STATE AVIATION SYSTEM PLAN UPDATE

Public Meetings

January 2018

ADOT

Kimley»Horn

Agenda

- SASP Update purpose and overview
- System vision and goals
- Airport classifications
- Current system performance
- Forecasts of aviation demand
  - Commercial service
  - General aviation
- Next steps and accomplishments

SASP Update

What is a SASP Update?

- Framework to evaluate the adequacy and performance of the statewide aviation system
- Proactive planning tool that identifies the strengths and deficiencies or needs of the aviation system
- Key objective
  - Provide guidance into how Arizona's airports can remain highly advanced, safe, and responsive to the public's needs to support ADOT's decision-making

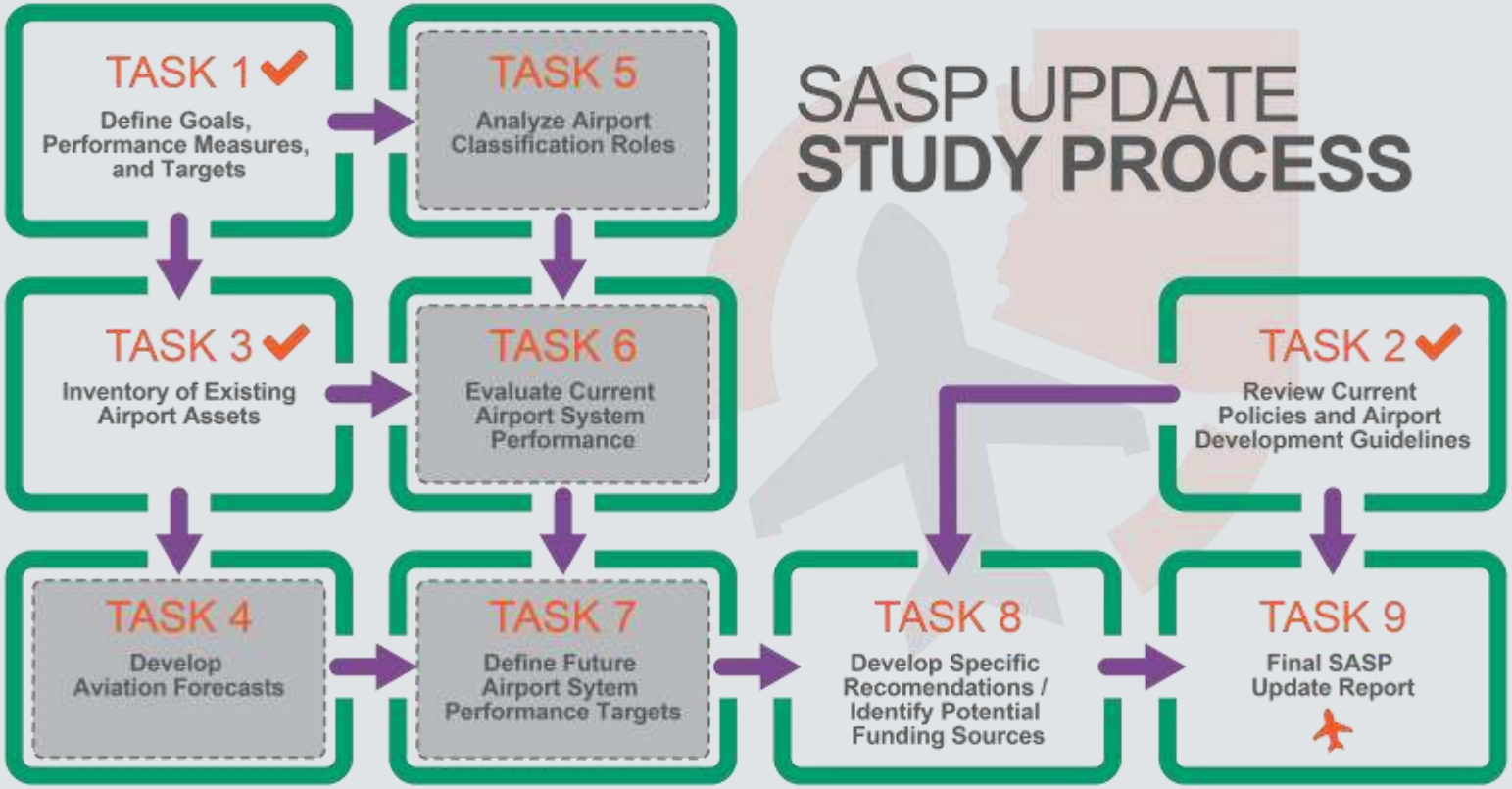
SASP Purpose

To provide a framework for the ***integrated planning, operation, and development*** of Arizona's aviation assets

Key Drivers

- Last SASP completed in 2008
- Significant changes in federal, state, regional, and local conditions and available funding
- New FAA standards and guidelines, including updated Advisory Circular on system planning
- Advancing technological trends
- Updated statewide long-range transportation plan - *What Moves You Arizona 2040*

SASP UPDATE STUDY PROCESS



THE PROJECT ADVISORY COMMITTEE (PAC) AND PUBLIC WORKSHOPS HELP GUIDE THE SASP UPDATE

System Vision and Goals

SYSTEM VISION & GOALS

VISION. To provide the framework that will allow Arizona's aviation system to meet the needs of citizens, visitors, and businesses by supporting economic competitiveness, connectivity, and accessibility with a commitment to safety, sound resource management, and partnerships.

Vision

System Plan Goals

Performance Measures

Targets

POLICY RECOMMENDATIONS

2017 SASP Update Goals

SAFETY **AND SECURITY**

Arizona should maintain a safe and secure airport system as measured by compliance with applicable safety and security standards while supporting health and safety-related services and activities.

FISCAL **RESPONSIBILITY**

Arizona should implement cost-effective investment strategies to meet current and projected demand while remaining adequately accessible to Arizona's citizens, visitors, and businesses.

ECONOMIC **SUPPORT**

Arizona should advance a system of airports that supports Arizona's economic growth and development and promotes partnerships in a manner that reflects Arizona's socioeconomic and demographic characteristics.

