

CHAPTER EIGHT: AIRPORT PROJECT COSTS AND ALTERNATIVE SCENARIOS

INTRODUCTION

Maintaining and expanding the facilities in Arizona’s aviation system to meet user needs requires significant resources. One of the purposes of this 2018 State Aviation System Plan (SASP) Update is to identify the projects needed to maintain a safe and efficient aviation system and to meet the needs of future aviation system users.

Chapter 7 introduced several recommended actions to satisfy the current and anticipated system needs.

Building upon the actions recommended in Chapter 7, this chapter includes an assessment of the costs associated with those recommended actions, including meeting facility and service objectives and meeting performance measures. Additionally, individual airport master plans, Airport Layout Plans (ALPs) with Narrative Reports, and capital improvement plans (CIPs) are analyzed so that the costs to complete projects outside of the SASP Update recommendations are also considered. This chapter provides a holistic look at the costs associated with system maintenance and expansion to meet future demand, and two scenarios for implementation.

SASP UPDATE-RELATED PROJECT COSTS

Projects recommended to meet facility and service objectives and system performance measures are evaluated in this section. These are projects that are a direct result of SASP Update recommendations. **Chapter 5** introduced the facility and service objectives established for each airport in the system based on their airport classification. **Chapter 1** presented the 2018 SASP Update performance measures and **Chapter 6** presented current system-wide performance in meeting those measures. The next two sections address the costs associated with meeting airport objectives and meeting system performance measures, respectively.

Facility and Service Objective Recommendation Costs

The facility and service objectives of the 2018 SASP Update represent the components of an airport with the greatest potential to significantly impact the type and amount of activity that can occur there. The following analysis summarizes the system-wide costs associated with meeting (1) airside facility objectives, (2) landside facility objectives, and (3) landside service objectives. This does not include the costs associated with meeting system performance measures (which is discussed in the section immediately following).

Airside Facility Objectives

Table 1 depicts the airside facility objectives established for airports in each of the six airport classifications. **Table 2** presents the costs associated with meeting each airside facility objective and **Figure 1** illustrates the composition of those needs. Costs associated with meeting runway-related objectives (length, width, surface) represent nearly 70 percent of the total airside facility objective costs, followed by taxiway-related objective (type and width) costs at nearly 18 percent.

Table 1. Airside Facility Objectives by Classification

Minimum Objectives by Airport Classification						
	Commercial Service-International	Commercial Service-National	Reliever	General Aviation (GA)-Community	GA-Rural	GA-Basic
ARC*	Consistent with master plan	Consistent with master plan	C-III	B-II	B-I	A-I
Runway Length	Consistent with master plan	Consistent with master plan	Accommodate 75% of large aircraft at 90% useful load	Accommodate 75% of large aircraft at 60% useful load	Accommodate 75% of small airplanes	Maintain existing
Runway Width	To meet ARC standards	To meet ARC standards	To meet ARC standards	To meet ARC standards	To meet ARC standards	To meet ARC standards
Runway Surface	Asphalt/paved	Asphalt/paved	Asphalt/paved	Asphalt/paved	Asphalt/paved (desired)	Gravel/dirt (minimum)
Taxiway Type and Width	Consistent with master plan	Consistent with master plan	Full parallel Width per ARC	Full or partial parallel Width per ARC	Full or partial parallel, connectors, or turnarounds Width per ARC	None
Instrument Approach Procedures	Precision (desired) Near-precision (minimum)	Precision (desired) Near-precision (minimum)	Near-precision (desired) Non-precision (minimum)	Non-precision	Non-precision or circling	None
Visual Aids	Rotating beacon Lighted wind cone Segmented circle REILs VGSIs	Rotating beacon Lighted wind cone Segmented circle REILs VGSIs	Rotating beacon Lighted wind cone Segmented circle REILs VGSIs	Rotating beacon Lighted wind cone Segmented circle REILs VGSIs	Rotating beacon Wind cone Segmented circle VGSIs	Wind sock
Runway and Taxiway Lighting	HIRL/HITL (desired) MIRL/MITL (minimum)	HIRL/HITL (desired) MIRL/MITL (minimum)	MIRL/MITL	MIRL/MITL	MIRL/MITL	Reflectors
Approach Lighting Systems	ALS	ALS	ALS (desired)	None	None	None

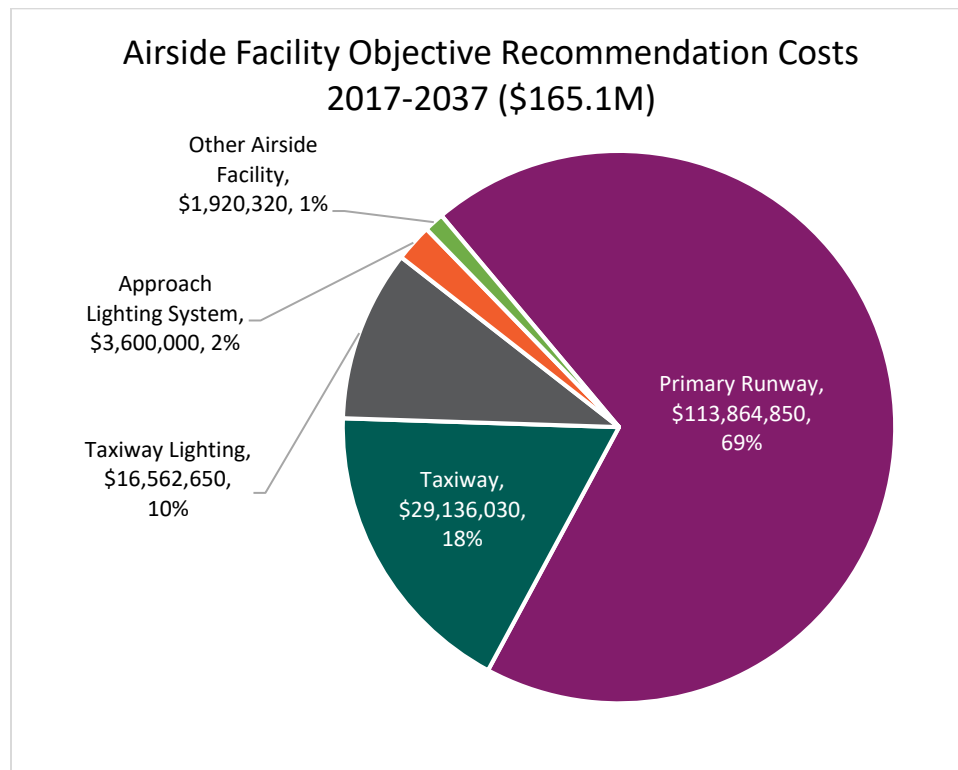
***Acronyms:** *ALS = Approach lighting system* *HIRL = High-intensity runway lights* *MITL = Medium-intensity taxiway lights*
 ARC = Airport reference code *HITL = High-intensity taxiway lights* *REILs = Runway-end indicator lights*
 FBO = Fixed-base operator *MIRL = Medium-intensity runway lights* *VGSIs = Visual glide slope indicators*

Source: Kimley-Horn

Table 2. Airside Facility Objective Recommendation Costs 2017-2037

Recommendation	Total Estimate Cost	% of Total
ARC	N/A	–
Primary Runway Length, Width, Surface	\$113,864,850	69.0%
Primary Taxiway Type and Width	\$29,136,030	17.6%
Instrument Approach	\$325,000	0.2%
Rotating Beacon	\$125,000	0.1%
Wind Indicator	\$20,000	0.0%
Segmented Circle	\$80,000	0.0%
Runway End Indicator Lights	\$560,000	0.3%
Visual Glideslope Indicators	\$220,000	0.1%
Runway Lighting	\$590,320	0.4%
Taxiway Lighting	\$16,562,650	10.0%
Approach Lighting System	\$3,600,000	2.2%
Airside Facilities Total	\$165,083,850	100%

Source: Kimley-Horn and CDM Smith



Source: Kimley-Horn and CDM Smith

Figure 1. Composition of Airside Facility Objective Recommendation Costs 2017-2037

Landside Facility Objectives

Table 3 presents the landside facility objectives established for airports in each of the six airport classifications. **Table 4** depicts the costs associated with meeting each landside facility objective and **Figure 2** illustrates the composition of those needs. Costs associated with meeting the hangar objectives represent over 85 percent of the total landside facility objective costs, followed by airport fencing and controlled access objective costs at over 10 percent.

