6. System Recommendations

6.1. Introduction

This chapter builds on the findings of **Chapter 5. System Performance** by establishing future performance targets and making recommendations for South Dakota's aviation system to achieve those future targets. This chapter is organized around the three system goals established at the beginning of the study and includes a review of each goal's associated performance measures (PMs) to identify gaps in system performance. Performance gaps are determined by comparing the existing performance (presented in Chapter 5) to the future performance targets established by the South Dakota Department of Transportation Office of Aeronautics Services (SDDOT) and stakeholder groups to identify the number of airports, by state role and system-wide, that are not meeting each PM. Evaluating the existing performance against future performance targets provides a list of airports that are deficient in meeting the PM and therefore are candidates for system plan project recommendations. However, it is important to note that while these lists of airports by PM are helpful in understanding the system gaps, resources are limited and therefore an airport's mention in this chapter is not a guarantee of project funding. For more information on SDSASP recommended projects, including anticipated costs and project priorities, see **Chapter 7. System Needs and Project Costs**.

As a supplement to this recommendations chapter, **Appendix E – NPIAS Analysis and Recommendations** offers recommendations related to airport inclusion and exclusion from National Plan of Integrated Airport Systems (NPIAS) and changes to ASSET classifications for SDSASP airports. While this information does not pertain directly to the recommendations included in this chapter, it does provide additional context as it relates to system recommendations.

6.2. Future System Performance Targets and Recommendations

Realistic future system performance targets can only be determined after existing performance analyses have been completed. SDDOT worked with the study's Project Advisory Committee (PAC) to review existing performance data and set future targets for performance, understanding the priorities of SDDOT and other stakeholder groups and the outside influences that impact system performance in meeting future targets. The following subsections are organized by system goal and associated PMs and present future system targets and recommendations for each PM.

6.2.1. *Goal: Safety and Security*

Safety and Security is the highest priority for SDDOT. Keeping pilots and passengers in the sky, as well as people and property on the ground safe is paramount to the continued operation of the state's aviation system. The PMs associated with safety and security aim to promote clear runway approaches, control land within critical safety areas at and around airports and comply with state inspection standards. Future performance targets and recommendations are presented for the following PMs:

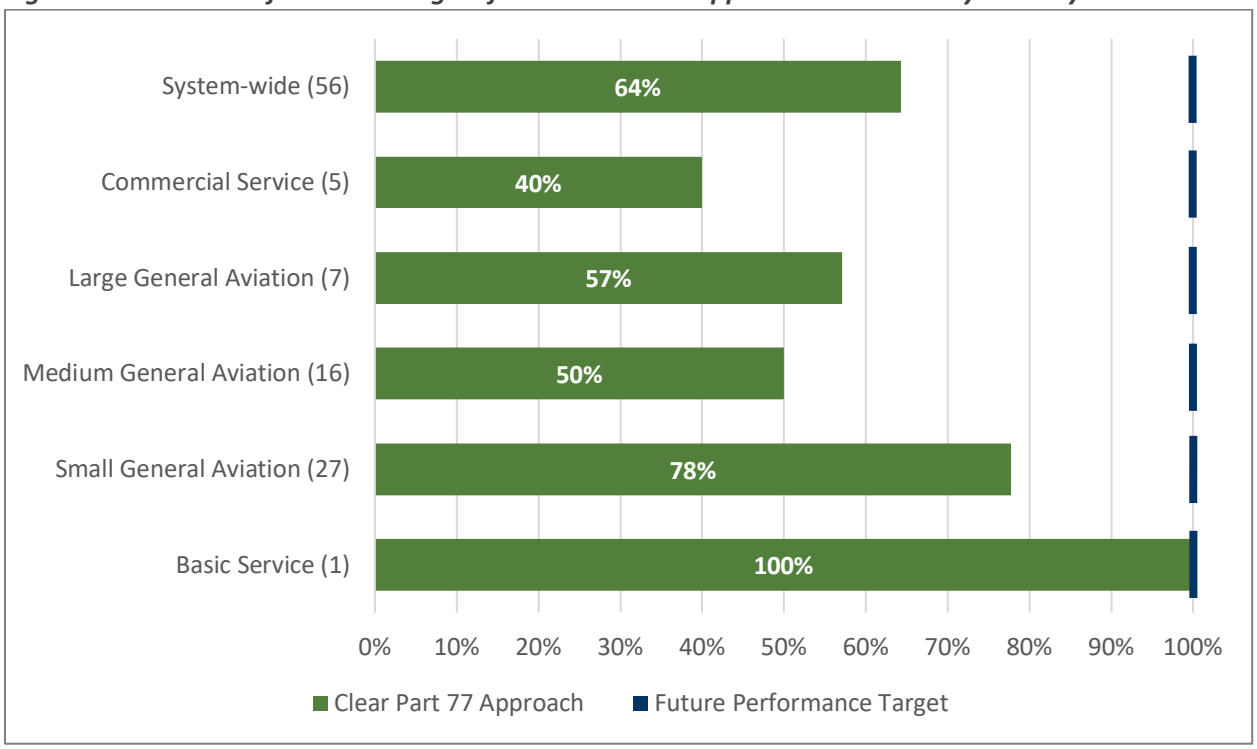
- Percentage of airports that have clear Part 77 approaches on their primary runway
- Percentage of airports that have clear Part 77 approaches on their nonprimary runway(s)
- Percentage of airports that control (through fee simple or easements) the land in the Runway Protection Zones (RPZs) of their primary runway
- Percentage of airports that control (through fee simple or easements) the land in the RPZs of their nonprimary runway(s)

- Percentage of airports meeting SDDOT annual inspection standards for Runway Safety Areas (RSAs)

6.2.1.1. Percentage of Airports that have Clear Part 77 Approaches on their Primary Runway

Having obstructions within Part 77 approaches can create potential safety hazards for those in the sky and on the ground and can negatively impact functionality of an airport. Keeping Part 77 approaches clear is important for overall safety and functionality of an airport, but there are considerable challenges in keeping these areas clear of obstructions due to removal costs and land ownership. For more information about Part 77 approaches and obstructions see **Chapter 2. Inventory of System Conditions**, **Section 2.5.4.2**. Overall, 64 percent of SDSASP airports currently have clear Part 77 approaches to their primary runways. As shown in **Figure 6-1,** the future system target is set at 100 percent across the board, indicating that all airports, regardless of role, should work towards achieving and maintaining clear Part 77 approaches on their primary runways.

Figure 6-1: Future Performance Targets for Clear Part 77 Approaches on Primary Runways



Sources: 2020 SDSASP Inventory Form; FAA 5010 Master Record; Kimley-Horn, 2020

Table 6-1 shows the number of airports by role that would need to clear their primary runway's Part 77 approaches in order to meet system-wide and role-specific targets. Twenty airports in the system would need to clear their Part 77 surfaces for their primary runway to achieve the future performance target of 100 percent for this PM. The majority of these airports are in the Medium and Small General Aviation (GA) roles.

Table 6-1: Existing and Future Performance for Clear Part 77 Approaches on Primary Runways

Airport Role	Existing Performance		Future Performance Target	Additional Airports Needed to Achieve Future Performance Target
	Number of Airports Meeting PM	Percentage of Airports Meeting PM		
System-wide	**36**	**64%**	**100%**	**20**
Commercial Service	2	40%	100%	3
Large General Aviation	4	57%	100%	3
Medium General Aviation	8	50%	100%	8
Small General Aviation	21	78%	100%	6
Basic Service	1	100%	100%	0

Sources: 2020 SDSASP Inventory Form; FAA 5010 Master Record; Kimley-Horn, 2020

Recommendations

While the future system performance target for this PM is set at 100 percent, it is understood that this can be very difficult to achieve due to factors outside of the control of airport sponsors and SDDOT. Therefore, it is recommended that airports and SDDOT continue working with neighboring landowners to facilitate opportunities to remove obstructions within Part 77 approaches affecting primary runways. Sometimes removing an obstruction can be as simple as trimming a tree, or as difficult as grading hilly terrain. It is important for airport managers to know where and what the obstructions are at their airport so that they can continue to be proactive about resolving the concerns. When an obstruction is on airport property the ability to mitigate the hazard is much easier. In cases where an airport has no control over the land where the obstruction exists, airports should work with the controlling entity to communicate safety concerns and properly mark or light obstructions such as buildings and utility lines if the obstruction cannot be removed. If an airport possesses direct or partial control of the land, actionable steps should be taken to mitigate the obstruction through removal efforts. If removal or mitigation is not currently feasible, an airport should identify potential future opportunities to improve performance, such as the acquisition of property interest via fee simple or easement so the airport can control the presence of obstructions moving forward.

Table 6-2 provides a list of the 20 airports that are deficient in this PM and are therefore being recommended for projects (as reasonable/feasible). As previously mentioned, the majority of the deficient airports are in the Medium and Small GA roles, with eight and six airports not meeting the PM, respectively. Three airports in both the Commercial Service and Large GA airport roles are not meeting the PM.

Table 6-2: Airports Not Achieving Clear Part 77 Approaches on their Primary Runway

Associated City	Airport Name	FAA ID	2020 Role
Rapid City	Rapid City Regional	RAP	Commercial Service
Sioux Falls	Sioux Falls Regional/Joe Foss Field	FSD	Commercial Service
Watertown	Watertown Regional	ATY	Commercial Service
Huron	Huron Regional	HON	Large General Aviation
Madison	Madison Municipal	MDS	Large General Aviation
Spearfish	Black Hills-Clyde Ice Field	SPF	Large General Aviation

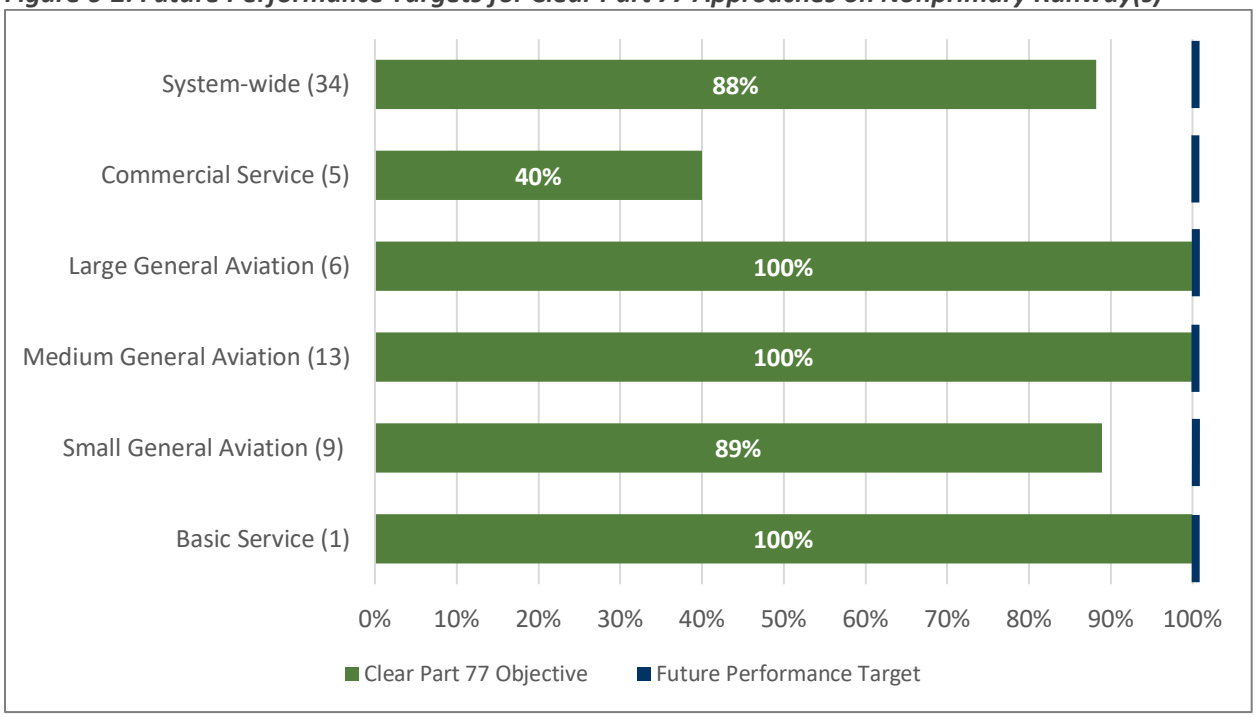
Associated City	Airport Name	FAA ID	2020 Role
Chamberlain	Chamberlain Municipal	9V9	Medium General Aviation
Gregory	Gregory Municipal-Flynn Field	9D1	Medium General Aviation
Hot Springs	Hot Springs Municipal	HSR	Medium General Aviation
Milbank	Milbank Municipal	1D1	Medium General Aviation
Mobridge	Mobridge Municipal	MBG	Medium General Aviation
Rosebud	Rosebud Sioux Tribal	SUO	Medium General Aviation
Vermillion	Harold Davidson Field	VMR	Medium General Aviation
Wagner	Wagner Municipal	AGZ	Medium General Aviation
Miller	Miller Municipal	MKA	Small General Aviation
Parkston	Parkston Municipal	8V3	Small General Aviation
Philip	Philip	PHP	Small General Aviation
Pine Ridge	Pine Ridge	IEN	Small General Aviation
Sisseton	Sisseton Municipal	8D3	Small General Aviation
Wessington Springs	Wessington Springs	4X4	Small General Aviation

