2.6% of total)
- Supplies (2.2% of total)
- Insurance (1.4% of total)
- Airline Startup (0.9% of total)
- Professional Services (0.7% of total)

In 2013 the passenger airline cost per enplaned passenger was $2.56 which is lower than Sioux City ($10.25), Minneapolis-St. Paul ($6.83), Omaha/Eppley ($6.11), Grand Forks ($5.94), Rapid City ($5.56) and Fargo/Hector ($3.39). The national average for small hub ($8.22) and non-hub ($8.82) commercial service airports.

Sioux Falls does enjoy an advantage as having the Air National Guard cover the costs for ARFF, saving the airport an expense of approximately $1 million annually which is not passed along to airlines. The airport does not have any indebtedness.

Airport Operating Fund

The Sioux Falls Regional Airport currently has a positive airport operating fund balance. This fund consists of unrestricted cash and investments. Its purpose is to fund the local share of capital improvement projects and be utilized to fund unforeseen contingencies. As of the end of 2014, the current fund balance is approximately $17.5 million. The fund is replenished by airport revenues to account for facility depreciation costs. Annual revenue in 2013 is approximately $3.5 million. Based on the FSD airport capital improvement program, airport management projects future contributions of approximately $5 million annually.

Financing Strategy

A realistic project implementation plan must consider financial resources. This financing strategy identifies the plan to provide sufficient federal, state and local funding for future airport improvements.

LOCAL FUNDING

The airport operating fund will be used in part to fund the local share of capital improvement projects. With a balance of $17.5 million and steady revenue, the fund is solvent and provides opportunities for the airport to have sufficient reserves and invest in on high-priority projects. It is replenished by airport operating revenues. The airport would like to have no less than $10 million in cash reserves available and not incur debt.

The strategy is to leverage local funds from the airport operating fund to match AIP grants, currently at 5 percent. The local share of federal entitlement and foreseen discretionary projects requires nearly

$300,000 local share when the implementation plan is averaged annually. There is sufficient local funding to provide local match for AIP funded improvements.

The fund will also be used to fund projects ineligible for AIP funding. Ineligible projects typically include exclusive use or revenue-generating facilities. There are local priority projects identified by the airport as requiring only local funds to complete, which will require nearly $10 million for the short and mid-term through 2023. The implementation plan through 2023 considers sequencing local funded projects given anticipated more conservative revenue contribution of $4 million annually for projects and a minimum fund balance of $10 million.

Other local funding sources available include Passenger Facility Charges (PFCs) and Customer Facility Charges (CFCs). A $4.50 per revenue passenger PFC will be imposed and collected by the airport starting in July 2015. These funds can be used to fund the local share of airport improvements. PFC Application #1 includes past and current projects. After expenses, PFC collections for the 11 identified eligible projects will total nearly $23 million and be collected through year 2025. After 2025, PFCs can be collected for additional projects. Therefore, non-PFC revenue should be used to fund projects through the short-term and mid-term. The PFC revenue generated under application #1, however, does free up local funding to be used on other projects in the short-term and mid-term.

At a current maximum collection of $4.50 per enplaned passenger, PFC revenues are projected to grow from nearly $2 million annually to $3 million annually at the end of the planning period. After expenses, total cumulative revenue stream of over $46 million through the planning period can be used to fund airport improvement projects. This leaves **$24 million in potential PFC revenue capture** for eligible projects beyond PFC Application #1 in 2025. Additional revenues may also be available if the PFC cap is increased in future FAA authorizations.

Future applications should consider projects in the mid-term and long-term to offset the use of local airport funds for eligible projects. PFCs collected after the current application can be used for this purpose. All airport projects will have to financed using the airport operating fund or debt service until such time as the PFC or CFC collection to recoup the project's local share.

CFC should be considered as a financing tool for projects rental car projects. CFC revenues are to be used only to finance the design and construction of facilities connect to the business of renting cars at the airport. These may include office facilities, parking lots and consolidated maintenance facilities. It is recommended the Sioux Falls Regional Airport impose a per day rental car customer charge to help fund the future rental car quick-turn facility (car wash). CFCs should also be considered for any rental car exclusive use facilities in a parking structure or long-term terminal building expansion.