Table 3. Landside Facility Objectives by Classification

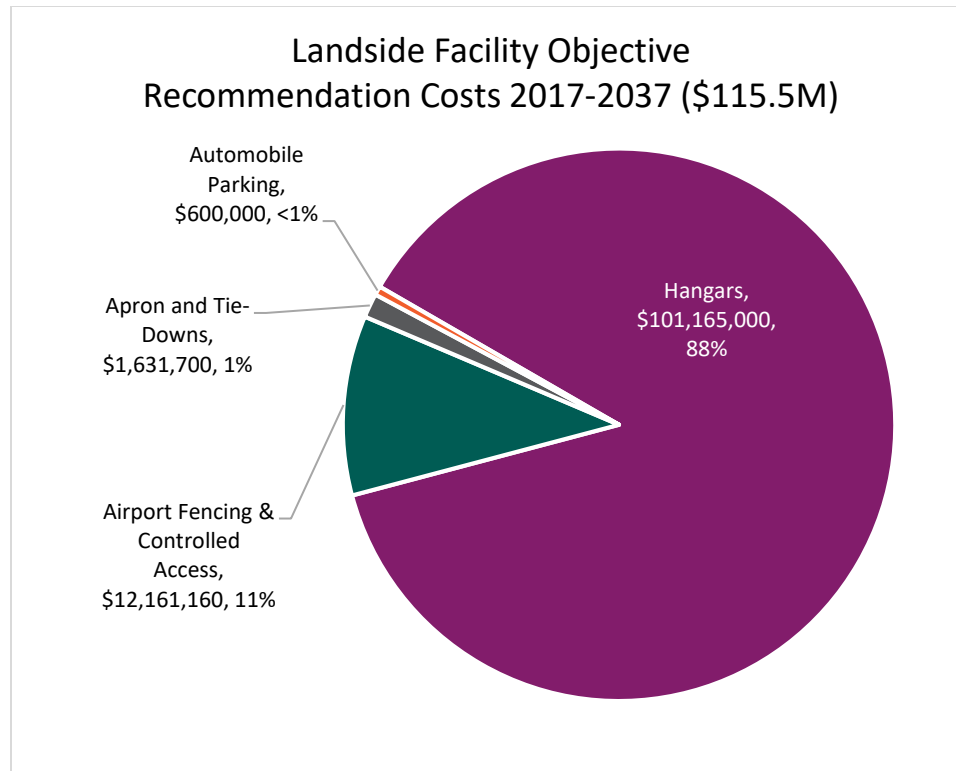
Minimum Objectives by Airport Classification						
	Commercial Service- International	Commercial Service- National	Reliever	GA- Community	GA-Rural	GA-Basic
Airport Fencing	Perimeter fencing Controlled access	Perimeter fencing Controlled access	Perimeter fencing Controlled access	Perimeter fencing	Perimeter fencing	Perimeter fencing (desired)
Aprons and Tie-Downs	N/A	N/A	Apron (25% of based fleet and 75% for transient)	Apron (40% of based fleet and 50% for transient)	Apron (50% of based fleet and 25% for transient)	Apron
Hangars	N/A	N/A	Hangars (75% of based fleet and 25% overnight)	Hangars (60% of based fleet and 25% overnight)	Hangars (50% of based fleet and 25% for transient)	
Terminal Buildings	N/A	N/A	Terminal with pilot's lounge	Terminal with appropriate facilities		
Auto Parking	Yes	Yes	Yes	Yes	Yes	Yes

Source: Kimley-Horn

Table 4. Landside Facility Objective Recommendation Costs 2017-2037

Recommendation	Total Estimate Cost	% of Total
Airport Fencing and Controlled Access	\$12,161,160	10.5%
Apron and Tie-Downs	\$1,631,700	1.4%
Hangars	\$101,165,000	87.5%
Terminal Buildings	\$0	0.0%
Auto Parking	\$600,000	0.5%
Landside Facilities Total	\$115,557,860	100%

Source: Kimley-Horn and CDM Smith



Source: Kimley-Horn and CDM Smith

Figure 2. Composition of Landside Facility Objective Recommendation Costs 2017-2037

Landside Service Objectives

Table 5 shows the landside service objectives established for airports in each of the six airport classifications. **Table 6** presents the costs associated with meeting each landside service objectives for which a cost could be determined. For many of the services, whether it's a new service provider such as an FBO or air taxi/charter or ground transportation, the costs would be borne by the provider. **Figure 3** illustrates the composition of the costs for the landside service needs that have a hard cost associated with them that might be borne by the airport. Costs associated with meeting the deicing objectives represent just over a third of the total landside service objective costs, followed by AvGas fueling objective costs at 19 percent.

Table 5. Landside Service Objectives by Classification

Minimum Objectives by Airport Classification						
	International	Commercial Service- National	Reliever	GA- Community	GA-Rural	GA-Basic
Automated Weather Reporting	Yes	Yes	Yes	Yes	Yes	
FBO*			Yes	Yes		
Air Taxi/Charter*	Yes	Yes	Yes			

Minimum Objectives by Airport Classification						
	International	Commercial Service- National	Reliever	GA- Community	GA-Rural	GA-Basic
Aircraft Rental*		Yes	Yes	Yes		
Aircraft Maintenance*	Yes	Yes	Yes	Yes		
Avionics Sales and Service*	Yes	Yes	Yes			
Aircraft Fuel - AvGas	Yes	Yes	Yes	Yes	Yes	
Aircraft Fuel - JetA	Yes	Yes	Yes	Yes		
Deicing	Yes	Yes				
Oxygen	Yes	Yes	Yes	Yes		
Snow Removal	As needed	As needed				
Ground Transp.*	Yes	Yes	Yes	Yes	Yes	Yes
On-Site Rental Car*	Yes	Yes				
Internet Access	Yes	Yes	Yes	Yes		
Phone Access	Yes	Yes	Yes	Yes	Yes	Yes
Restroom	Yes	Yes	Yes	Yes	Yes	
U.S. Customs*	Yes	Yes	Yes			

*Note: These services do not have a hard cost that can be applied, therefore these services were not costed.