Source: Kimley-Horn, 2020

6.2.1.2. Percentage of Airports that have Clear Part 77 Approaches on their Nonprimary Runway(s)

It is equally important for airports with secondary or tertiary runways to work towards achieving clear Part 77 approaches for their additional runways where possible. The same safety concerns apply when obstructions exist within Part 77 approaches to nonprimary runways. There are 34 airports in the system with nonprimary runways, and 88 percent of those airports have clear Part 77 approaches on those runways. As shown in **Figure 6-2**, the future performance target is set at 100 percent across classifications.

Figure 6-2: Future Performance Targets for Clear Part 77 Approaches on Nonprimary Runway(s)



Sources: 2020 SDSASP Inventory Form; FAA 5010 Master Record; Kimley-Horn, 2020
Note: Non-applicable airports have been removed from performance calculations.

Table 6-3 shows that four airports need to clear their Part 77 surfaces on their nonprimary runway(s) to achieve the 100 percent future performance target. Three of these airports are Commercial Service and one is a Small GA airport.

Table 6-3: Existing and Future Performance for Clear Part 77 Approaches on Nonprimary Runway(s)

Airport Role	Existing Performance		Future Performance Target	Additional Airports Needed to Achieve Future Performance Target
	Number of Airports Meeting PM	Percentage of Airports Meeting PM		
System-wide	**30**	**88%**	**100%**	**4**
Commercial Service	2	40%	100%	3
Large General Aviation	6	100%	100%	0
Medium General Aviation	13	100%	100%	0
Small General Aviation	8	89%	100%	1
Basic Service	1	100%	100%	0

Sources: 2020 SDSASP Inventory Form; FAA 5010 Master Record; Kimley-Horn, 2020
Note: Non-applicable airports have been removed from performance calculations.

Recommendations

While the future system performance target for this PM is set at 100 percent, it is understood that this can be very difficult to achieve due to factors outside of the control of airport sponsors and SDDOT. The recommendations for clearing Part 77 approaches on nonprimary runways are the same as recommendations for clearing obstructions on primary runways. Airports and SDDOT can work with

neighboring landowners to identify current and future opportunities to mitigate the obstructions. In some cases, clearance of the obstruction will be easier than in others.

Table 6-4 provides a list of the four airports that are deficient in this PM and are therefore being recommended for projects (as reasonable/feasible).

Table 6-4: Airports Not Achieving Clear Part 77 Approaches on their Nonprimary Runway(s)

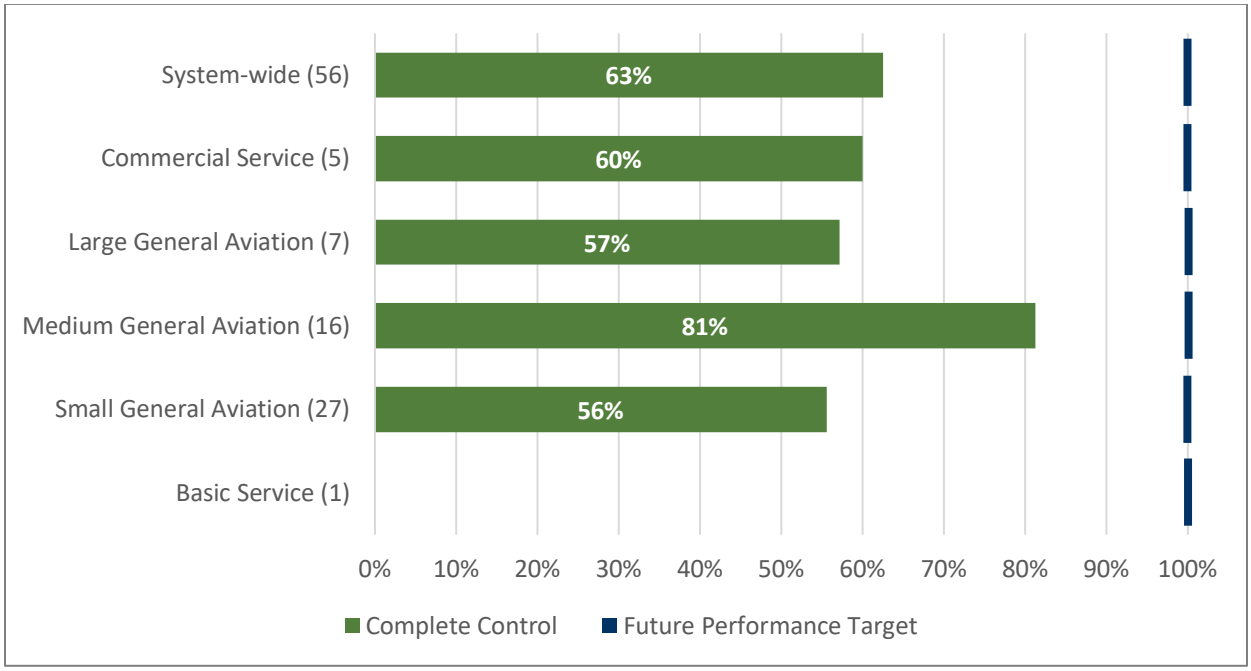
Associated City	Airport Name	FAA ID	2020 Role
Rapid City	Rapid City Regional	RAP	Commercial Service
Sioux Falls	Sioux Falls Regional/Joe Foss Field	FSD	Commercial Service
Watertown	Watertown Regional	ATY	Commercial Service
Flandreau	Flandreau Municipal	4P3	Small General Aviation

Source: Kimley-Horn, 2020

6.2.1.3. Percentage of Airports that Control (through Fee Simple or Easements) the Land in the RPZs of their Primary Runway

RPZs are established by the Federal Aviation Administration (FAA) and designed to protect aircraft and property in the event of an aircraft overrun or undershoot when departing or landing at an airport. It is important that airports work to keep their RPZs clear of any type of obstruction, including buildings, roadways, waterbodies, and more. One way that airports can achieve this is by controlling the land within their RPZs through fee simple or easements. Overall, 63 percent of SDSASP airports have complete control of their primary runway RPZs (one on each end of the runway). As shown in **Figure 6-3**, the future performance target for this PM is 100 percent system-wide.

Figure 6-3: Future Performance Targets for Control of Primary Runway RPZs



Sources: 2020 SDSASP Inventory Form; Kimley-Horn, 2020

There are 21 airports system-wide that do not have complete control (through fee simple or easements) of their primary runway RPZs. **Table 6-5** shows how many airports in each classification would need to

increase RPZ control to 100 percent in order for the system to meet the future performance target. The majority of non-compliant airports are in the Small GA airport role.

Table 6-5: Existing and Future Performance for Control of Primary Runway RPZs

Airport Role	Existing Performance		Future Performance Target	Number of Airports Needed to Achieve Future Performance Target
	Number of Airports Meeting PM	Percentage of Airports Meeting PM		
System-wide	**35**	**63%**	**100%**	**21**
Commercial Service	3	60%	100%	2
Large General Aviation	4	57%	100%	3
Medium General Aviation	13	81%	100%	3
Small General Aviation	15	56%	100%	12
Basic Service	0	0%	100%	1

Sources: 2020 SDSASP Inventory Form; Kimley-Horn, 2020

Recommendations

While the performance target is set at 100 percent, there are many challenges associated with gaining complete control of RPZs, particularly when land is not acquirable due to unwilling sellers, or if easements are not possible. Facilities should continually strive to increase control of their RPZs when reasonable/feasible. In the event that the RPZ property is privately owned, airport sponsors should actively engage with the owners and use tools such as right of first refusal agreements to position the airport to acquire the property if it is ever offered for sale. In situations where complete acquisition is not possible, airport sponsors should maintain open and active lines of communication with the controlling entity. For example, if RPZs are developed with public infrastructure such as roads or rail lines, airport sponsors should reach out to the responsible authority to discuss any planned infrastructure changes so the airport sponsor can share any concerns over impacts to the airport. When natural features are an issue, such as bodies of water, endangered species, or state park land, airport sponsors can work with the governing authority to identify ways to enhance compatibility, such as wildlife and/or vegetation management plans.

Table 6-6 presents a list of the airports in the system that do not have complete control of their primary runway RPZs.

Table 6-6: Airports Not Achieving Complete Control of Primary Runway RPZs

Associated City	Airport Name	FAA ID	2020 Role
Pierre	Pierre Regional	PIR	Commercial Service
Aberdeen	Aberdeen Regional	ABR	Commercial Service
Brookings	Brookings Regional	BKX	Large General Aviation
Spearfish	Black Hills-Clyde Ice Field	SPF	Large General Aviation
Tea	Marv Skie-Lincoln County	Y14	Large General Aviation
Gettysburg	Gettysburg Municipal	0D8	Medium General Aviation
Mobridge	Mobridge Municipal	MBG	Medium General Aviation