Projects identified to be funded only with airport operating funds, PFCs or CFCs in the short-term and mid-term are identified in **Table 6-6: Airport-Only Funded Projects**.

Table 6-6 – Airport-Only Funded Projects

Type	Year	Project	Cost	Airport Funds*	PFC	CFC
Short-Term (2015-2018)						
S	2015	Rehabilitate CBP Facility	$150,000	$150,000	$0	$0
D	2015	Rental Car Quick Turn Facility - Design	$200,000	$200,000	$0	$0
D	2015	Expand Security Checkpoint/Lobby	$11,947,920	$3,584,376	$8,363,544	$0
P	2017	Rehabilitate/Reconstruct Terminal Landside Pavements	$96,000	$96,000	$0	$0
S	2017	Construct/Replace GA T-Hangar	$1,050,000	$1,050,000	$0	$0
D	2018	Rental Car Quick Turn Facility	$3,160,000	$0	$0	$3,160,000
D	2018	Baggage Claim Expansion - Design	$200,000	$200,000	$0	$0
		Total Short-Term:	$16,803,920	$5,280,376	$8,363,544	$3,160,000
Mid-Term (2019-2023)						
D	2019	Construct Baggage Claim Expansion	$4,000,000	$4,000,000	$0	$0
D	2019	Terminal Parking Structure - Feasibility Study/Design	$750,000	$562,500	$0	$187,500
D	2020	Construct Terminal Parking Structure	$21,000,000	$15,750,000	$0	$5,250,000
S	2021	Airport Zoning Ordinance	$50,000	$50,000	$0	$0
S	2021	Install Runway 15 or 33 Approach Lighting System (3/4 mile)	$950,000	$0	$950,000	$0
D	2022	Construct GA T-Hangar	$880,000	$880,000	$0	$0
		Total Mid-Term:	$27,630,000	$21,242,500	$950,000	$5,437,500
		Grand Total:	$44,433,920	$26,522,876	$9,313,544	$8,597,500
		Projected Airport Fund Revenue (2015-2023):	-	*$36,000,000*	-	-
		Total AIP Local Match (2015-2023):	-	*$2,319,750*	-	-

*Source: KLJ Analysis; *Airport Operating Funds, S=Safety/Security/Standards, D=Demand/Capacity, P=Pavement/Equipment/Facility Maintenance*

FEDERAL FUNDING

Federal AIP funding provides financing for the vast majority of the airport improvements proposed at the Sioux Falls Regional Airport.

Entitlement funding alone is not sufficient to meet the projected needs at the airport. While maximizing the projected entitlement funding available to Sioux Falls, FAA passenger and cargo entitlements will finance about 40 percent of the proposed improvements through the planning period. Entitlements will be utilized to fund AIP-eligible projects, particularly critical maintenance, safety and capacity enhancements. Where opportunities exist, entitlement funding will be used to complete capacity enhancements that may not receive as high of a priority ranking nationally for discretionary funding. Discretionary funding is anticipated to fund about 19 percent of the cost of airport improvement projects through the long-term.

A summary of Federal funding needs is outlined in **Table 6-7: Federal Funding**.

Table 6-7 – Federal Funding

Phase	Cost	FAA Entitlement	FAA Discretionary	Other
Short-Term (2015-2018)	$50,642,920	$13,704,572	$15,581,428	$21,356,920
Mid-Term (2019-2023)	$47,440,000	$17,829,000	$0	$29,611,000
Long-Term (2024-2033)	$77,940,000	$38,887,156	$18,310,771	$20,936,671
TOTAL	**$176,022,920**	**$70,420,728**	**$33,892,199**	**$71,904,591**

Source: KLJ Analysis

Federal discretionary funding will be needed to fund the highest priority projects at the airport, particularly the rehabilitation/reconstruction of primary air carrier Runway 3-21. Discretionary funding will be needed in 2017 to complete this project, with entitlement funds used to fund other priority pavement rehabilitation work. FAA's preference is the combine entitlement and discretionary funds on high priority projects.