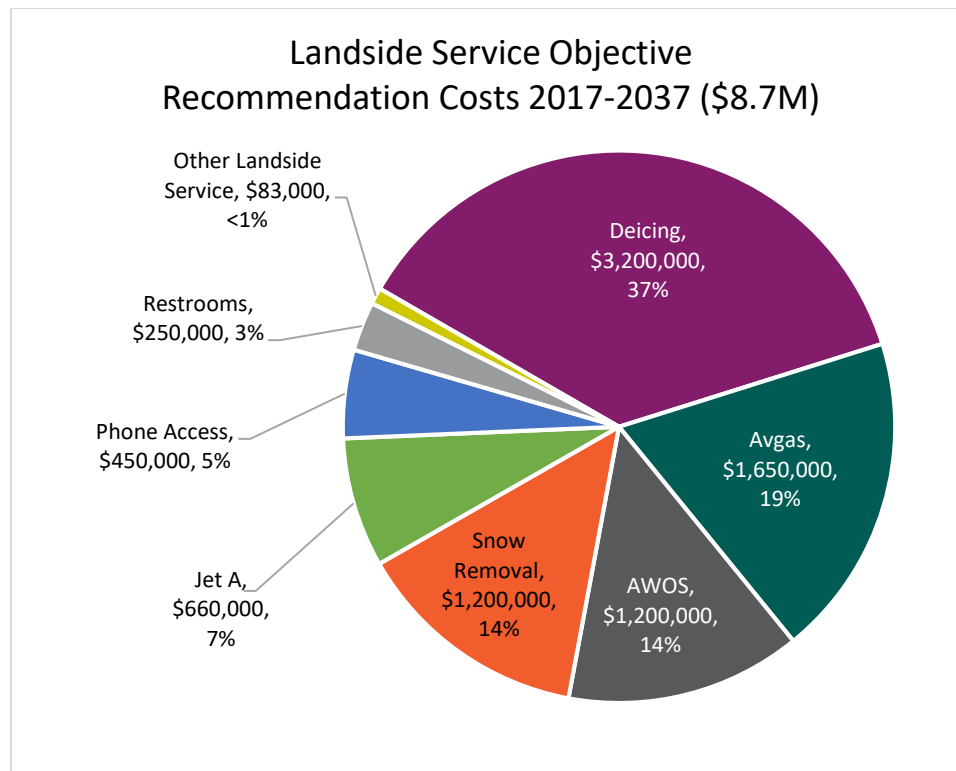
Source: Kimley-Horn

Table 6. Landside Service Objective Recommendation Costs 2017-2037

Recommendation	Total Estimate Cost	% of Total
Automated Weather Reporting	\$1,200,000	13.8%
FBO*	N/A	-
Air Taxi/Charter*	N/A	-
Aircraft Rental*	N/A	-
Aircraft Maintenance*	N/A	-
Avionics Sales and Service*	N/A	-
AvGas	\$1,650,000	19.0%
Jet A	\$660,000	7.6%
Deicing	\$3,200,000	36.8%
Oxygen	\$23,000	0.3%
Snow Removal	\$1,200,000	13.8%
Ground Transportation*	N/A	-
On-Site Rental Car*	N/A	-
Internet Access	\$60,000	0.7%
Phone Access	\$450,000	5.2%
Restrooms	\$250,000	2.9%
U.S. Customs Facility*	N/A	-
Landside Services Total	\$8,693,000	100%

*Note: These services do not have a hard cost that can be applied, therefore these services were not costed.

Source: Kimley-Horn and CDM Smith



Source: Kimley-Horn and CDM Smith

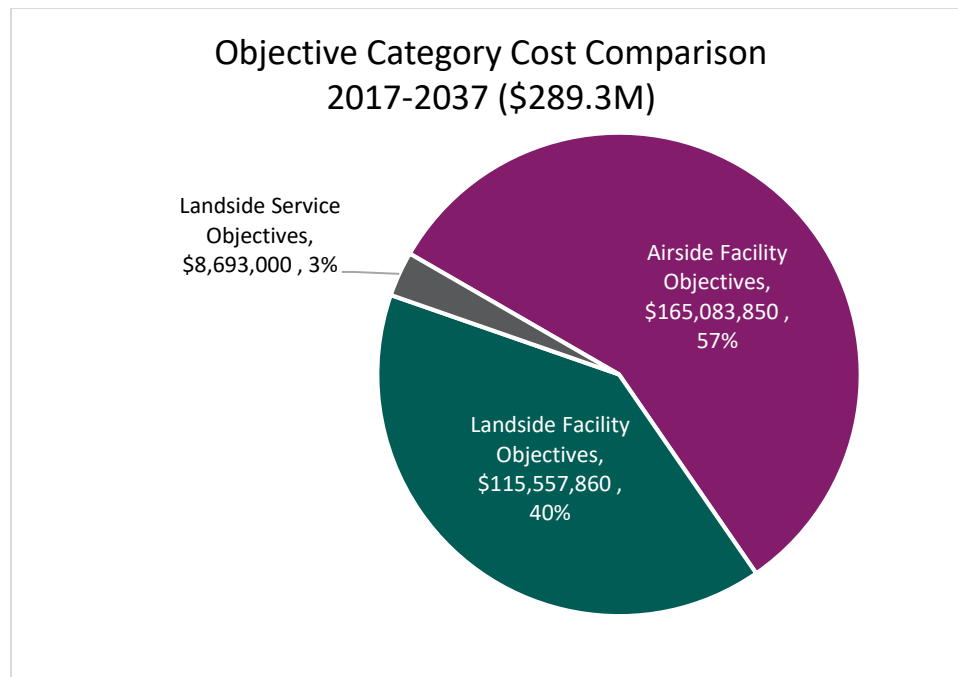
Figure 3. Composition of Landside Service Objective Recommendation Costs 2017-2037

When the three objective categories are summed (as shown in **Table 7** and **Figure 4**), the costs associated with achieving the airside facility objectives make up nearly 60 percent of the total objective project related costs at over \$165 million. Landside facility objectives come in second at over \$115 million, or nearly 40 percent. Costs associated with landside service objectives are much lower at only 3 percent, or just over \$8.5 million, however it is important to note that a number of the landside service objectives could not be costed, as footnoted in **Table 5**.

Table 7. Objective Category Cost Comparison 2017-2037

Recommendation	Total Estimate Cost	% of Total
Airside Facility Objectives	\$165,083,850	57.1%
Landside Facility Objectives	\$115,557,860	39.9%
Landside Service Objectives	\$8,693,000	3.0%
Total	\$289,334,710	100%

Source: Kimley-Horn and CDM Smith



Source: Kimley-Horn and CDM Smith

Figure 4. Total Objective Recommendation Costs by Category 2017-2037

Performance Measure Recommendation Costs

In addition to the project costs associated with SASP airports achieving their individual facility and service objectives (approximately \$290 million), there are costs associated with projects that are needed to help the system achieve the performance measures established in **Chapter 1**. For a detailed listing of airports currently not meeting each of the established performance measures, see **Chapter 7**.

Table 8 summarizes the costs associated with achieving SASP Update performance measures, and **Figure 5** illustrates the composition of those needs. As shown, pavement maintenance on primary runways to keep them at or above a Pavement Condition Index (PCI) of 70 equates to more than 62 percent of the costs associated with achieving system performance measures, followed by taxiway pavement maintenance at over 20 percent. There are three performance measures that are “capabilities” focused, meaning an airport must have specific facilities/services in place to meet the needs of the performance measure (such as runway length, weather reporting, non-precision approach, etc.). Since the facilities and services needed to meet these three performance measures are similar and overlap in many cases, a total “capabilities” cost was calculated to account for these needs without duplication, amounting to 2.3 percent of the total performance measure recommendation costs. While duplication between costs to achieve performance measures has been eliminated, it is important to note that some of the project costs to achieve system performance measures are also captured in project costs to achieve system facility and service objectives.