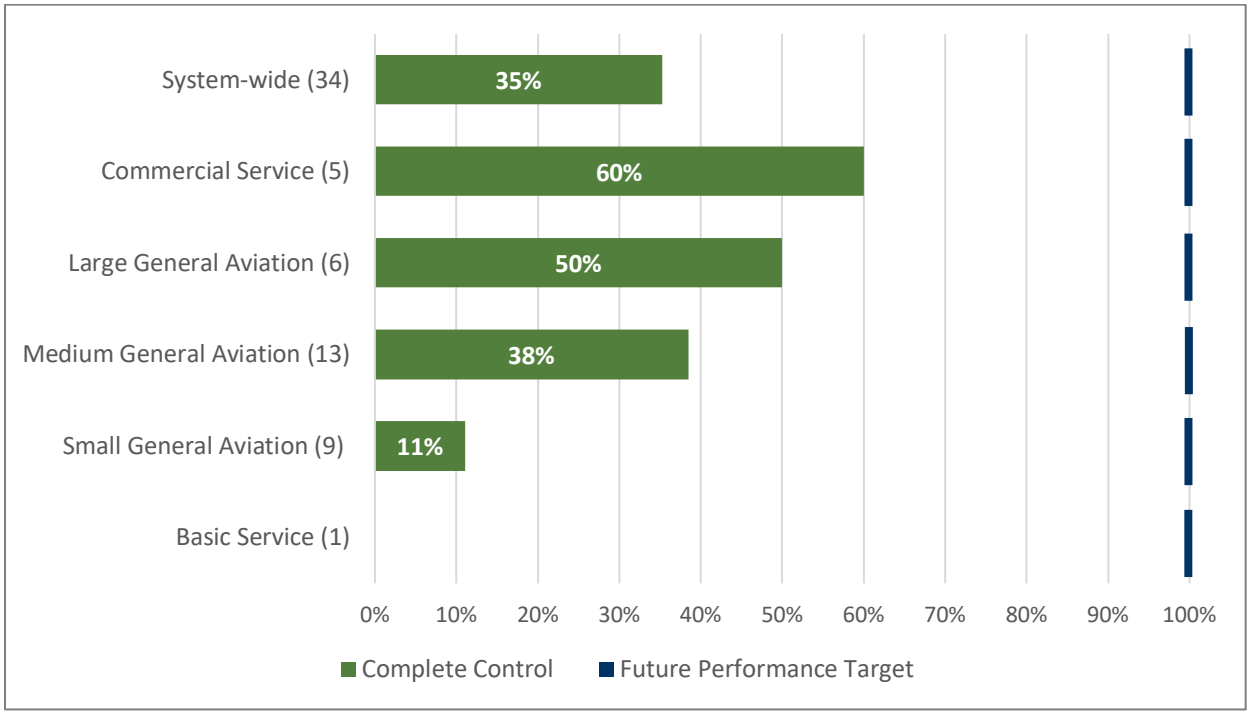
Associated City	Airport Name	FAA ID	2020 Role
Vermillion	Harold Davidson Field	VMR	Medium General Aviation
Bison	Bison Municipal	6V5	Small General Aviation
Custer	Custer County	CUT	Small General Aviation
Faith	Faith Municipal	D07	Small General Aviation
Flandreau	Flandreau Municipal	4P3	Small General Aviation
Highmore	Highmore Municipal	9D0	Small General Aviation
Hoven	Hoven Municipal	9F8	Small General Aviation
Murdo	Murdo Municipal	8F6	Small General Aviation
Parkston	Parkston Municipal	8V3	Small General Aviation
Philip	Philip	PHP	Small General Aviation
Platte	Platte Municipal	1D3	Small General Aviation
Springfield	Springfield Municipal	Y03	Small General Aviation
Webster	The Sigurd Anderson	1D7	Small General Aviation
Howard	Howard Municipal	8D9	Basic Service

Source: Kimley-Horn, 2020

6.2.1.4. Percentage of Airports that Control (through Fee Simple or Easements) the Land in the RPZs of their Nonprimary Runway(s)

It is just as important that airports strive to control 100 percent of the land within their nonprimary RPZs as it is for them to gain complete control of their primary runway RPZs. Of the 34 airports with nonprimary runways, 35 percent of them are meeting this PM. As shown in **Figure 6-4**, the future performance target for this PM is set at 100 percent.

Figure 6-4: Future Performance Targets for Control of Nonprimary RPZs



Sources: 2020 SDSASP Inventory Form; Kimley-Horn, 2020
Note: Non-applicable airports have been removed from performance calculations.

There are airports in each role that need to achieve increased ownership of their nonprimary runway RPZs in order for the system to meet its performance target of 100 percent, as shown in **Table 6-7**. System-wide, 22 airports would need to gain complete control to meet the future performance target. The majority of the deficient airports in this PM are in the Medium and Small GA roles.

Table 6-7: Existing and Future Performance for Control of Nonprimary Runway RPZs

Airport Role	Existing Performance		Future Performance Target	Number of Airports Needed to Achieve Future Performance Target
	Number of Airports Meeting PM	Percentage of Airports Meeting PM		
System-wide	**12**	**35%**	**100%**	**22**
Commercial Service	3	60%	100%	2
Large General Aviation	3	50%	100%	3
Medium General Aviation	5	38%	100%	8
Small General Aviation	1	11%	100%	8
Basic Service	0	0%	100%	1

Sources: 2020 SDSASP Inventory Form; Kimley-Horn, 2020
Note: Non-applicable airports have been removed from the performance calculations.

Recommendations

The challenges and recommendations associated with gaining complete control of RPZs on nonprimary runways are the same as for primary runways. Airports sponsors should be proactive in engaging with owners, both public and private, to take steps to acquire the land if and when it becomes available.

Table 6-8 presents a list of the airports in the system that have not acquired complete control of the land within the RPZs of their nonprimary runways.

Table 6-8: Airports Not Achieving Complete Control of their Nonprimary Runway RPZs

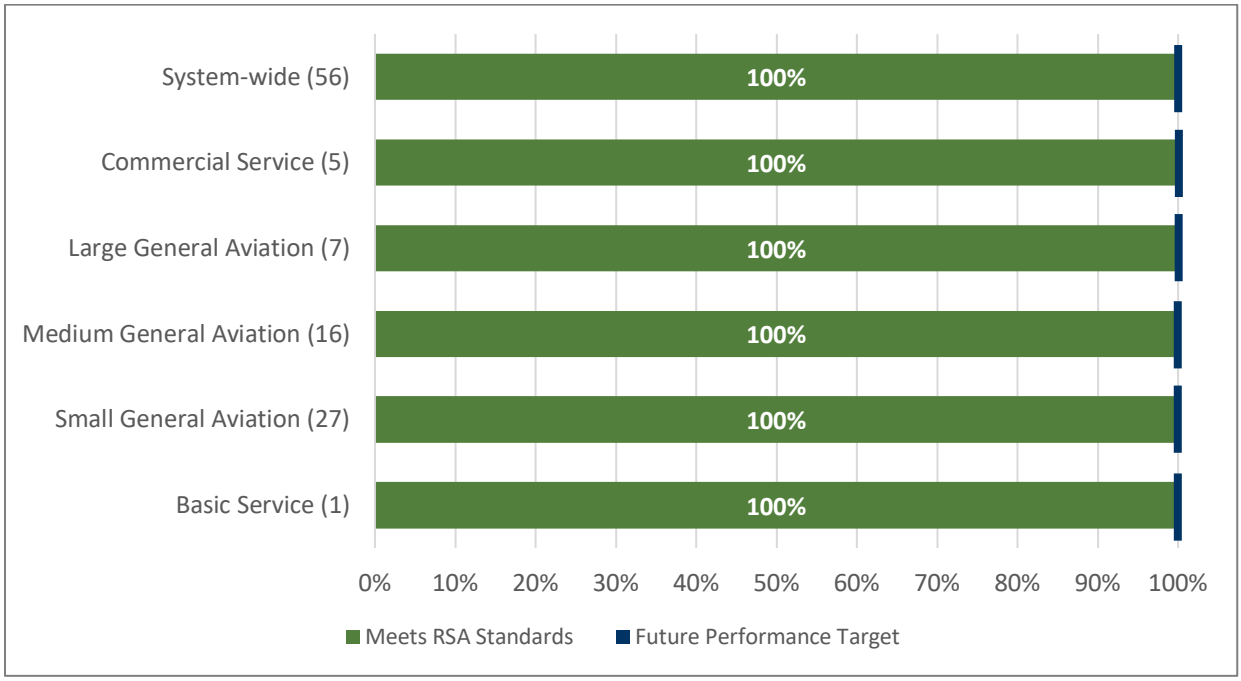
Associated City	Airport Name	FAA ID	2020 Role
Rapid City	Rapid City Regional	RAP	Commercial Service
Sioux Falls	Sioux Falls Regional/Joe Foss Field	FSD	Commercial Service
Brookings	Brookings Regional	BKX	Large General Aviation
Huron	Huron Regional	HON	Large General Aviation
Spearfish	Black Hills-Clyde Ice Field	SPF	Large General Aviation
Belle Fourche	Belle Fourche Municipal	EFC	Medium General Aviation
Britton	Britton Municipal	BTN	Medium General Aviation
Chamberlain	Chamberlain Municipal	9V9	Medium General Aviation
Clark	Clark County	8D7	Medium General Aviation
Gettysburg	Gettysburg Municipal	0D8	Medium General Aviation
Mobridge	Mobridge Municipal	MBG	Medium General Aviation
Onida	Onida Municipal	98D	Medium General Aviation
Winner	Winner Regional	ICR	Medium General Aviation
Buffalo	Harding County	9D2	Small General Aviation
Edgemont	Edgemont Municipal	6V0	Small General Aviation
Eureka	Eureka Municipal	3W8	Small General Aviation
Flandreau	Flandreau Municipal	4P3	Small General Aviation
Sisseton	Sisseton Municipal	8D3	Small General Aviation
Springfield	Springfield Municipal	Y03	Small General Aviation
Wall	Wall Municipal	6V4	Small General Aviation
Webster	The Sigurd Anderson	1D7	Small General Aviation
Howard	Howard Municipal	8D9	Basic Service

Source: Kimley-Horn, 2020

6.2.1.5. Percentage of Airports Meeting SDDOT Annual Inspection Standards for RSAs

RSAs surround runways and are prepared or suitable for reducing the risk of damage or incident in the event of an aircraft undershoot, overshoot, or excursion from the runway. SDDOT established state RSA standards and inspects airports for compliance with these standards on a regular basis. For a list of SDDOT RSA standards, see **Section 5.2.1.5** of **Chapter 5. System Performance.** As shown in **Figure 6-5**, the system is performing at 100 percent and the future performance target has been set at 100 percent to reinforce this target should continue to be met in the future.

Figure 6-5: Future Performance Targets for Meeting SDDOT RSA Annual Inspection Standards



Sources: Kimley-Horn, 2020; SDDOT

Table 6-9 shows complete compliance of all system airports with state RSA standards. There are no deficiencies in this PM.

Table 6-9: Existing and Future Performance for Meeting SDDOT RSA Annual Inspection Standards

Airport Role	Existing Performance		Future Performance Target	Additional Airports Needed to Achieve Future Performance Target
	Number of Airports Meeting PM	Percentage of Airports Meeting PM		
System-wide	**56**	**100%**	**100%**	**0**
Commercial Service	5	100%	100%	0
Large General Aviation	7	100%	100%	0
Medium General Aviation	16	100%	100%	0
Small General Aviation	27	100%	100%	0
Basic Service	1	100%	100%	0

Sources: Kimley-Horn, 2020; SDDOT

Recommendations

All airports in the system are currently meeting RSA standards and therefore no project recommendations are needed for this PM at this time. It is recommended that SDDOT continue to monitor RSAs for compliance with standards on an annual basis, and as reasonable during site visits for other purposes.