Performance Measures

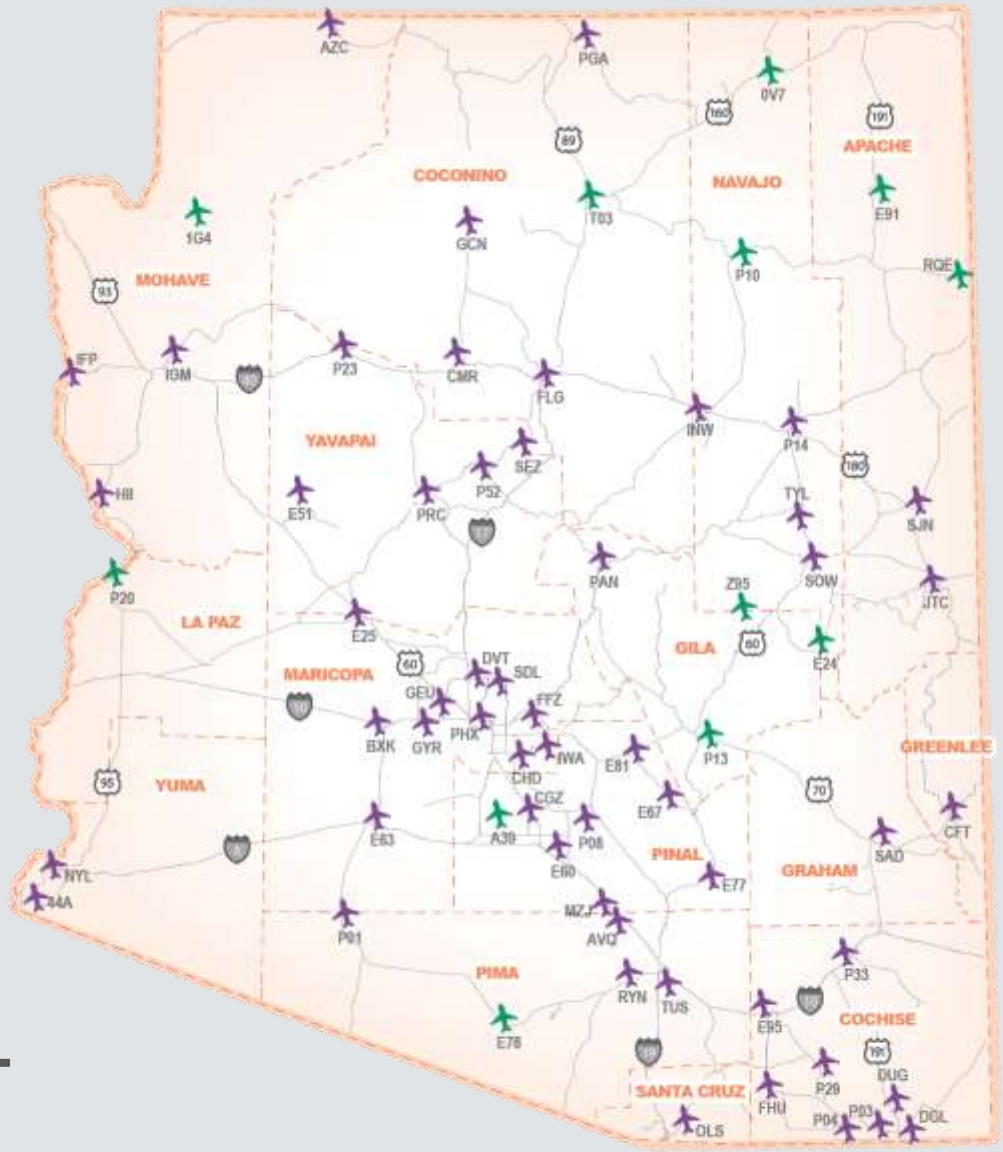
Goal Category	Performance Measures
Safety and Security 	Percent of airports capable of supporting physician/medical transport
	Percent of airports with surrounding municipalities that have adopted controls/zoning, including “disclosure areas,” to make land use in the airport environs compatibles with airport operations and development
	Percent of airports controlling all runway end runway protection zones (RPZ)
	Percent of airports that have runway safety areas (RSA) on their primary runway that meet the standards for their current airport reference code (ARC)
	Percent of airports that have active vegetation management plans to clear obstructions from their approaches
Fiscal Responsibility 	Percent of population within 30 minutes of an all-weather runway (paved, instrument approach, weather reporting)
	Number of airports with a current (past five years) master plan
	Percent of airports with a pavement condition index (PCI) of 70 or greater
Economic Support 	Percent of airports with 24/7 fuel
	Percent of airports that are recognized in local comprehensive plans
	Percent of airports with the facilities to support jet aircraft

System Indicators

Goal Category	System Indicators
Safety and Security 	Percent of airports that have a written emergency response plan
	Percent of airports with clear approaches to primary runway end
	Percent of airports with adopted wildlife plans in accordance with appropriate FAA regulations
	Percent of airports that support aerial firefighting operations
Fiscal Responsibility 	Percent of population within 30 minutes of a system airport meeting business user needs
	Percent of communities in the state with a population greater than 5,000 with a 60-minute drive time of a commercial service airport
	Percent of communities in the state with a population greater than 1,000 with a 30-minute drive time of a general aviation airport
	Number of airports with utilities (i.e., electricity, telephone, water, sewer, and gas)
	Percent of population with 30 minutes of a NPIAS airport
Economic Support 	Percent of system airports supporting flight training
	Dollars of direct and indirect economic impact on the state from aviation

System Airports and Classifications

The Arizona airport system is defined as all public-use airports owned by a political subdivision of the state or Tribal government.