Table 8. Performance Measure Recommendation Costs 2017-2037

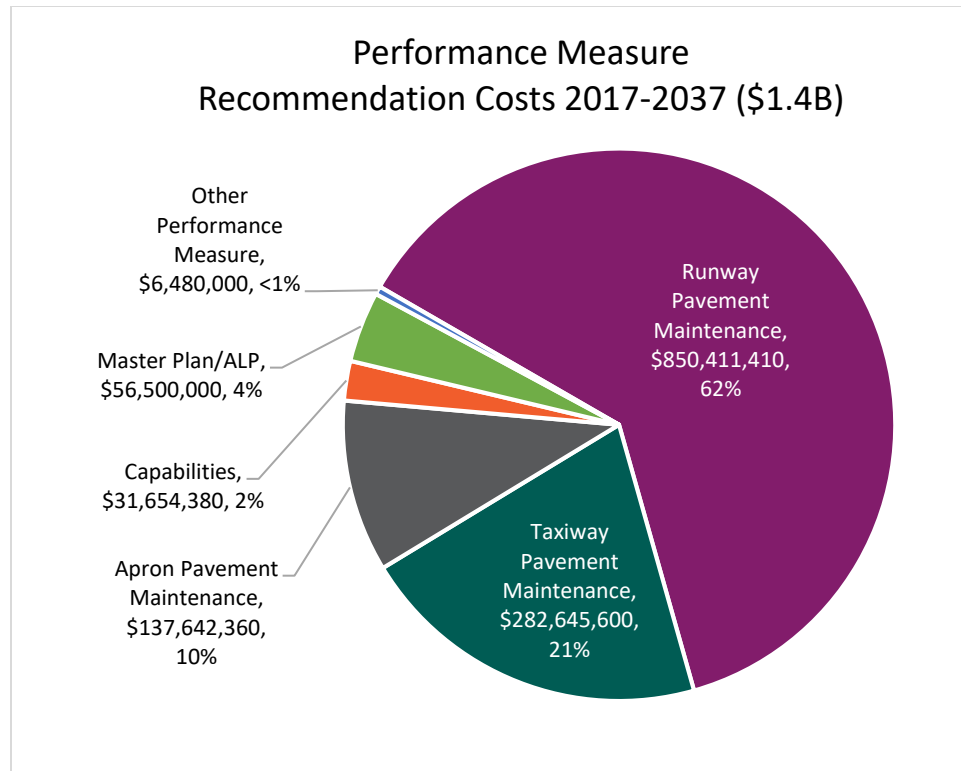
2017 Performance Measure	2017 Performance	Future Performance Target	Total Estimate Cost	% of Total
Surrounding Municipalities with Controls/Zoning	76%	100%	No cost	0.0%
Airport Disclosure Maps Filed with the Arizona Department of Real Estate (ADRE)	30%	100%	No cost	0.0%
Control of all Primary Runway End Runway Protection Studies (RPZs)*	37%	100%	N/A*	-
Runway Safety Areas (RSAs) that Meet the Standards for Current ARC*	85%	100%	N/A*	-
Clear Approaches to the Primary Runway*	28%	100%	N/A*	-
Adopted Wildlife Plans	28%	36%	\$5,760,000	0.4%
Current (w/in 10 years) Master Plan	78%	100%	\$56,500,000	4.1%
PCI of 70 or Greater on Primary Runway	64%	97%	\$850,411,410	62.3%
PCI of 70 or Greater on Primary Taxiway	55%	97%	\$282,645,600	20.7%
PCI of 55 or Greater on Apron	64%	97%	\$137,642,360	10.1%
Availability of 24/7 Fuel	63%	76%	\$720,000	0.1%
Recognized in Local Comprehensive Plans	61%	100%	No cost	0.0%
Recognized in Regional Transportation Plans	40%	100%	No cost	0.0%
Capabilities Total (with no duplicate projects or costs)	N/A	N/A	\$31,654,380	2.3%
Total Performance Measure Recommendation Costs			\$1,365,333,750	100.0%

Capability Performance Measure	2017 Performance	Future Performance Target	Total Estimate Cost**	% of Total
Capable of Supporting Medical Operations (4,000+ft runway, 24/7 fuel, non-precision approach [NPI] approach, weather)	40%	67%	\$16,620,000	N/A
All-Weather Runway Population Coverage (paved runway, published instrument approach procedure [IAP], weather)	90%	93%	\$11,042,500	N/A
Facilities to Support Jet Aircraft (5,000+ft runway, published IAP, hangar space, jet fuel)	51%	70%	\$30,324,380	N/A

Notes: *these recommendations do not have a hard cost that can be applied, therefore these recommendations were not costed

**these costs assume all facility and service objectives have been met, but include duplicate projects between "capability" performance measures, and therefore should not be summed.

Source: Kimley-Horn and CDM Smith



Source: Kimley-Horn and CDM Smith

Figure 5. Composition of Performance Measure Recommendation Costs 2017-2037

NON SASP UPDATE-RELATED PROJECT COSTS

Most airports conduct annual CIP exercises to evaluate, plan, and budget for needed projects, including planning, design, and construction activities. Additionally, airports conduct a longer-term planning exercise when they develop or update their airport master plan or ALP and associated narrative. These longer-term planning documents also serve as a tool to plan and budget for projects needed at the airport. As part of the SASP Update, available master plans, ALPs and associated narrative reports, and airport CIPs were reviewed and all projects documented. The projects recommended to meet facility and service goals and performance measures were compared to the projects identified in airport master plans, ALP narrative reports, and CIPs to identify and remove any duplicate projects from the analysis. The result of this analysis is a listing of additional projects that airports are planning for and will need resources to complete, outside of the recommendations stemming from the SASP Update (objective- or performance measure-related).