It is not for another 10 years where discretionary funding may be necessary to complete work. Under the identified long-term plan, taxiway pavement reconstruction work as well as capacity improvements including a terminal concourse extension are projected to be completed from 2027 to the end of the planning period. To complete these projects discretionary funding will be required. The next Master Plan update should refine these long-term discretionary project funding needs.

For high priority projects, Sioux Falls Regional Airport should compete well for discretionary funds as the busiest of the four primary commercial service airports in South Dakota. It is also the only small hub airport in the State.

Table 6-8 – Federal Discretionary Funding

Type	Year /Seq.	Project	Cost	FAA Entitlement	FAA Discretionary	Other
Short-Term (0-5 Years)						
P	2017	Reconstruct Runway 3-21 (5,570 ft.), Construct Paved Shoulders	$15,830,000	$0	$14,247,000	$1,583,000
P	2017	Rehabilitate Taxiway A, B, K, A2; Reconstruct Taxiway B1, B3, B4, B5	$3,500,000	$1,815,572	$1,334,428	$350,000
		Total Short-Term:	$19,330,000	$1,815,572	$15,581,428	$1,933,000
Mid-Term (6-10 Years)						
-	-	*No Discretionary Projects*	-	-	-	-
		Total Mid-Term:	-	-	-	-
Long-Term (11-20 Years)						
P	1	Reconstruct Taxiway B, A, A3; Construct Paved Shoulders	$5,300,000	$0	$4,770,000	$530,000
S	2	Reconstruct Runway 9/27 (Convert to Taxiway)	$6,000,000	$0	$5,400,000	$600,000
D	4	Expand Terminal Concourse	$7,400,000	$4,279,229	$2,380,771	$740,000
P	5	Reconstruct/Rehabilitate Runway 3-21	$6,400,000	$0	$5,760,000	$320,000
		Total Long-Term:	$25,100,000	$10,143,827	$18,476,173	$2,190,000
		Grand Total:	$44,430,000	$11,959,399	$34,057,601	$4,123,000

*Source: KLJ Analysis; *Airport Operating Funds, S=Safety/Security/Standards, D=Demand/Capacity, P=Pavement/Equipment/Facility Maintenance*

STATE FUNDING

The State of South Dakota currently provides a 5 percent match for AIP funded projects. This funding source has been factored into AIP-funded projects. Additional funding opportunities for airport

improvements is available through the State. This funding source is recommended to be utilized for non-AIP eligible equipment such as mowers. Total State funding needs total nearly $1.8 million in the short-term, nearly $1 million in the mid-term, and over $3.2 million in the long-term. If State AIP match funding levels are reduced to 4 percent then this would increase the local share by over $1.1 million cumulatively over 20 years.

Capital Improvement Plan

The Capital Improvement Plan (CIP) is a key element in the implementation plan. This is a separate document specifically listing the planned airport projects and funding. The official CIP for the airport is updated annually by the airport and FAA. The CIP identifies the project scope, timeline, estimated costs and anticipated funding for airport improvements. Projects are often divided into smaller projects that reflect how projects are approved, designed and constructed. For example, a passenger terminal expansion project requires terminal concourse, terminal apron, access taxiways and miscellaneous support infrastructure elements, plus the preparation of planning, environmental and construction documents. Each project is requested through the CIP project programming and grant application process. The CIP is updated and submitted to the FAA annually to program project funding.

The master implementation plan was developed based on this proposed implementation plan. This outlines the over $176 million in airport improvements identified for the next 20 years. This document can be used by the Airport to breakdown each project into usable units of work to update the official CIP submitted annually to FAA. This implementation plan chapter can also be used as a reference to identify triggering events.

A copy of the master implementation plan reflecting the proposed project plan for the next 20 years is located in **Appendix K: Master Implementation Plan.**