2017 SASP AIRPORTS

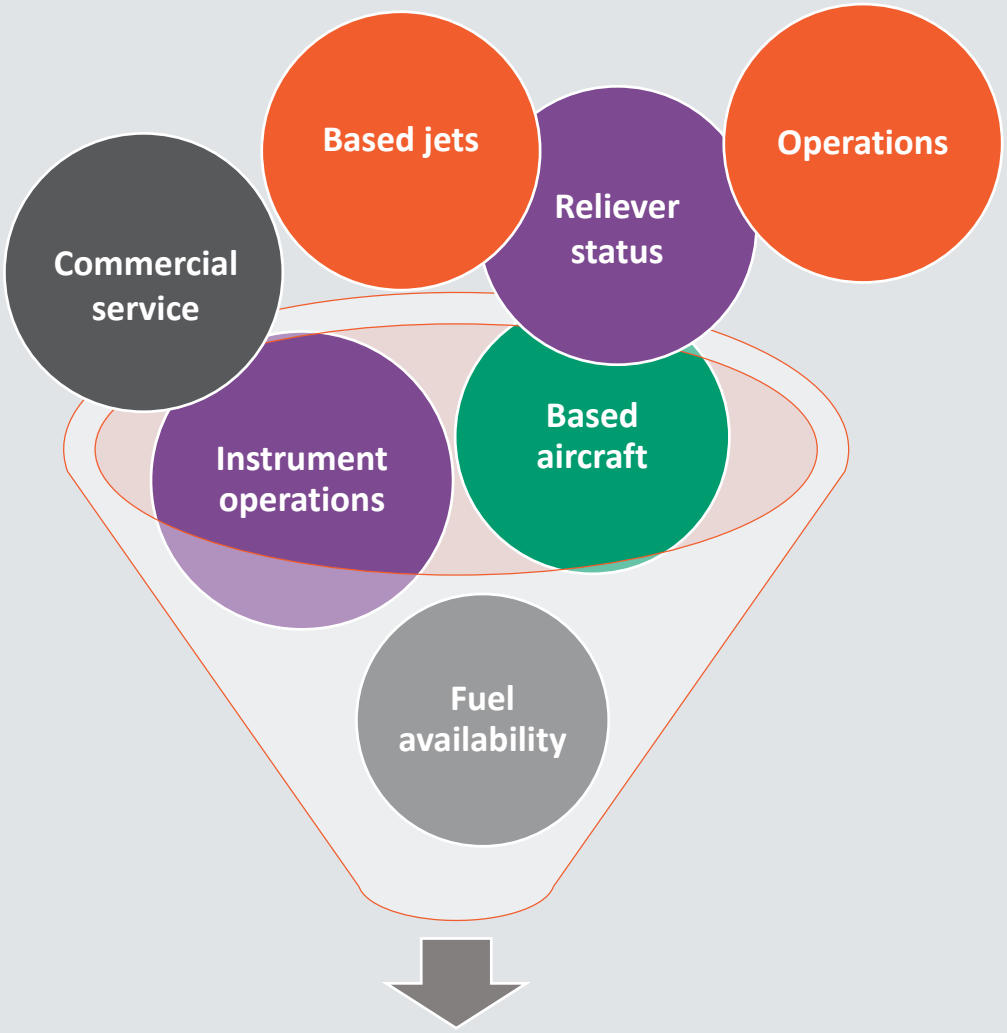
Public Owned Tribal

Why do we have airport roles/ classifications?

- Functions and activities at airports
- Coordinated planning of facilities
- Facility needs based on activities supported
- Potential funding-related uses:
  - Different programs by classification
  - Project priorities and eligibility
  - Element in priority rating system
  - Measuring system performance compared to investment