6.2.2. *Goal: Maintenance and Development of Infrastructure*

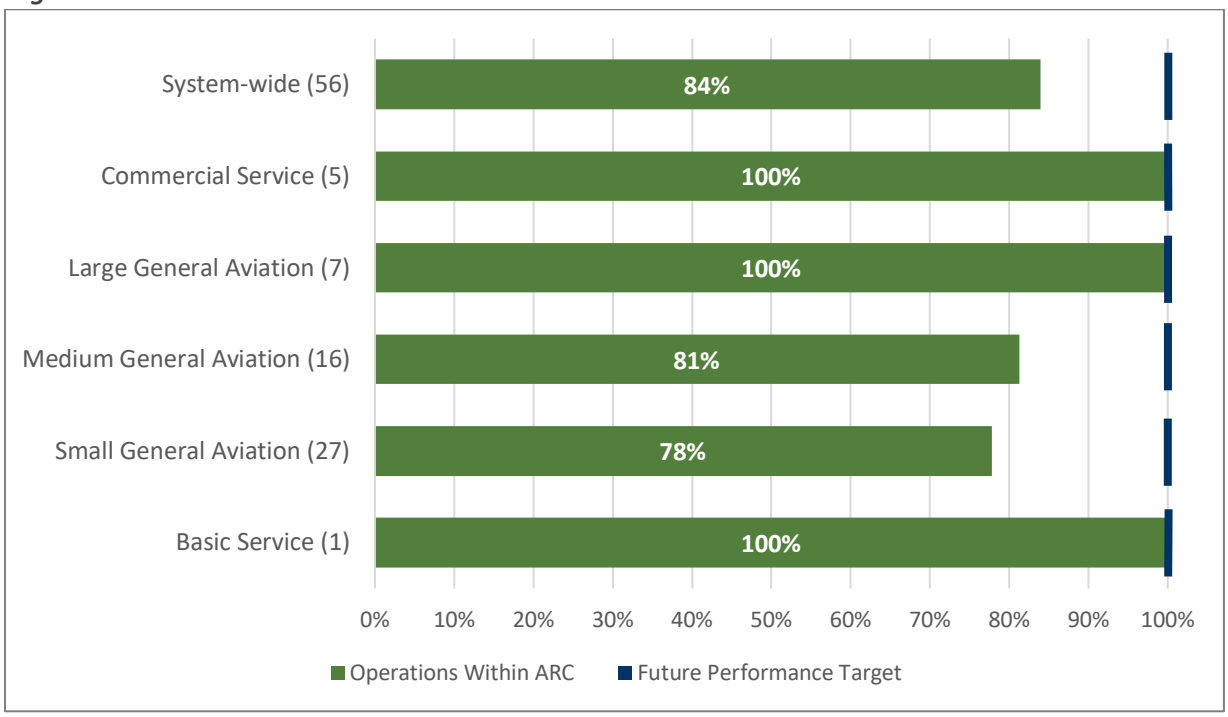
The quality of an airport's infrastructure can impact its operational capacity and affect safety. It is important to not only monitor an airport's existing infrastructure but to also support improvement and maintenance of infrastructure over time. Maintaining and developing an airport's infrastructure supports the facility's ability to operate at an optimal level. Future performance targets and recommendations for this goal are discussed by assessing the following PMs:

- Percentage of airports that do not have substantial operations by aircraft with an ARC higher than the critical aircraft
- Percentage of airports that have an average primary runway Pavement Condition Index (PCI) of 70 or greater
- Percentage of airports that have an average nonprimary runway PCI of 70 or greater
- Percentage of airports that have an average taxiway PCI of 60 or greater
- Percentage of airports that have an average apron PCI of 50 or greater

6.2.2.1. Percentage of Airports that do not have Substantial Operations by Aircraft with an ARC Higher than the Critical Aircraft

An Airport Reference Code (ARC) defines design characteristics of an airport based on the most demanding type of aircraft that most frequently uses the airport (referred to as the "design" or "critical" aircraft). Substantial operations by aircraft with a higher ARC than an airport is designed to accommodate can cause accelerated decline of pavement surfaces due to the weight and width of those aircraft, causing undue stress on the runway. A "substantial" number of operations is defined as 500 or more annually. Safety also becomes a factor if a runway is not wide enough, long enough, or designed for the weight of the aircraft that frequently uses the runway. For these reasons, the future performance target for this PM is set at 100 percent, indicating that all airports should strive to have less than 500 annual operations by aircraft with an ARC higher than their facility is designed for. System-wide, 84 percent of airports are meeting this PM compared to the 100 percent target as shown in **Figure 6-6**.

Figure 6-6: Future Performance Targets for not having Substantial Operations by Aircraft with a Higher ARC



Sources: FAA Traffic Flow Management System Counts (TFMSC); 2020 SDSASP Inventory Form; Kimley-Horn, 2020

As **Table 6-10** shows, the airports experiencing substantial operations by aircraft of a higher ARC are limited to the Medium GA and Small GA airports, with nine airports in total not meeting this PM. Most of the operations by an aircraft of a higher ARC that are occurring at these Small and Medium GA airports are from the Air Tractor 802, a common agricultural spraying aircraft. The aircraft has a wide wingspan and is heavier when filled with the products used for aerial application.

Table 6-10: Existing and Future Performance for Airports Not Having Substantial Operations by an Aircraft with a Higher ARC

Airport Role	Existing Performance		Future Performance Target	Additional Airports Needed to Achieve Future Performance Target
	Number of Airports Meeting PM	Percentage of Airports Meeting PM		
System-wide	**47**	**84%**	**100%**	**9**
Commercial Service	5	100%	100%	0
Large General Aviation	7	100%	100%	0
Medium General Aviation	13	81%	100%	3
Small General Aviation	21	78%	100%	6
Basic Service	1	100%	100%	0

Sources: FAA TFMSC; 2020 SDSASP Inventory Form; Kimley-Horn, 2020

Recommendations

Medium and Small GA airports should continue supporting the agricultural spraying community by working to enhance their airport design to support the frequent operations occurring by the Air Tractor 802 and other higher ARC aircraft. The infrastructure improvements needed to support operations by aircraft with an ARC higher than the airport's critical aircraft will differ among airports. Projects could range from a runway widening or lengthening project, to a project that increases the strength of the runway pavement. Airports should work with SDDOT and the FAA to justify needed airport design improvements.

Table 6-11 presents a list of the Medium and Small GA airports that are experiencing substantial operations of an aircraft with a higher ARC than their critical aircraft and the associated airport design criteria and could be potential candidates for improvement projects that alleviate this issue.

Table 6-11: Airports with Substantial Operations by Aircraft with a Higher ARC

Associated City	Airport Name	FAA ID	2020 Role
Clark	Clark County	8D7	Medium General Aviation
Milbank	Milbank Municipal	1D1	Medium General Aviation
Onida	Onida Municipal	98D	Medium General Aviation
Hoven	Hoven Municipal	9F8	Small General Aviation
Miller	Miller Municipal	MKA	Small General Aviation
Parkston	Parkston Municipal	8V3	Small General Aviation
Philip	Philip	PHP	Small General Aviation
Sisseton	Sisseton Municipal	8D3	Small General Aviation
Wall	Wall Municipal	6V4	Small General Aviation

Source: Kimley-Horn, 2020

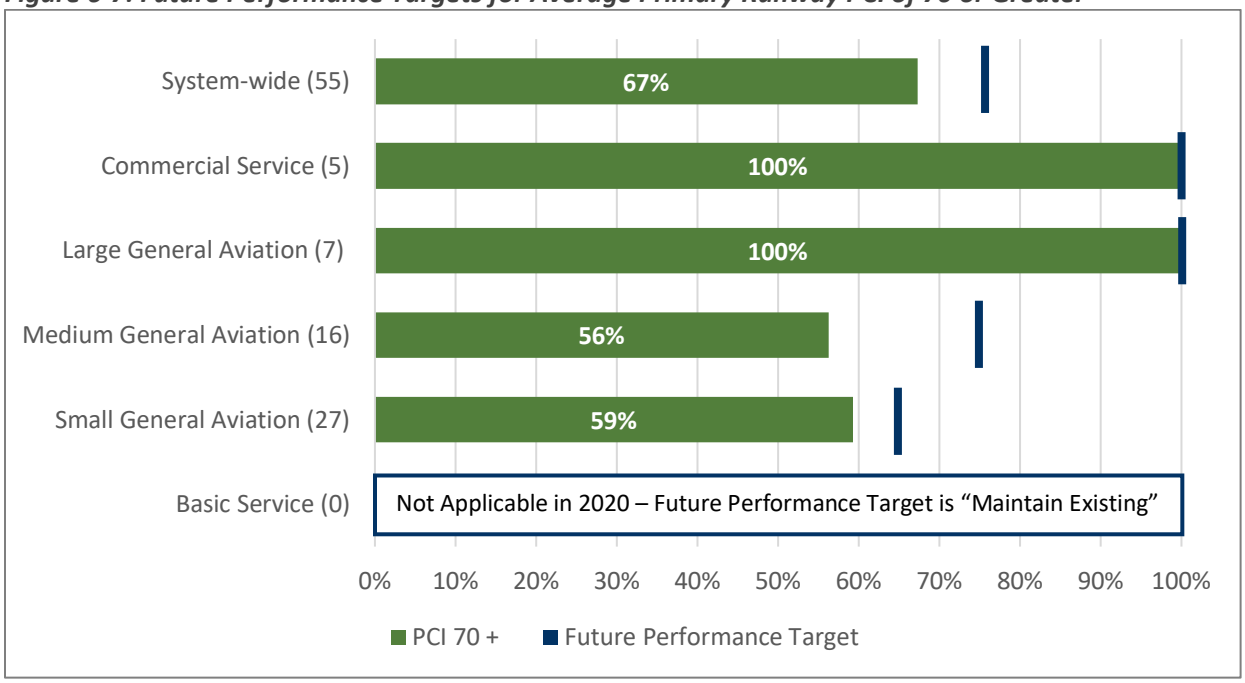
6.2.2.2. Percentage of Airports that have an Average Primary Runway PCI of 70 or Greater

The surface condition of an airport's primary runway is a vital component to the safe and efficient functionality of an airport; as such, airports should strive to continually maintain reasonable pavement conditions on their air operations area (AOA) surfaces. Primary runways receive the most activity and are under more stress than any other surface and therefore should receive the highest priority for maintenance, rehabilitation, or reconstruction. The average weighted PCI value established for primary runways is 70, an industry standard. As shown in **Figure 6-7**, 67 percent of applicable system airports are meeting or exceeding this minimum PCI for their primary runway (unpaved runways were excluded from this evaluation – at this time there is one Basic Service airport in the system with an unpaved primary runway). The future performance targets for this PM differ by airport role, with a system-wide future target of 75 percent.

In contrast to previous PMs presented in this chapter, the future performance targets were not set at 100 percent for all airports. The 2020 SDSASP is designed to guide development that improves South Dakota airports in a way that is both practical and feasible. Setting performance targets less than 100 percent allows the State to take steps towards improvement and meet realistic performance goals. Performance targets were based on SDDOT and stakeholder feedback, considering the roles of each airport and the traffic and demand they support. The future targets for Commercial Service and Large GA airports were set at 100 percent as they see the most traffic in the state and handle the most demanding aircraft types, requiring a high bar to be set for these airports in maintaining their primary

runway pavements. Airports in the Medium GA and Small GA classifications were given a 75 percent and 65 percent goal respectively, based on the type and level of traffic experienced at these airports.

Figure 6-7: Future Performance Targets for Average Primary Runway PCI of 70 or Greater



Sources: 2020 SDSASP Inventory Form; Kimley-Horn, 2020; SDDOT
Note: Non-applicable airports have been excluded from the performance calculations.

Based on these future performance targets, there are five airports in the system that need pavement improvement projects for the system to achieve future primary runway condition compliance. As shown in **Table 6-12**, three Medium GA airports and two Small GA airports are recommended to receive pavement improvement or rehabilitation projects.

Table 6-12: Existing and Future Performance for Average Primary Runway PCI Level of 70 or Greater

Airport Role	Existing Performance		Future Performance Target	Additional Airports Needed to Achieve Future PM Target
	Number of Airports Meeting PM	Percentage of Airports Meeting PM		
System-wide	**37**	**67%**	**76%**	**5**
Commercial Service	5	100%	100%	0
Large General Aviation	7	100%	100%	0
Medium General Aviation	9	56%	75%	3
Small General Aviation	16	59%	65%	2
Basic Service	N/A	N/A	Maintain Existing	N/A

Sources: 2020 SDSASP Inventory Form; Kimley-Horn, 2020; SDDOT
Note: Non-applicable airports have been excluded from the future target calculations.

Recommendations

Overall, there are 18 system airports with an average weighted primary runway PCI of less than 70, yet only five runway surface improvement projects are needed to achieve future performance levels. This is due to the future performance target not requiring that every airport in the system achieve and maintain a PCI level over 70 for their primary runways. Instead, three airports in the Medium GA and two airports in the Small GA airports are receiving project recommendations to bring their average primary runway PCI from its existing condition to 70 or higher.

Table 6-13 shows the airports in the system that have a runway PCI below 70, with the five airports that have been selected to receive project recommendations highlighted in blue. These airports were selected over their peer airports due to the severity of their runway condition and having the lowest PCIs in their role. In general, pavements with a higher PCI can be rehabilitated or localized maintenance can be performed whereas pavements with a PCI of 40 or less will likely require full-depth reconstruction. Although airports with the lowest PCI in their respective roles were selected for project recommendations, it is important to emphasize the importance of continued pavement maintenance as it can extend the useful life and is less costly than reconstruction. Pavement projects identified in the 2020 SDSASP are intended to re-set the baseline, as moving forward, pavement maintenance projects will be afforded a higher priority than pavement reconstruction. For more information about pavement maintenance recommendations and priorities, see **Chapter 7. System Needs and Project Costs**.