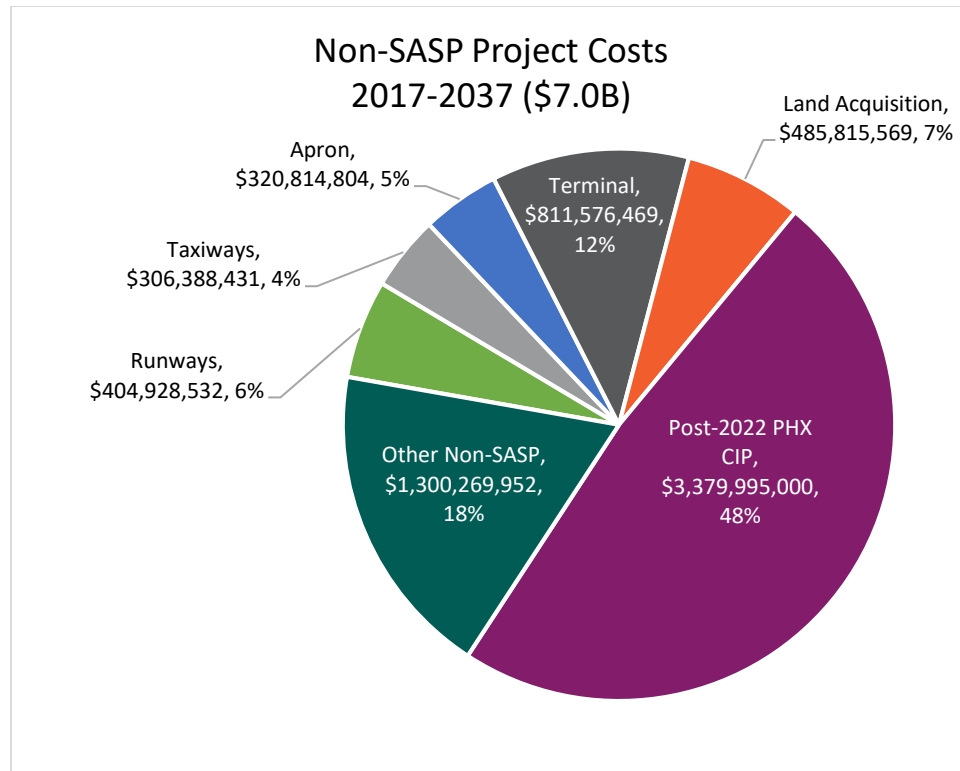
Table 9 lists these additional non-SASP Update projects by project type, including the costs associated with each based on information available from each airport. **Figure 6** illustrates the composition of those project costs. Non-SASP Update projects identified for Phoenix Sky Harbor comprise nearly half of these additional identified project costs, followed by terminal projects at 11.5 percent.

Table 9. Non-SASP Update Related Project Costs 2017-2037

Project Type	Cost	% of Total
ARC	\$7,893,000	0.1%
Runways	\$404,928,532	5.8%
Taxiways	\$306,388,431	4.4%
IAP	\$6,719,700	0.1%
Visual Aids	\$13,879,100	0.2%
Airfield Lighting/Signage	\$13,375,615	0.2%
Fencing	\$5,671,120	0.1%
Apron	\$320,814,804	4.6%
Hangars	\$55,737,332	0.8%
Terminal	\$811,576,469	11.6%
Utilities	\$67,742,500	1.0%
Roads/Parking/Access	\$169,155,360	2.4%
Misc. Landside	\$98,442,791	1.4%
Weather Reporting	\$2,133,000	0.0%
Fuel Farm	\$49,481,947	0.7%
Snow Removal	\$1,810,000	0.0%
Wash Rack	\$2,949,000	0.0%
RSA/RPZ/Object Free Area (OFA)	\$13,794,800	0.2%
Environmental	\$62,607,015	0.9%
Land Acquisition	\$485,815,569	6.9%
Other	\$728,877,672	10.4%
Post-2022 PHX CIP	\$3,379,995,000	48.2%
Non-SASP Update Project Total	\$7,009,788,757	100.0%

Note: Post-2022 PHX CIP costs are assumed to be eligible for federal, state, and local funding

Source: Airport master plans, CIPs, ALPs, Kimley-Horn and CDM Smith



Source: Airport master plans, CIPs, ALPs, Kimley-Horn and CDM Smith

Figure 6. Composition of Non-SASP Update Project Costs 2017-2037

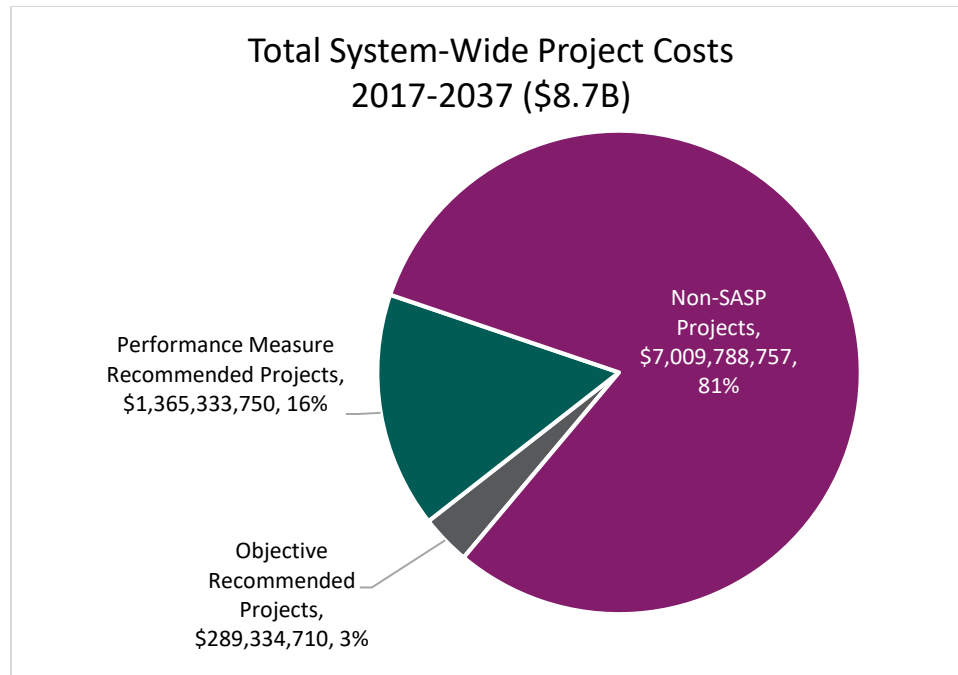
TOTAL PROJECT COSTS AND ALTERNATIVE SCENARIOS

By combining the objective recommendation costs, the performance measure recommendation costs, and the additional project costs from airports' long-range planning documents (identified as "non-SASP Update" projects), a total funding needs amount over the 20-year planning period is identified. **Table 10** includes the total system-wide needs costs between objective costs, performance measure costs, and non-SASP Update project costs. As best possible, duplicate project costs were removed. When combined, a total of nearly \$8.7 billion is needed to implement the SASP Update and non-SASP Update recommended projects across the system in the next two decades. **Figure 7** illustrates the composition of project costs, showing over 80 percent of costs coming from non-SASP Update projects, approximately 16 percent associated with performance measure recommendations, and just over 3 percent associated with objective recommendations.

Table 10. Total System-Wide Project Costs 2017-2037

Recommendation	Total Estimate Cost	% of Total
Objective Recommended Projects	\$289,334,710	3.3%
Performance Measure Recommended Projects	\$1,365,333,750	15.8%
Non-SASP Update Projects	\$7,009,788,757	80.9%
Total	\$8,664,457,217	100%