To understand how airports contribute to the community and state

Classification Methodology



Classification	Role Parameters	Characteristics	Example Airports
Commercial Service-International	International commercial service	**Year-round scheduled commercial service to international destinations within the last five years** for people and cargo. High levels of activity with many jets and multiengine propeller aircraft.	• Phoenix Sky Harbor International • Tucson International
Commercial Service-National	Domestic commercial service	**Scheduled commercial service to domestic destinations** for people and cargo. May provide seasonal scheduled commercial service to a limited number of international destinations. Moderate to high levels of activity with jets and multiengine propeller aircraft.	• Ernest A. Love Field (Prescott) • Flagstaff Pulliam • Phoenix-Mesa Gateway • Show Low Regional • Yuma International
Reliever	FAA-designated airport that relieves congestion at a commercial service airport	**Serves to relieve congestion at commercial service airports.** Supports the national air system and provides access to markets across the U.S. Moderate to high levels of activity with jets and multiengine propeller aircraft.	• Chandler Municipal • Marana Regional • Phoenix Deer Valley • Ryan Airfield (Tucson) • Scottsdale
GA-Community	250 instrument operations, 10 based aircraft or 1 based jet, and aircraft fuel	Support regional economies and provides access to markets in Arizona and nearby states. Moderate levels of activity with jets and multiengine propeller aircraft.	• Casa Grande Municipal • Cottonwood Municipal • Lake Havasu City • Payson • Safford Regional
GA-Rural	2,500 operations or 10 based aircraft and aircraft fuel	Supplements local economies and provides access to markets in Arizona with limited activity in nearby states. Moderate to low levels of activity with few or no jets and multiengine propeller aircraft.	• Ak Chin Regional (Maricopa) • Chinle Municipal • Eloy Municipal • H.A. Clark Memorial Field (Williams) • San Manuel
GA-Basic	All other general aviation airports	Supports local communities by providing general aviation services such as emergency response services, charter or medical flights, wildland firefighting, or recreational flying. Low levels of activity primarily composed of single or multiengine piston aircraft.	• Bagdad • Eric Marcus Municipal (Ajo) • Kearny • Tombstone Municipal • Tuba City

Facility and Service Objectives

- **Not** standards or requirements
- Minimum levels of development
- Recommendations of provided services and facilities based on classification