Table 6-13: Airports Not Achieving an Average Primary Runway PCI of 70 or Greater

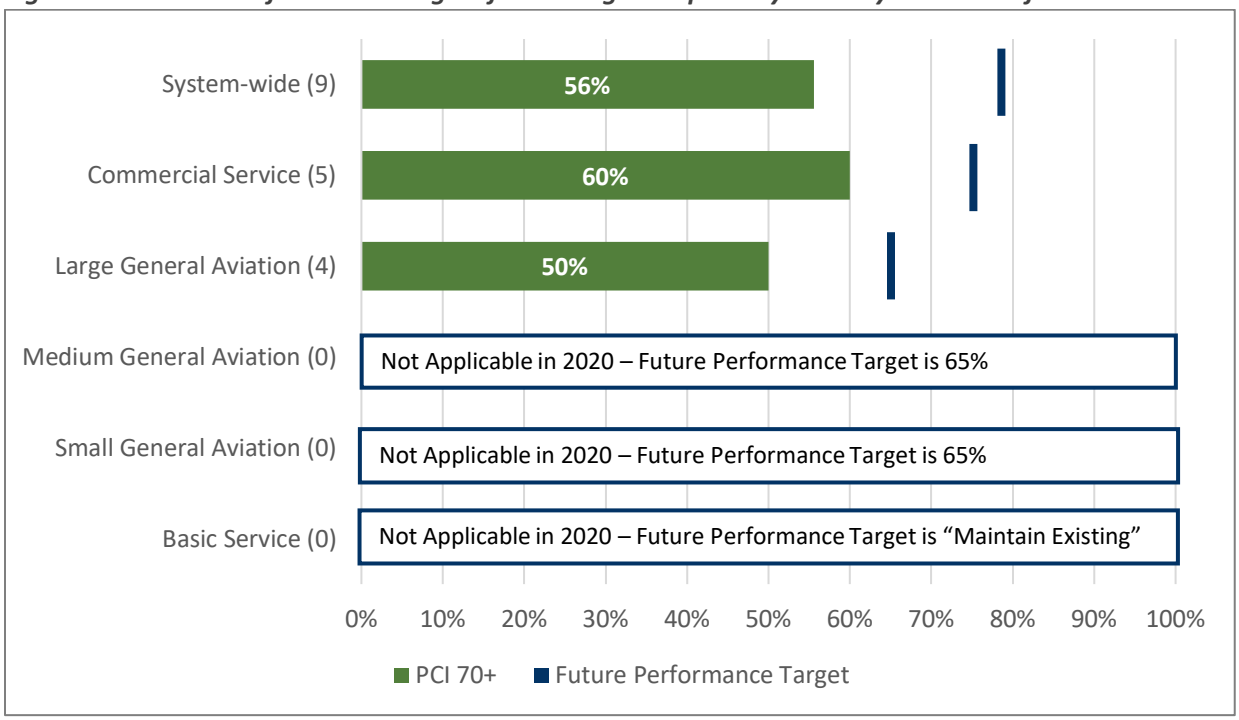
Associated City	Airport Name	FAA ID	2020 Role	PCI	Reason for Selection
Chamberlain	Chamberlain Municipal	9V9	Medium General Aviation	47	Lowest PCI in Role
Clark	Clark County	8D7	Medium General Aviation	60	
Gettysburg	Gettysburg Municipal	0D8	Medium General Aviation	66	
Gregory	Gregory Municipal	9D1	Medium General Aviation	63	
Lemmon	Lemmon Municipal	LEM	Medium General Aviation	52	Lowest PCI in Role
Mobridge	Mobridge Municipal	MBG	Medium General Aviation	31	Lowest PCI in Role
Onida	Onida Municipal	98D	Medium General Aviation	66	
Custer	Custer County	CUT	Small General Aviation	68	
Eagle Butte	Cheyenne Eagle Butte	84D	Small General Aviation	42	
Faith	Faith Municipal	D07	Small General Aviation	69	
Faulkton	Faulkton Municipal	3FU	Small General Aviation	51	
Flandreau	Flandreau Municipal	4P3	Small General Aviation	58	
Murdo	Murdo Municipal	8F6	Small General Aviation	58	
Parkston	Parkston Municipal	8V3	Small General Aviation	30	Lowest PCI in Role
Philip	Philip	PHP	Small General Aviation	57	
Sisseton	Sisseton Municipal	8D3	Small General Aviation	23	Lowest PCI in Role
Springfield	Springfield Municipal	Y03	Small General Aviation	47	
Wessington Springs	Wessington Springs	4X4	Small General Aviation	53	

Source: Kimley-Horn, 2020

6.2.2.3. Percentage of Airports that have an Average Nonprimary Runway PCI of 70 or Greater

The airports with paved nonprimary runways were also measured against a minimum average weighted PCI of 70. While there are 33 airports in the system with nonprimary runways, there are only nine airports with paved nonprimary runways. Therefore, there are only nine airports for which a future performance target applies. Fifty-six percent of those nine airports are maintaining nonprimary runways at a PCI level of 70 or more. As noted in the previous section, future performance targets were based on SDDOT and stakeholder feedback, considering the roles of each airport and the traffic and demand they support. **Figure 6-8** presents the system-wide future performance target of 78 percent, with each airport role having a different individual target. While there are no paved nonprimary runways in the Medium and Small GA roles currently, a future performance target was set for each so that if an airport with a paved nonprimary runway changes role, or an airport in this role paves one of their nonprimary runways, there is a performance target in place to guide development in the future.

Figure 6-8: Future Performance Targets for Average Nonprimary Runway PCI Level of 70 or Greater



Sources: 2020 SDSASP Inventory Form; Kimley-Horn, 2020; SDDOT
Note: Non-applicable airports have been excluded from performance calculations.

In order for the system to reach its future target of 78 percent, there are two airports that need to improve their nonprimary runway surface condition. As shown in **Table 6-14**, this includes one Commercial Service airport and one Large GA airport.

Table 6-14: Existing and Future Performance for Average Nonprimary Runway PCI of 70 or Greater

Airport Role	Existing Performance		Future Performance Target	Additional Airports Needed to Achieve Future Performance Target
	Number of Airports Meeting PM	Percentage of Airports Meeting PM		
System-wide	**5**	**56%**	**78%**	**2**
Commercial Service	3	60%	75%	1
Large General Aviation	2	50%	65%	1
Medium General Aviation	N/A	N/A	65%	N/A
Small General Aviation	N/A	N/A	65%	N/A
Basic Service	N/A	N/A	Maintain Existing	N/A

Sources: 2020 SDSASP Inventory Form; Kimley-Horn, 2020; SDDOT
Notes: Non-applicable airports have been excluded from performance calculations. System-wide future performance of 78% is higher than all role-specific targets due to rounding and the limited number of paved nonprimary runways in the system.

Recommendations

Overall, there are four system airports with average weighted nonprimary runway PCIs lower than 70, yet there are only project recommendations for two of these airports. This is due to the future performance target not requiring that every airport in the system achieve and maintain a PCI level over 70 for their nonprimary runways. Instead, one Commercial Service airport and one Large GA airport are receiving project recommendations to bring their average nonprimary runway from its existing PCI to a PCI of 70 or higher.

Table 6-15 shows the four airports with PCI levels below 70 on their nonprimary runway, with the two airports that have been selected to receive project recommendations highlighted in blue. These airports were selected for project recommendations due to the severity of their pavement condition compared to peer airports. It's important to note that this does not mean that the other airports in the table shouldn't plan for pavement rehabilitation or reconstruction – they just aren't official recommendations of the 2020 SDSASP to meet system performance targets.

Table 6-15: Airports Not Achieving an Average Nonprimary Runway PCI of 70 or Greater

Associated City	Airport Name	FAA ID	2020 Role	PCI	Reason for Selection
Pierre	Pierre Regional	PIR	Commercial Service	61	Lowest PCI in Role
Rapid City	Rapid City Regional	RAP	Commercial Service	67	
Mitchell	Mitchell Municipal	MHE	Large General Aviation	65	
Yankton	Chan-Gurney Municipal	YKN	Large General Aviation	47	Lowest PCI in Role

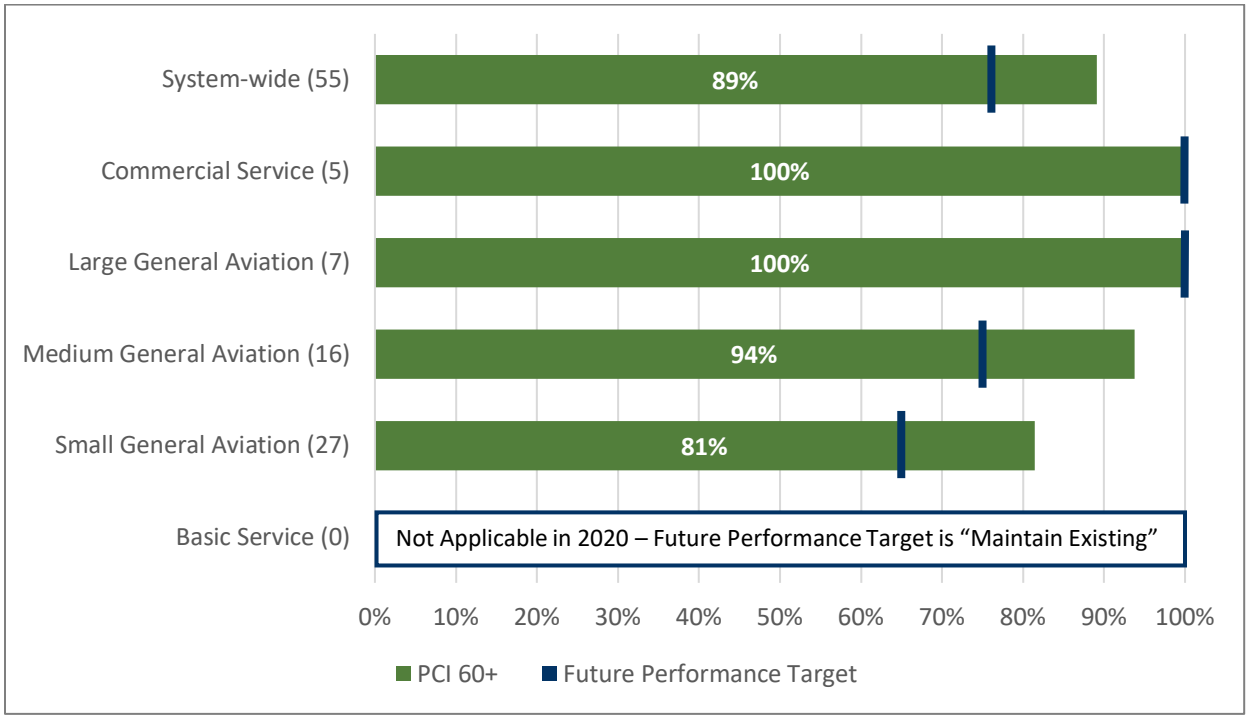
Source: Kimley-Horn, 2020

6.2.2.4. Percentage of Airports that have an Average Taxiway PCI of 60 or Greater

Another vital component of an airport's infrastructure is the taxiways, which allow aircraft to move safely and efficiently from apron space, hangars, and other areas to a runway. While taxiways are an essential component of the airport's functionality, this pavement is under less stress than runways as aircraft are not landing or taking off from it. As such, the average weighted PCI minimum for taxiways is set at 60. The system's taxiways are performing well, with 89 percent of airports meeting the minimum

PCI level recommended for taxiways. As shown in **Figure 6-9**, the future performance targets differ by role, with a system-wide future performance target of 75 percent. As with other future PCI targets, the future performance targets for taxiways were based on SDDOT and stakeholder feedback, considering the roles of each airport and the traffic and demand they support.