Source: Kimley-Horn and CDM Smith



Source: Kimley-Horn and CDM Smith

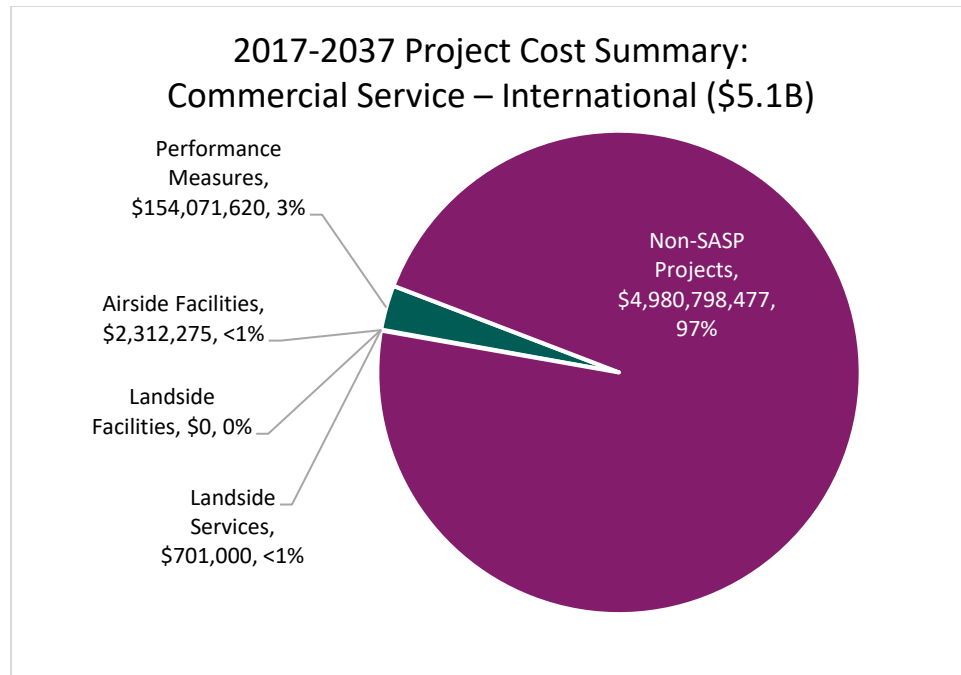
Figure 7. Total System-Wide Project Costs 2017-2037

The costs associated with objective recommendations, performance measure recommendations, and non-SASP Update projects varies between airport classifications, as listed in **Table 11**. Commercial Service-International comprises nearly 60% of the total system-wide project costs, with each subsequent classification comprising smaller and smaller percentages. **Figure 8** through **Figure 14** illustrate the composition of project costs by airport classification. It is interesting to note that the percentage of non-SASP Update project costs at the Commercial Service-International, Commercial Service-National, and Reliever airports are all substantially more than the costs of meeting objectives and performance measure recommendations. For GA-Community, it is nearly half non-SASP Update compared to other objectives and recommendations costs from the SASP Update. For GA-Rural and GA-Basic, the SASP Update performance measure recommendations are the largest portion of the costs.

Table 11. Total System-Wide Project Costs by Airport Classification 2017-2037

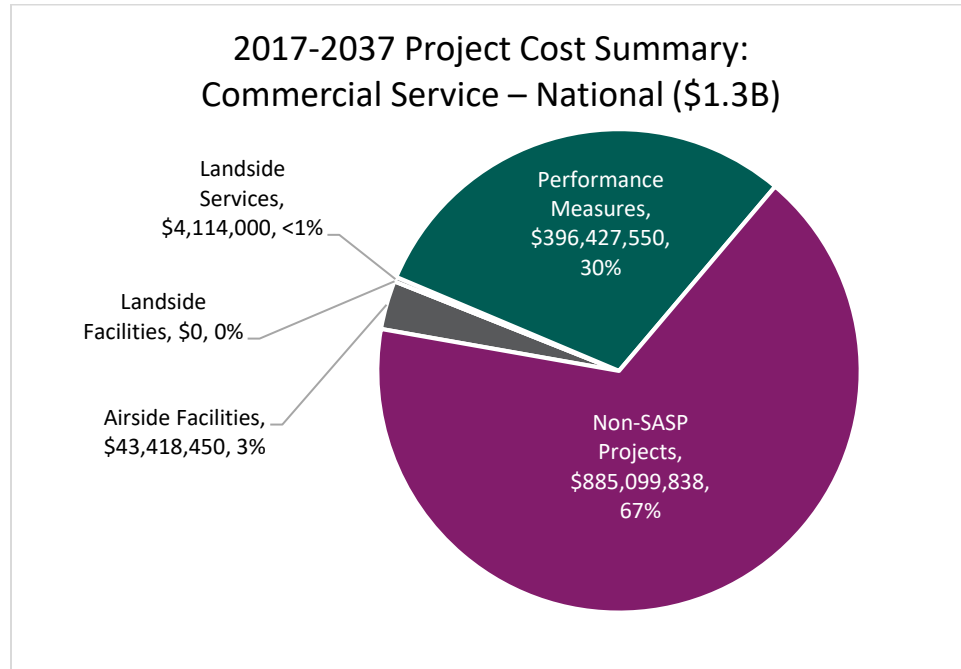
Recommendation	Total Estimate Cost	% of Total
Commercial Service-International	\$5,137,883,372	59.3%
Commercial Service-National	\$1,329,059,838	15.3%
Reliever	\$1,062,309,450	12.3%
GA-Community	\$668,715,539	7.7%
GA-Rural	\$298,862,081	3.4%
GA-Basic	\$167,626,937	1.9%
Total	\$8,664,457,217	100%