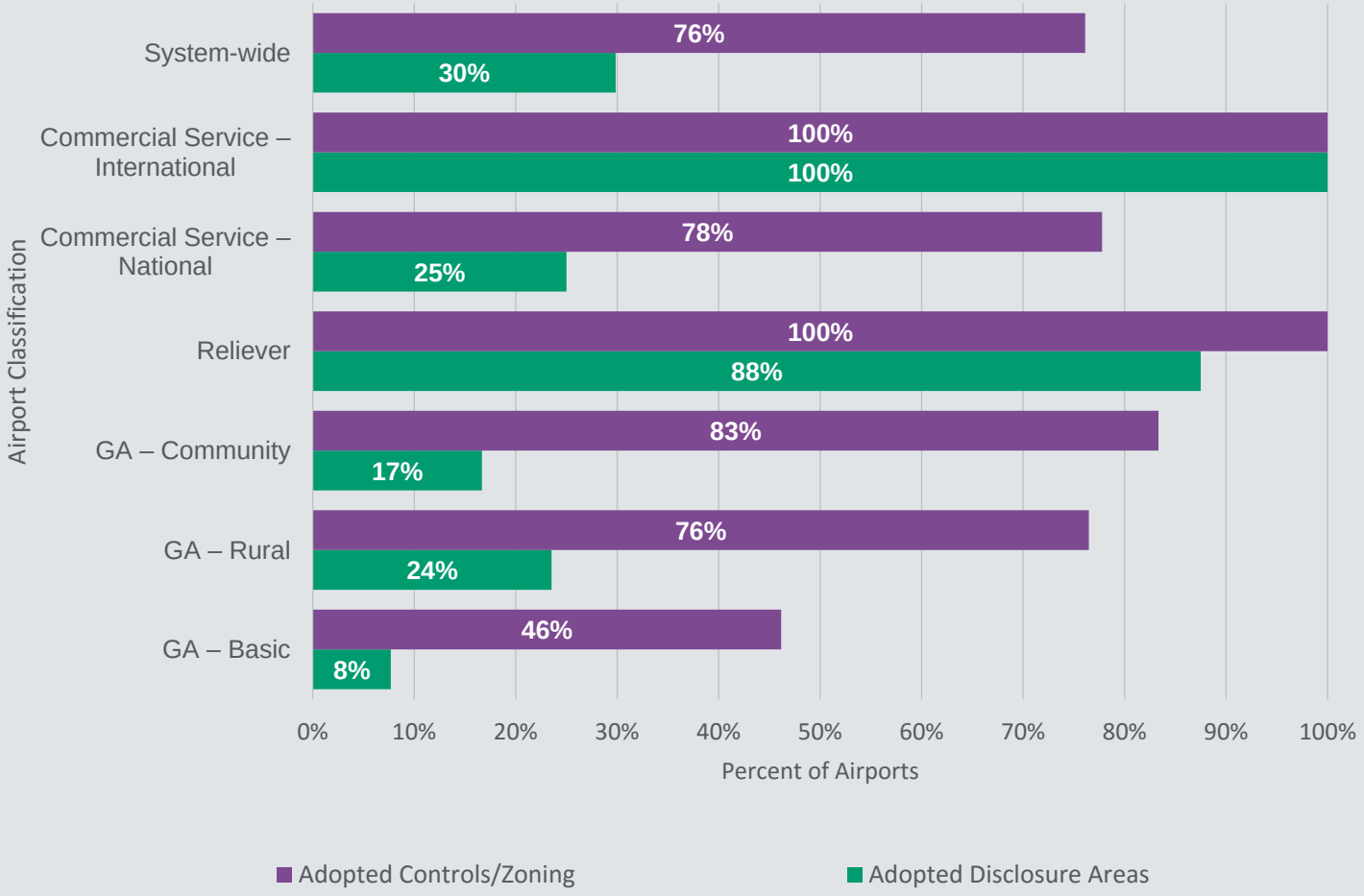
Component	Airport Criteria	
General Airfield	ARC	Runway Surface
	Runway Length	Approach Capability
	Taxiway	Visual Aids
	Lighting	Approach Lighting System
Airside Facilities	Operations/Maintenance Hangar	
	Hangars	Auto Parking
	Apron	Terminal/Pilot's Lounge
Services	Fixed-base Operator (FBO)	Aircraft Maintenance
	Avionics Sales and Service	Off-Site Rental Car
	On-Site Rental Car	Restroom
	Phone	U.S. Customs
	Fuel	Deicing
	Snow Removal	Oxygen
	Weather Reporting	Air Taxi/Charter Service
	Aircraft Rental	

Current System Performance

System Performance Assessment

- Provides insight into three specific areas to evaluate how the current airport system meets needs:
  - Areas of the state where the system can sufficiently serve existing and future needs
  - Areas of surplus or duplication of service within the system
  - Specific airport or system deficiencies within the state
- Analyses organized by goal category
- Analyses included:
  - Performance measures (PM): Action-based
  - System indicators (SI): Informational

Percent of airports with surrounding municipalities that have adopted controls/zoning, including "disclosure areas," to make land use in the airport environs compatible with airport operation and development



2008 Results

Performance Assessment

- 35% of airports had disclosure areas
- 60% of airports had airport-compatible controls / zoning