Figure 6-9: Future Performance Targets for Average Taxiway PCI of 60 or Greater



Sources: 2020 SDSASP Inventory Form; Kimley-Horn, 2020; SDDOT
Note: Non-applicable airports have been excluded from performance calculations.

The system is currently achieving above the optimized level of performance set for taxiways. **Table 6-16** shows each role is performing above the future target established and therefore there are no deficiencies for this PM.

Table 6-16: Existing and Future Performance for Average Taxiway PCI of 60 or Greater

Airport Role	Existing Performance		Future Performance Target	Number of Airports Needed to Meet PM
	Number of Airports Meeting PM	Percentage of Airports Meeting PM		
System-wide	**49**	**89%**	**76%**	**0**
Commercial Service	5	100%	100%	0
Large General Aviation	7	100%	100%	0
Medium General Aviation	15	94%	75%	0
Small General Aviation	22	81%	65%	0
Basic Service	N/A	N/A	Maintain Existing	0

Sources: 2020 SDSASP Inventory Form; Kimley-Horn, 2020; SDDOT
Note: Non-applicable airports have been excluded from performance calculations.

Recommendations

Table 6-17 shows the six system airports that are not achieving an average, weighted PCI level of 60 or greater for their taxiway(s). While these airports are falling below the 60 PCI threshold, the system is meeting the future performance targets and therefore no project recommendations associated with the taxiway pavement condition PM are being made at this time. However, SDDOT should continue to monitor taxiway PCI values to determine how the conditions are changing over time and when projects are needed. It's important to note that this does not mean that the airports in the table shouldn't plan for pavement rehabilitation or reconstruction – they just aren't official recommendations of the 2020 SDSASP to meet system performance targets.

Table 6-17: Airports Not Achieving a Taxiway with PCI Level of 60 or Greater

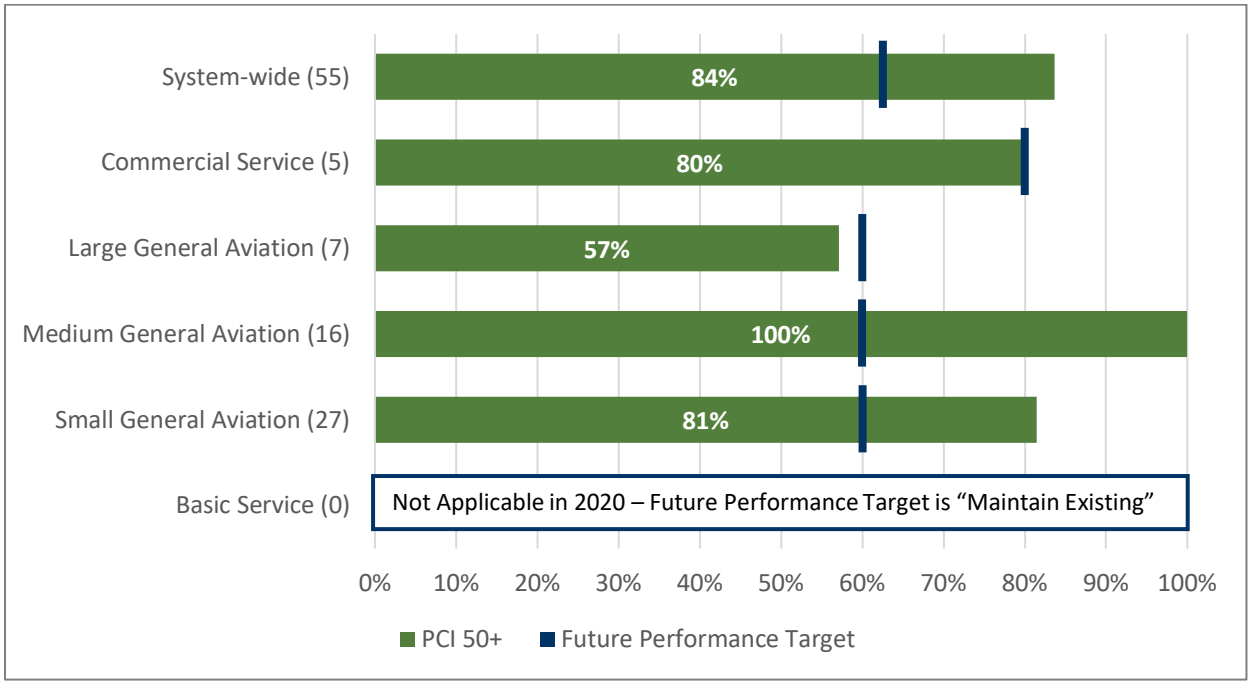
Associated City	Airport Name	FAA ID	2020 Role	PCI
Mobridge	Mobridge Municipal	MBG	Medium General Aviation	47
Eagle Butte	Cheyenne Eagle Butte	84D	Small General Aviation	28
Faulkton	Faulkton Municipal	3FU	Small General Aviation	55
Sisseton	Sisseton Municipal	8D3	Small General Aviation	29
Springfield	Springfield Municipal	Y03	Small General Aviation	50
Wessington Springs	Wessington Springs	4X4	Small General Aviation	55

Source: Kimley-Horn, 2020

6.2.2.5. Percentage of Airports that have an Average Apron PCI of 50 or Greater

The final pavement area assessed at system airports is apron space. Apron space serves as a vital element of a well-functioning airport, but it receives far less stress than other paved surfaces, such as runways or even taxiways. Aircraft move slower or are stationary when using apron space, so the pavement condition can be lower and still allow for reasonably safe operation. Therefore, the minimum average weighted PCI level set for aprons at system airports is 50 which is lower than the taxiway and runway PCI targets. Overall, 84 percent of system airports have a PCI of 50 or greater for their apron space. As shown in **Figure 6-10**, the future performance targets differ by role, with a system-wide future performance target set at 63 percent. As with other future PCI targets, the future performance targets for apron condition were based on SDDOT and stakeholder feedback, considering the roles of each airport and the traffic and demand they support.

Figure 6-10: Future Performance Targets for Average Apron PCI of 50 or Greater



Sources: 2020 SDSASP Inventory Form; Kimley-Horn, 2020; SDDOT
Note: Non-applicable airports have been excluded from performance calculations.

While the system is exceeding the system-wide future performance target for this PM, the Large GA role is not meeting their designated future performance target of 60 percent. However, it is only a difference of three percent and an apron pavement improvement project at one Large GA airport would boost performance to meet the future target, as shown in **Table 6-18**.

Table 6-18: Existing and Future Performance for Average Apron PCI of 50 or Greater

Airport Role	Existing Performance		Future Performance Target	Additional Airports Needed to Achieve Future Performance Target
	Number of Airports Meeting PM	Percentage of Airports Meeting PM		
System-wide	**46**	**84%**	**62%**	**1**
Commercial Service	4	80%	80%	0
Large General Aviation	4	57%	60%	1
Medium General Aviation	16	100%	60%	0
Small General Aviation	22	81%	60%	0
Basic Service	N/A	N/A	Maintain Existing	N/A

Sources: 2020 SDSASP Inventory Form; Kimley-Horn, 2020; SDDOT
Note: Non-applicable airports have been excluded from performance calculations.

Recommendations

Overall, there are nine airports in the system that have an apron with a PCI lower than 50, as shown in **Table 6-19**. System-wide the future performance target is being met, but at the airport role level, the Large GA airports are not meeting their individual target. As such, one airport in the Large GA airport role, indicated in blue, is being recommended for an apron pavement improvement project. This airport was selected for a project recommendation due to the severity of its apron pavement condition compared to other airports within its state role. It's important to note that this does not mean that the other airports in the table shouldn't plan for pavement rehabilitation or reconstruction – they just aren't official recommendations of the 2020 SDSASP to meet system performance targets.

Table 6-19: Airports Not Achieving an Average Apron PCI of 50 or Greater

Associated City	Airport Name	FAA ID	2020 Role	PCI	Reason for Selection
Pierre	Pierre Regional	PIR	Commercial Service	39	
Brookings	Brookings Municipal	BKX	Large General Aviation	32	
Madison	Madison Municipal	MDS	Large General Aviation	14	Lowest PCI in Role
Tea	Marv-Skie Lincoln Municipal	Y14	Large General Aviation	42	
Eagle Butte	Cheyenne Eagle Butte	84D	Small General Aviation	6	
Faulkton	Faulkton Municipal	3FU	Small General Aviation	23	
Highmore	Highmore Municipal	9D0	Small General Aviation	47	
Philip	Philip	PHP	Small General Aviation	45	
Wessington Springs	Wessington Springs	4X4	Small General Aviation	43	

Source: Kimley-Horn, 2020

6.2.3. *Goal: Accessibility to Users*

Accessibility to users is measured to evaluate the system's performance in making airports and their facilities and services available to South Dakota's population. Access is often measured by drive times between an airport and the surrounding population that it serves. The system's accessibility to users increases if the percent of population living within a specified drive time of an airport with specified amenities increases. This is accomplished through the procurement of amenities (services or facilities) at airports currently without them. Future performance targets and recommendations associated with the accessibility to users' goal are presented for the following PMs:

- Percentage of population within a 30-minute drive of an airport with 24-hour fuel availability (Jet A, 100 LL, or both)
- Percentage of population within a 30-minute drive of an airport with an AWOS or ASOS (certified weather systems)

6.2.3.1. Percentage of Population within a 30-minute Drive of an Airport with 24-hour Fuel Availability (Jet A, 100 LL, or Both)

Twenty-four hour fueling is an important component to the optimization of an airport system. Having adequate access to 24-hour fuel services (Jet A, 100LL, or both) can increase efficiency of emergency medical transportation flights, improve accessibility in times of disaster response, and can make an airport more attractive to owners of corporate and recreational based aircraft that may operate outside of normal business hours. Existing performance in this PM shows that 82 percent of the population in

South Dakota is within a 30-minute drive of an airport that provides 24-hour fueling services for Jet A, 100LL, or both.

In order to determine an appropriate future performance target, outreach to various stakeholders was conducted, with particular attention on the three largest air medical transport organizations in the state: Avera Careflight, Sanford Health Airmed, and Black Hills Life Flight. These agencies were given an opportunity to review the coverage provided by 24-hour fuel and highlight any gaps in service they felt hindered, or could hinder, their ability to provide optimal air medical transportation services. This outreach effort helped identify critical areas and specific airports where 24-hour fuel services were lacking, including the west-central and north-central regions of the state. **Figure 6-11** shows the existing coverage of Jet A and 100LL fuel, and the added coverage provided by four additional airports recommended to provide 24-hour Jet A fuel. The airports identified as potential sites for fueling projects and their associated drive times are outlined in red on the map. The future performance target, as shown in **Table 6-20**, is set at 83 percent of the state's population being within a 30-minute drive of an airport with 24-hour fueling services.