Source: Kimley-Horn and CDM Smith



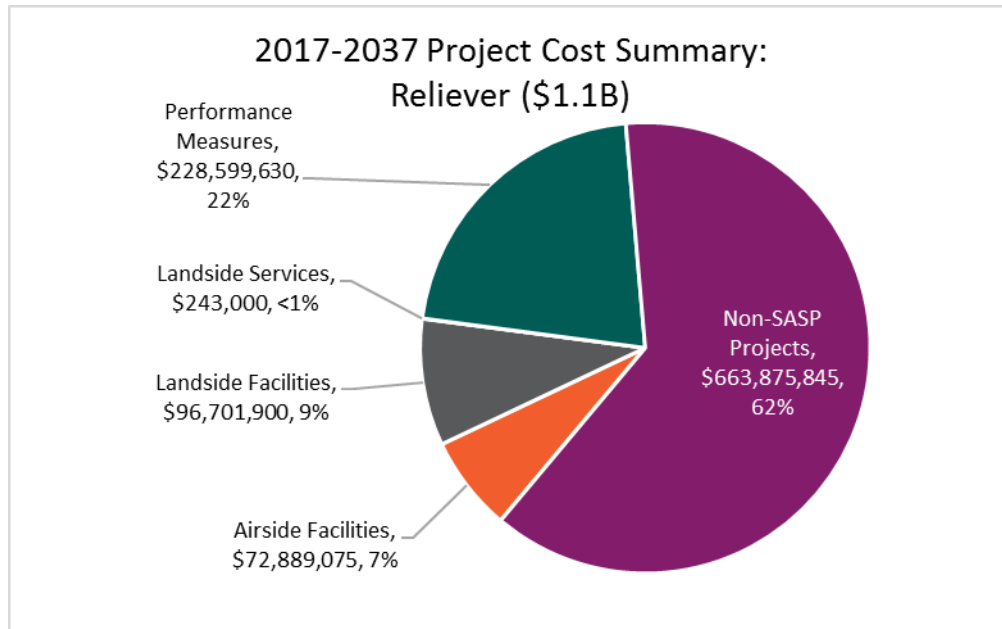
Source: Kimley-Horn and CDM Smith

Figure 8. Commercial Service-International Project Costs 2017-2037



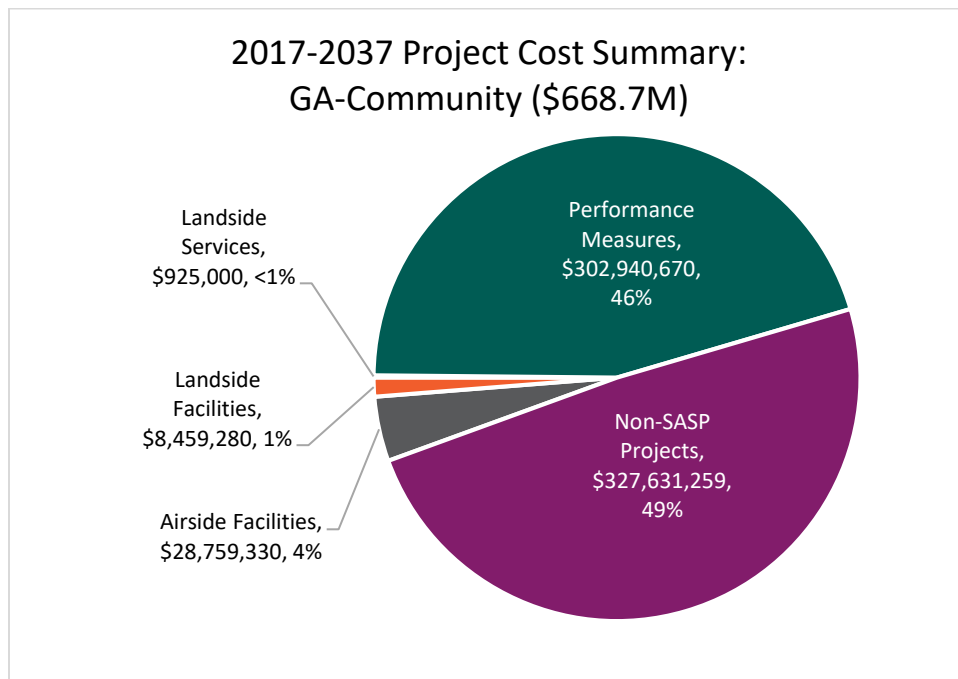
Source: Kimley-Horn and CDM Smith

Figure 9. Commercial Service-National Project Costs 2017-2037



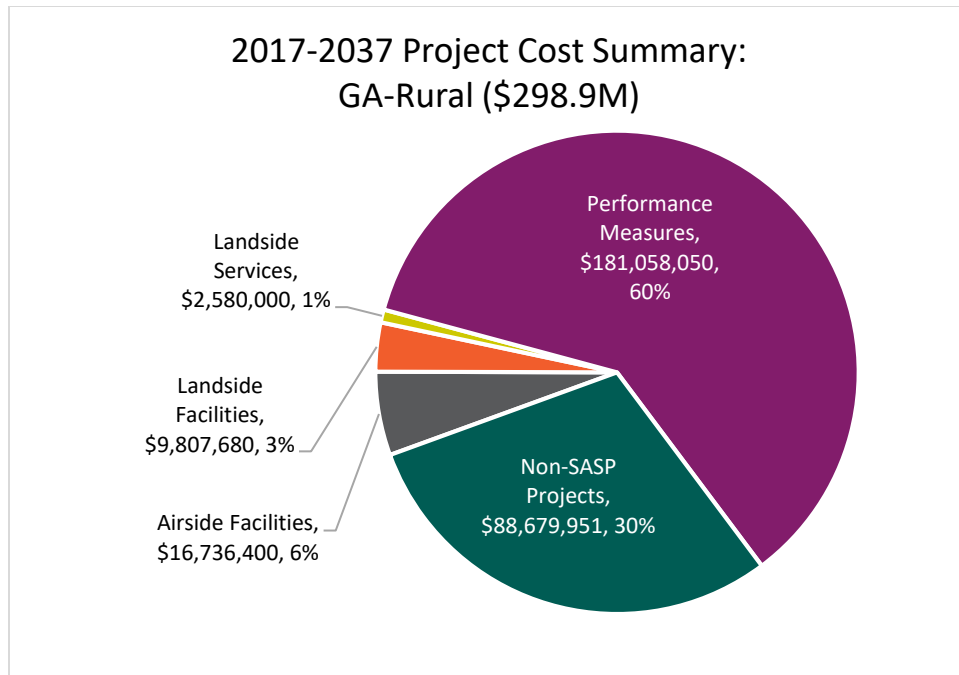
Source: Kimley-Horn and CDM Smith

Figure 10. Reliever Project Costs 2017-2037



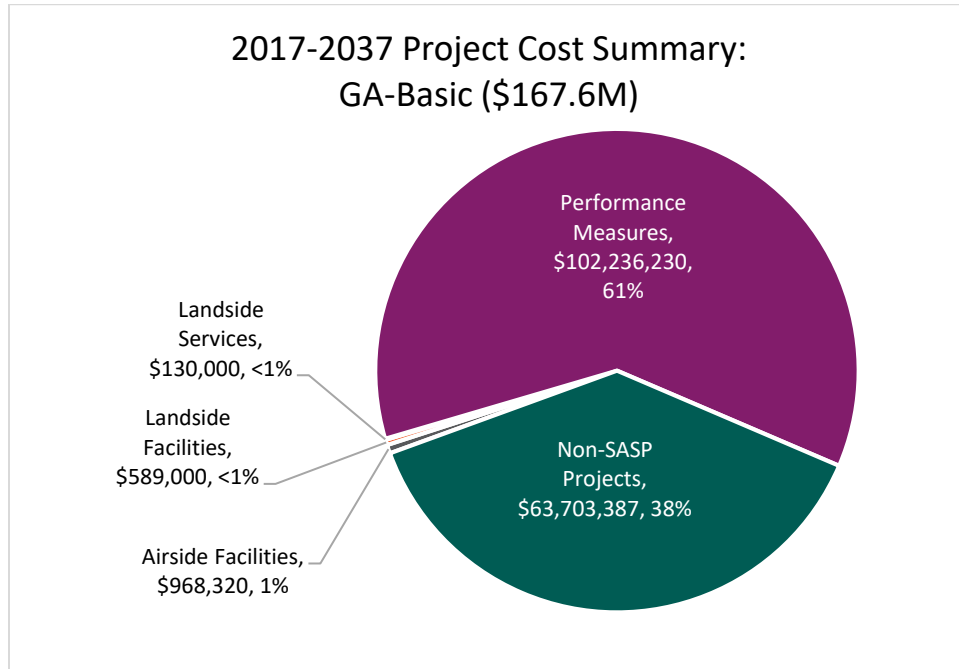
Source: Kimley-Horn and CDM Smith

Figure 11. GA-Community Project Costs 2017-2037



Source: Kimley-Horn and CDM Smith

Figure 12. GA-Rural Project Costs 2017-2037



Source: Kimley-Horn and CDM Smith

Figure 13. GA-Basic Project Costs 2017-2037



Source: Kimley-Horn and CDM Smith

Figure 14. Total Project Costs by Airport Classification 2017-2037

Since funding resources are limited, two implementation scenarios are examined. The first scenario is one of maintenance and preservation. Only the projects needed to meet facility and service objectives or to maintain and preserve existing infrastructure are included. The second scenario is one of expansion and capacity, that includes projects that are needed to expand capacity at SASP airports *plus* all the projects in scenario #1 since those expansion projects must also be maintained. Each scenario is described in more detail in the following sections.