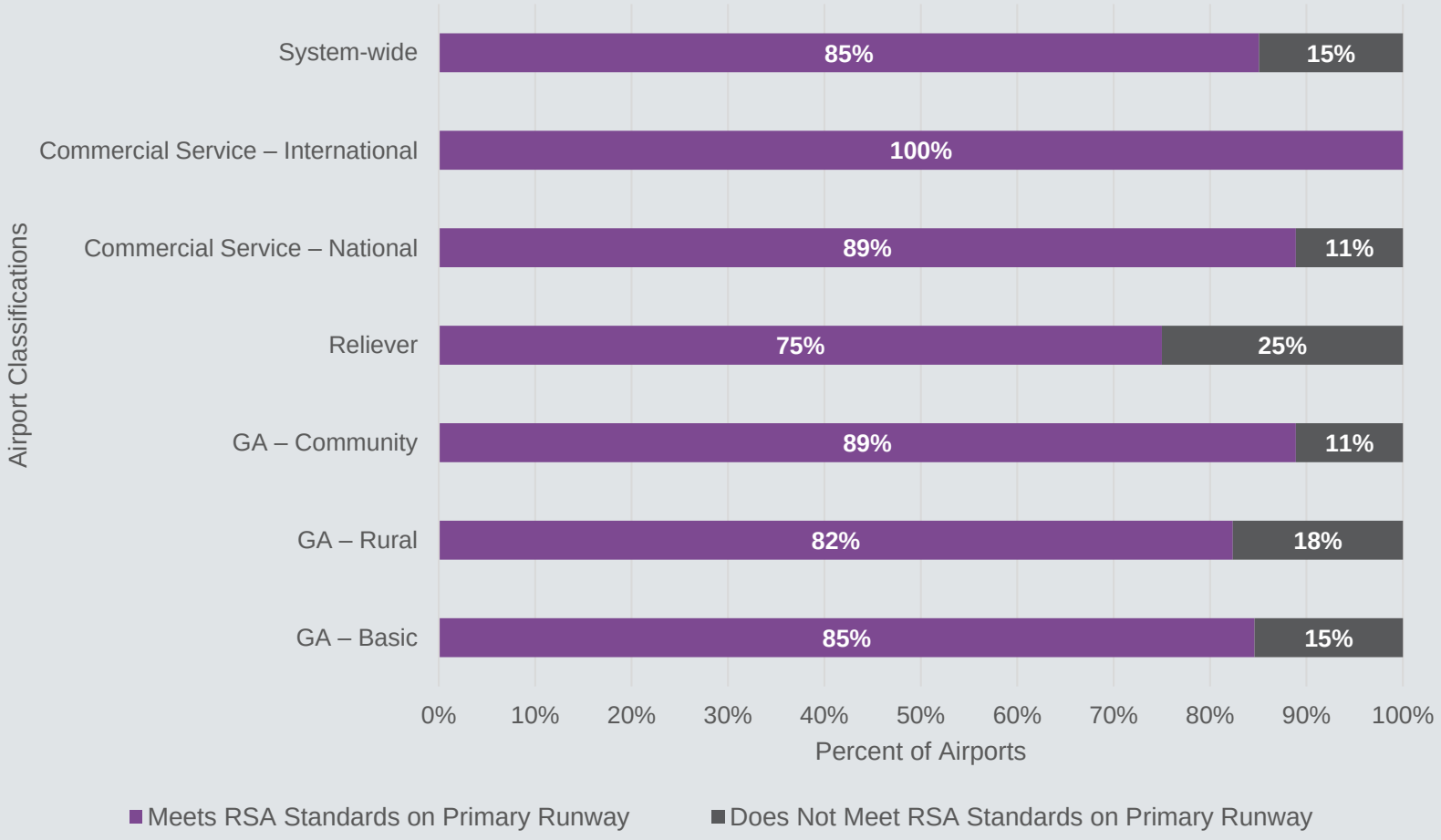
Future Targets

- 100% of airports should have disclosure areas and airport-compatible controls / zone

Policy Recommendations

- The ADRE is to work with each public airport and affected local government “as necessary to develop a map that is visually useful in determining whether property is located in or outside of a territory in the vicinity of a public airport.”
- Consider additional aviation legislation to address compatible land use planning related to airports (in accordance with the Governor’s Advisory Council on Aviation)
- Provide additional land use compatibility guidance to airports to enable them to better meet the system plan’s safety objectives

Percent of airports that have Runway Safety Areas (RSA) on their primary runway that meet the standards for their current Airport Reference Code (ARC)



2008 Results

Performance Assessment

- 59% of airports had RSAs on their primary runway that met the standards for their current ARC