Table 6-20: Future Performance for Percent of Population Within a 30-Minute Drive of an Airport with 24-Hour Fuel

Airport Role	Existing Percentage of Population within a 30-Minute Drive	Future Performance Target	Additional Airports Needed to Achieve Future Performance Target
System-wide	**82%**	**83%**	**4**

Sources: 2020 SDSASP Inventory Form; Kimley-Horn, 2020

Recommendations

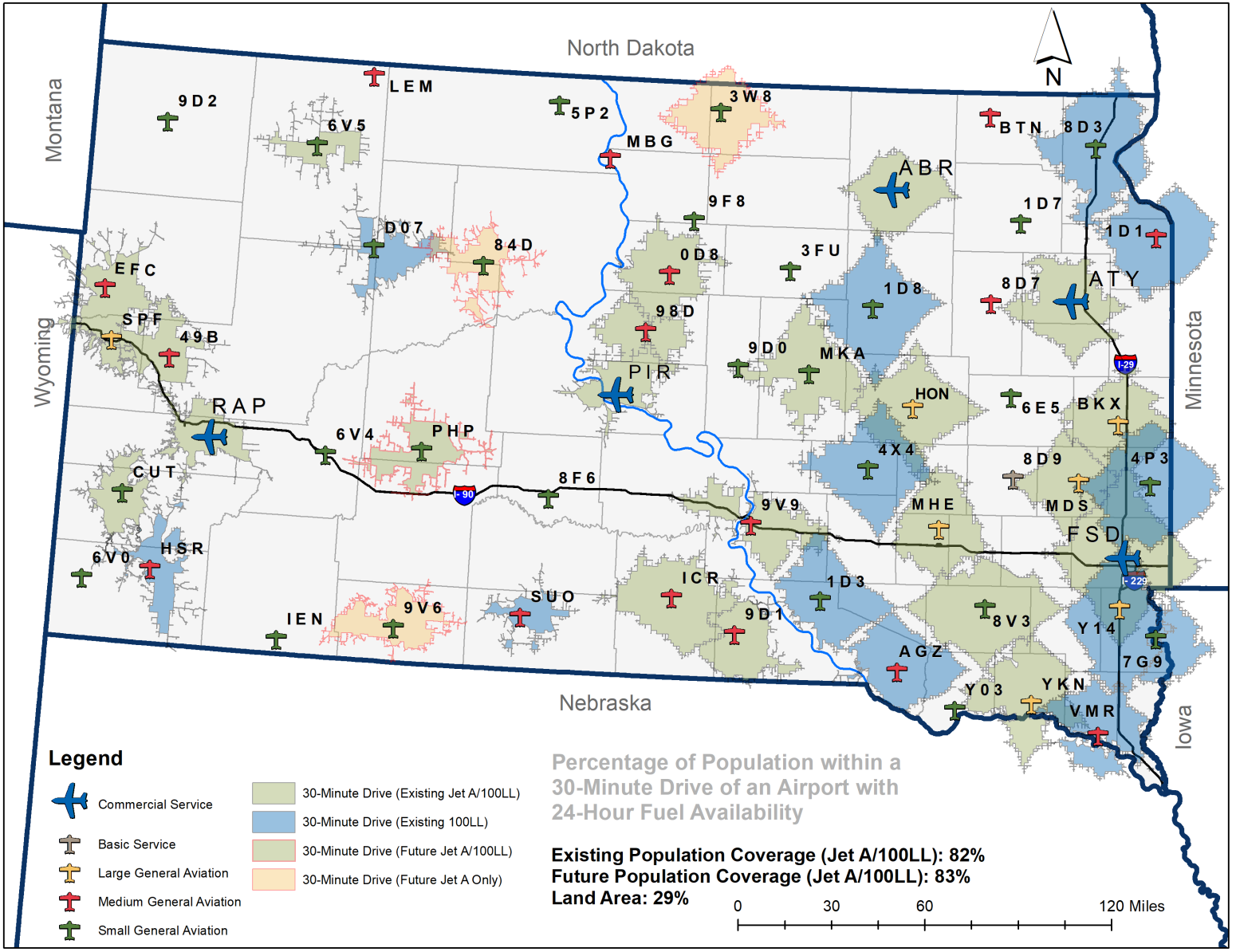
Table 6-21 presents system airports that do not have either 100LL or Jet A available on a 24-hour basis (excluding Philip, which does have 24-hour 100LL fuel – but is being recommended for 24-hour Jet A as well). However, the future performance target is not set at 100 percent and therefore not all of the identified airports are being recommended for fuel projects. Current performance is significant with the majority of state's population covered; however, 100 percent coverage is not considered realistic given funding limitations. There are four airports indicated in blue that are receiving project recommendations for 24-hour Jet A fueling services. While these airports were identified by industry stakeholders, this list does not guarantee fuel projects will be funded. The South Dakota Aeronautics Commission recently decided to end state funding opportunities for revenue generating projects, which includes fuel installation projects. In addition, while FAA grant money can be used, these types of projects are not prioritized by the agency so federal funding is also limited. Since funding is the greatest obstacle to improved performance, SDDOT could work with legislators to address the existing policy hurdles. As a result of limited funding opportunities, many South Dakota airports may have to depend on a new or existing fixed based operator (FBO) to provide 24-hour fuel. If an airport has existing fuel services that are not available 24 hours, there could be low cost options to retrofit the fuel pumps with a credit card reader to allow for 24-hour service.

Table 6-21: Airports without 24-Hour Fuel Availability

Associated City	Airport Name	FAA ID	2020 Role	Reason for Selection
Britton	Britton Municipal	BTN	Medium General Aviation	
Clark	Clark County	8D7	Medium General Aviation	
Lemmon	Lemmon Municipal	LEM	Medium General Aviation	
Buffalo	Harding County	9D2	Small General Aviation	
De Smet	Wilder Field	6E5	Small General Aviation	
Eagle Butte	Cheyenne Eagle Butte	84D	Small General Aviation	Expands Coverage to Critical Areas
Edgemont	Edgemont Municipal	6V0	Small General Aviation	
Eureka	Eureka Municipal	3W8	Small General Aviation	Expands Coverage to Critical Areas
Faulkton	Faulkton Municipal	3FU	Small General Aviation	
Highmore	Highmore Municipal	9D0	Small General Aviation	
Hoven	Hoven Municipal	9F8	Small General Aviation	
Martin	Martin Municipal	9V6	Small General Aviation	Expands Coverage to Critical Areas
McLaughlin	McLaughlin Municipal	5P2	Small General Aviation	
Murdo	Murdo Municipal	8F6	Small General Aviation	
Philip	Philip	PHP	Small General Aviation	Expands Coverage to Critical Areas
Pine Ridge	Pine Ridge	IEN	Small General Aviation	
Springfield	Springfield Municipal	Y03	Small General Aviation	
Wall	Wall Municipal	6V4	Small General Aviation	
Webster	The Sigurd Anderson	1D7	Small General Aviation	
Howard	Howard Municipal	8D9	Basic Service	

Source: Kimley-Horn, 2020

Figure 6-11: Existing and Future Performance for Percent of Population within a 30-Minutee Drive of an Airport with 24-Hour Fuel



Sources: 2020 SDSASP Inventory Form; American Community Survey, 2013-2017; ESRI; Kimley-Horn, 2020

6.2.3.2. Percentage of Population within a 30-minute Drive of an Airport with an AWOS or ASOS (Certified Weather System)

Certified weather systems, such as Automated Weather Observing Stations (AWOS) and Automated Surface Observing Systems (ASOS), are vital contributors to the accessibility of an airport system, especially during times of inclement weather. Other, less expensive weather reporting systems (such as the SuperAWOS) can benefit some users by providing non-certified weather information, however their utility is limited as medical pilots and other specific users require certified weather to conduct operations. When looking at certified and non-certified weather equipment combined, as shown in **Chapter 5. System Performance**, 86 percent of the population is within a 30-minute drive of an airport with weather reporting. However, certified weather systems only account for 70 percent of that population coverage. Again, the medical air transport community was engaged to determine where they experience the greatest need for certified weather reporting in order to isolate potential airports for future certified weather systems. The outreach effort conducted helped identify critical areas where certified weather coverage is lacking and users who rely on it are limited in their ability to operate. The airports identified by stakeholder groups and the airports identified by SDDOT were added to the certified weather population coverage assessment in order to determine a realistic and achievable future performance target. **Figure 6-12** shows the existing and potential future coverage for certified weather systems in South Dakota. The eight airports whose drive times are outlined in red contribute to a five percent increase of population coverage, establishing the future performance target of 75 percent, as shown in **Table 6-22.**

Table 6-22: Future Performance Target for the Percent of Population within a 30-Minute Drive of an Airport with an AWOS/ASOS (Certified Weather System)

Airport Role	Existing Percentage of Population within a 30-Minute Drive	Future Performance Target	Additional Airports Needed to Achieve Future Performance Target
System-wide	**70%**	**75%**	**8**

Sources: 2020 SDSASP Inventory Form; Kimley-Horn, 2020

Recommendations

Table 6-23 presents the list of system airports that do not have certified weather systems currently. However, the future performance target is not set at 100 percent and therefore all airports shown in the table are not being recommended for weather equipment projects. Current coverage is significant but having 100 percent coverage is not realistic given funding limitations. The airports selected for project recommendations are based on current needs and industry outreach. These airports are highlighted in blue in the table. Several of the airports selected for project recommendations have been identified by SDDOT as a priority and are planned to receive funding assistance for certified weather systems in the future.

Table 6-23: Airports without a Certified AWSO/ASOS

Associated City	Airport Name	FAA ID	2020 Role	Reason for Selection
Belle Fourche	Belle Fourche Municipal	EFC	Medium General Aviation	
Britton	Britton Municipal	BTN	Medium General Aviation	
Clark	Clark County	8D7	Medium General Aviation	
Gettysburg	Gettysburg Municipal	0D8	Medium General Aviation	Expands Coverage to Critical Areas