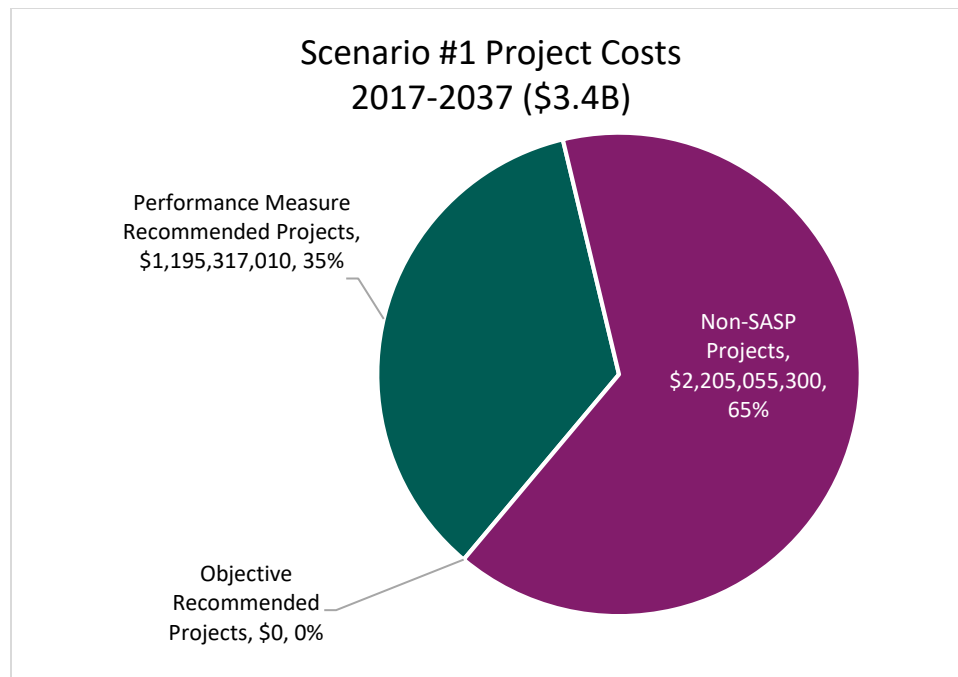
Scenario #1 Maintenance and Preservation

Table 12 lists the facility and service objective recommended project costs, performance measure recommended project costs, and any non-SASP Update project costs for maintenance and preservation projects only (such as pavement repair, obstruction removal, building improvements, etc.). There are no objective recommended projects that fall into this scenario. The majority of the costs needed in this scenario come from non-SASP Update projects (nearly 65%) and projects related to performance measures (over 35%). **Figure 15** illustrates the composition of projects in the maintenance scenario.

Table 12. Scenario #1 System-Wide Project Costs 2017-2037

Recommendation	Total Estimate Cost	% of Total
Objective Recommended Projects	\$0	0.0%
Performance Measure Recommended Projects	\$1,195,317,010	35.2%
Non-SASP Update Projects	\$2,205,055,300	64.8%
Total	\$3,400,372,310	100.0%

Source: Kimley-Horn and CDM Smith



Source: Kimley-Horn and CDM Smith

Figure 15. Scenario #1 Project Costs 2017-2037

Scenario #2 Expansion (Including Maintenance and Preservation)

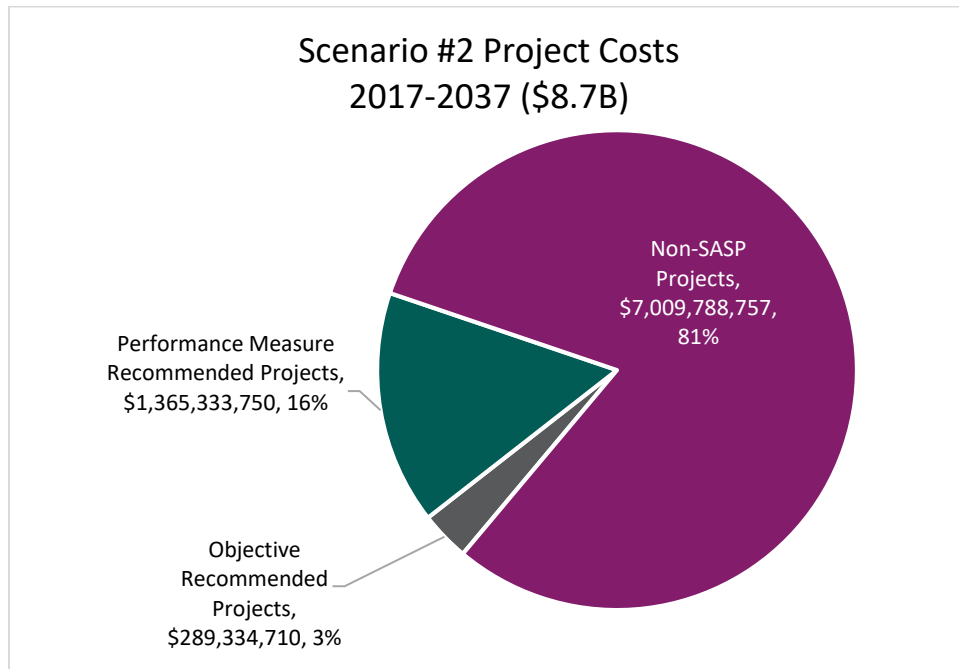
Table 13 lists the facility and service objective recommended project costs, performance measure recommended project costs, and any non-SASP Update project costs for expansion/capacity projects (such as runway extensions, terminal expansion, hangar construction, etc.) and maintenance and preservation projects from scenario #1. Similar to scenario #1, the majority of the costs needed in this scenario come from non-SASP Update projects (over 80 percent). Projects related to performance measures comprise nearly 16 percent.

Figure 16 illustrates the composition of projects in the expansion scenario.

Table 13. Scenario #2 System-Wide Project Costs 2017-2037

	Recommendation	Total Estimate Cost	% of Total
Maintenance and Preservation (from Scenario #1)	Objective Recommended Projects	\$0	0.0%
	Performance Measure Recommended Projects	\$1,195,317,010	35.2%
	Non-SASP Update Projects	\$2,205,055,300	64.8%
	Total	\$3,400,372,310	100%
Expansion	Objective Recommended Projects	\$289,334,710	5.5%
	Performance Measure Recommended Projects	\$170,016,740	3.2%
	Non-SASP Update Projects	\$4,804,733,457	91.3%
	Total	\$5,264,084,907	100%
Scenario #2 – Maintenance and Preservation and Expansion	Objective Recommended Projects	\$289,334,710	3.3%
	Performance Measure Recommended Projects	\$1,365,333,750	15.8%
	Non-SASP Update Projects	\$7,009,788,757	80.9%
	Total	\$8,664,457,217	100%

Source: Kimley-Horn and CDM Smith



Source: Kimley-Horn and CDM Smith

Figure 16. Scenario #2 Project Costs 2017-2037

SUMMARY

Analyzing system performance in meeting facility and service objectives and system performance measures in previous chapters highlighted areas with room for improvement moving forward. A holistic view of system-wide needs is achieved by identifying and costing projects needed to improve performance and evaluating projects already planned for by individual airports in their master plans, ALPs, and CIPs. This chapter focuses on the financial needs and recommendations that have been discussed in previous chapters, along with non-SASP Update related projects. With a total 20-year need of over \$8.5 billion—\$3.5 billion of which is needed just to maintain infrastructure already in place—the financial needs of the airports are great. The findings of this chapter will serve as a tool for the Arizona Department of Transportation (ADOT) to make the most effective and efficient use of resources, leveraging available funding and sharing the importance of continued federal, state, and local funding to maintain a safe aviation system in Arizona.