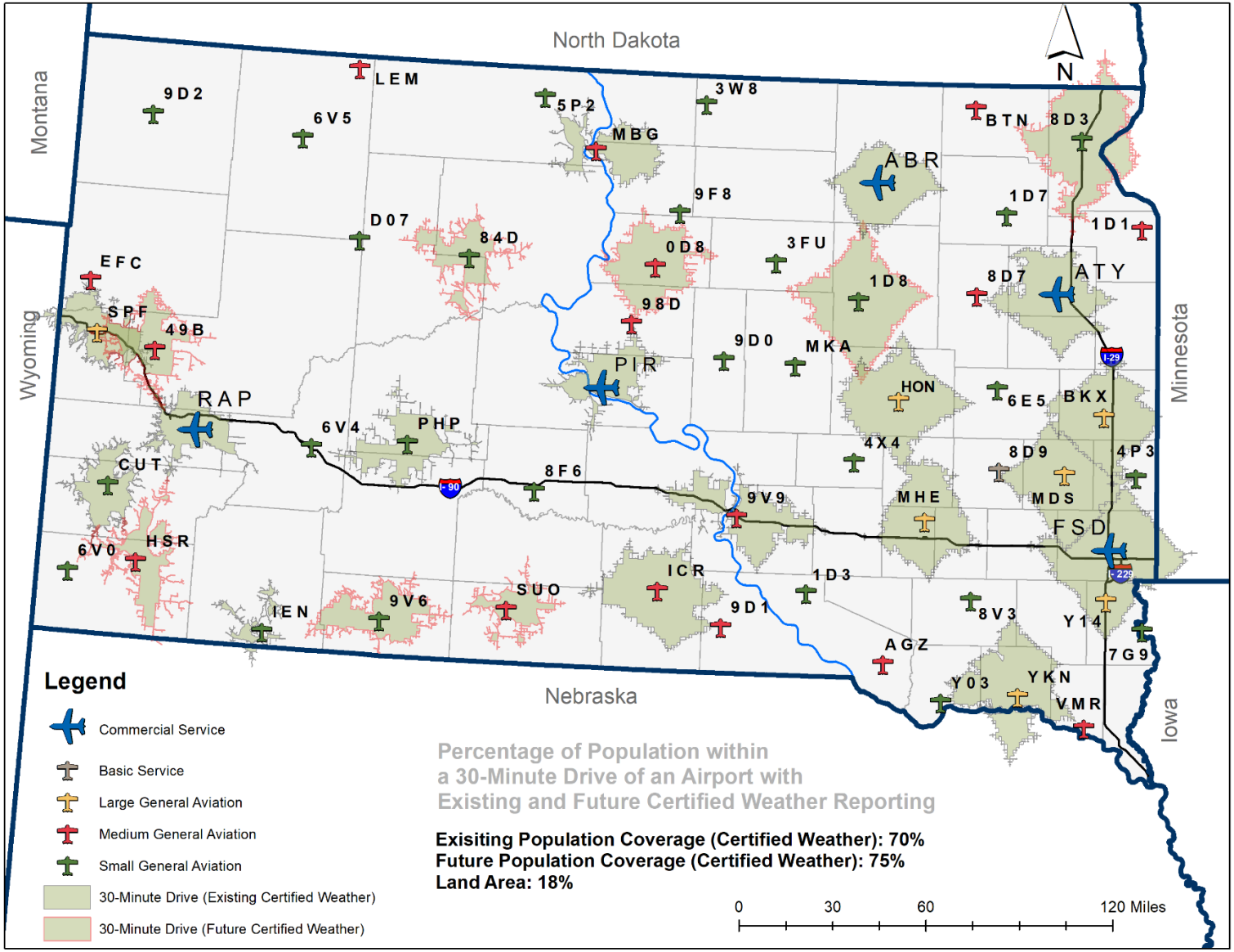
Associated City	Airport Name	FAA ID	2020 Role	Reason for Selection
Gregory	Gregory Municipal – Flynn Field	9D1	Medium General Aviation	
Hot Springs	Hot Springs Municipal	HSR	Medium General Aviation	Expands Coverage to Critical Areas
Lemmon	Lemmon Municipal	LEM	Medium General Aviation	
Milbank	Milbank Municipal	1D1	Medium General Aviation	
Onida	Onida Municipal	98D	Medium General Aviation	
Rosebud	Rosebud Sioux Tribal	SUO	Medium General Aviation	Expands Coverage to Critical Areas
Sturgis	Sturgis Municipal	49B	Medium General Aviation	Expands Coverage to Critical Areas
Vermillion	Harold Davidson Field	VMR	Medium General Aviation	
Wagner	Wagner Municipal	AGZ	Medium General Aviation	
Bison	Bison Municipal	6V5	Small General Aviation	
Buffalo	Harding County	9D2	Small General Aviation	
De Smet	Wilder Field		Small General Aviation	
Eagle Butte	Cheyenne Eagle Butte	84D	Small General Aviation	Expands Coverage to Critical Areas
Edgemont	Edgemont Municipal	6V0	Small General Aviation	
Eureka	Eureka Municipal	3W8	Small General Aviation	
Faith	Faith Municipal	D07	Small General Aviation	
Faulkton	Faulkton Municipal	3FU	Small General Aviation	
Highmore	Highmore Municipal	9D0	Small General Aviation	
Hoven	Hoven Municipal	9F8	Small General Aviation	
Martin	Martin Municipal	9V6	Small General Aviation	Expands Coverage to Critical Areas
McLaughlin	McLaughlin Municipal	5P2	Small General Aviation	
Miller	Miller Municipal	MKA	Small General Aviation	
Murdo	Murdo Municipal	8F6	Small General Aviation	
Parkston	Parkston Municipal	8V3	Small General Aviation	
Platte	Platte Municipal	1D3	Small General Aviation	
Redfield	Redfield Municipal	1D8	Small General Aviation	Expands Coverage to Critical Areas
Sisseton	Sisseton Municipal	8D3	Small General Aviation	Expands Coverage to Critical Areas
Springfield	Springfield Municipal	Y03	Small General Aviation	
Wall	Wall Municipal	6V4	Small General Aviation	
Webster	The Sigurd Anderson	1D7	Small General Aviation	
Wessington Springs	Wessington Springs	4X4	Small General Aviation	

Associated City	Airport Name	FAA ID	2020 Role	Reason for Selection
Howard	Howard Municipal	8D9	Basic Service	

Source: Kimley-Horn, 2020

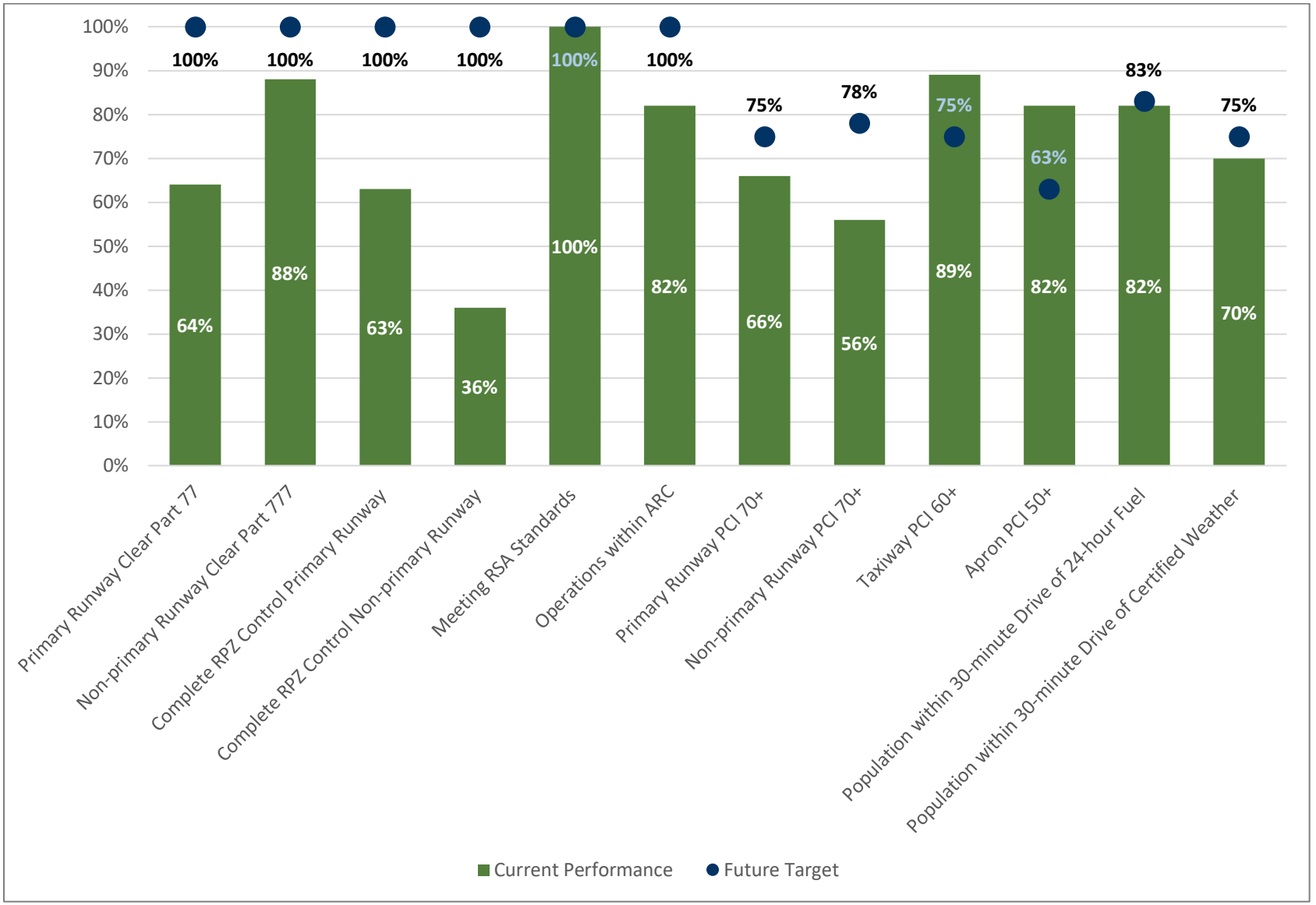
A summary of the system's current performance and future performance targets for each of the 12 PMs established for the 2020 SDSASP is presented in **Figure 6-13**.

Figure 6-12: Existing and Future Performance for Percent of Population within a 30-Minute Drive of an Airport with an AWOS/ASOS



Sources: 2020 SDSASP Inventory Form; American Community Survey, 2013-2017; ESRI; Kimley-Horn, 2020

Figure 6-13: Summary of Current System-wide Performance and Future System-wide Performance Targets



Source: Kimley-Horn, 2020

6.2.4. *Other Recommendations*

Recommendations for the 2020 SDSASP are designed to identify a list of projects that, if approved and funded, would increase the optimization of the system. However, recommendations can also be made that are not tied specifically to an improvement project but instead are recommended to improve the system in ways not accounted for by PMs. This section details a recommendation for the system that relates to one of the system's performance indicators (PIs).

6.2.4.1. Airport Compatible Land Use Planning and Zoning

This additional recommendation for the 2020 SDSASP comes from a PI that identifies the percentage of airports in the system whose local governing authority has adopted airport compatible land use zoning ordinances. This PI represents another way that airports can promote safe operations by establishing and implementing compatible land use controls, such as compatible land use zoning. Zoning ordinances are enforced through local planning authorities and can dictate the types and characteristics of new development that are allowed to be constructed near airports. These ordinances are important because certain types of development, including those that include tall structures, visual obstructions (light, dust, glare, etc.), wildlife attractants, dense concentrations of people, and noise sensitivity can create potential safety hazards or impact community quality of life. Overall, 43 percent of system airports reported having airport compatible land use zoning ordinances in effect in their communities.

South Dakota Codified Law Chapter 50-10 "Airport Zoning" provides context for a number of important airport protection efforts, including restrictions of development near airports, the use of public funds to prevent or eliminate airport hazards, and the Commission's withholding of future funding if an airport's local zoning authority does not require compliance with the requirements for proper zoning. Specifically, Section 5 requires *"…each airport sponsor that is a municipality, county, or political subdivision of the state that has an airport layout plan [ALP] shall take measures for the protection of airport approaches, and shall adopt, administer, and enforce, under the police power and in the manner and upon the conditions prescribed by this chapter, airport zoning regulations applicable to the area."* Additionally, Section 6 furthers the mandate, stating *"… the regulations required by § 50-10-5 shall divide the airport layout into zones, and, within each zone, specify the land uses permitted, regulate and restrict the height to which structures and trees may be erected or allowed to grow, prohibit the obstruction by lights, smoke, electronic devices, or any other means, of the safe operation of aircraft near airports, and impose other restrictions and requirements as may be necessary for the protection of the airport. The existing and ultimate runway protection zone [RPZ] as depicted on the airport layout plan shall be zoned to exclude homes and structures that constitute a concentration of people."*[1]

Considering the importance of establishing land use zoning, there are a few strategies that SDDOT could implement, or assist airport sponsors in implementing, that could help protect the airport from incompatible land uses now and in the future. SDDOT could advocate for expanded legislation that requires communities with airports to establish compatible land use zoning beyond what is required within the RPZ – perhaps modeling Code of Federal Regulations (CFR) Part 77 "imaginary surfaces" – regardless of if an airport has an ALP. SDDOT could reach out to other states that have implemented this type of state mandate to gather advice and lessons learned that could help in the establishment of such expanded legislation in South Dakota. To accompany this legislation, SDDOT could develop a handbook that provides guidance to communities in drafting compatible land use plans and includes a model zoning ordinance that meets state requirements. If a community already has some type of land use

[1] South Dakota Legislature, Codified Law Chapter 50-10 Airport Zoning, 2019.

zoning in place it can add to or alter existing land use regulations to support compatible development near airports.

While the various Councils of Governments (COGs) across South Dakota cannot enforce any local zoning ordinances, they could assist SDDOT and airports in compatibility efforts by addressing airports and advocating for compatible land use planning near these facilities in any regional planning efforts. There are six planning districts in South Dakota that collectively manage all but five of the 66 counties in the state. Moreover, the recent Airport Cooperative Research Program (ACRP) Report 206 *Guidebook on Effective Land Use Compatibility Planning Strategies for General Aviation Airports* could be a useful resource for SDDOT and GA airport sponsors in learning more about planning strategies to prevent future incompatible developments on and near airports.

6.3. Conclusion

This chapter incudes a comparison of the current performance of the system in meeting each of the 2020 SDSASP PMs with the designated future performance targets to determine potential project recommendations that will improve system performance. The strengths of the system are highlighted and specific opportunities where significant improvement can be achieved are discussed. The findings of this chapter inform the final list of SDSASP project recommendations and cost estimations in **Chapter 7. System Needs and Project Costs.**