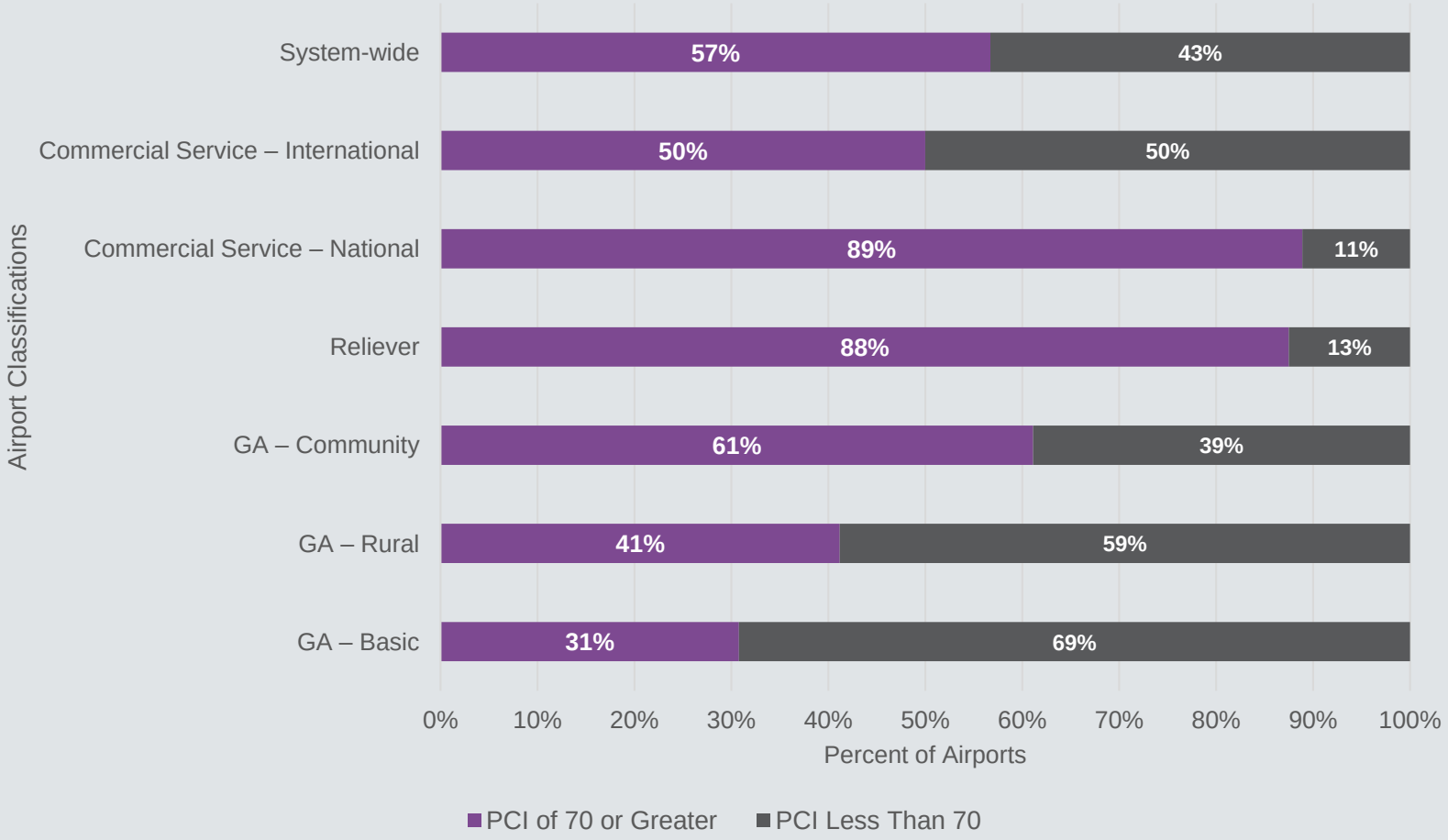
Future Targets

- 100% of airports should have FAA-compliant RSA for their current ARCs

Policy Recommendation

- ADOT Aeronautics should work closely with airports to improve performance in the near-term (in-depth analysis required for specific airports to identify needed improvements)

Percent of airports with a Pavement Condition Index (PCI) of 70 or greater



PM - Fiscal Responsibility

2008 Results

Performance Assessment

- 59% of airports had an overall PCI of 70 or greater

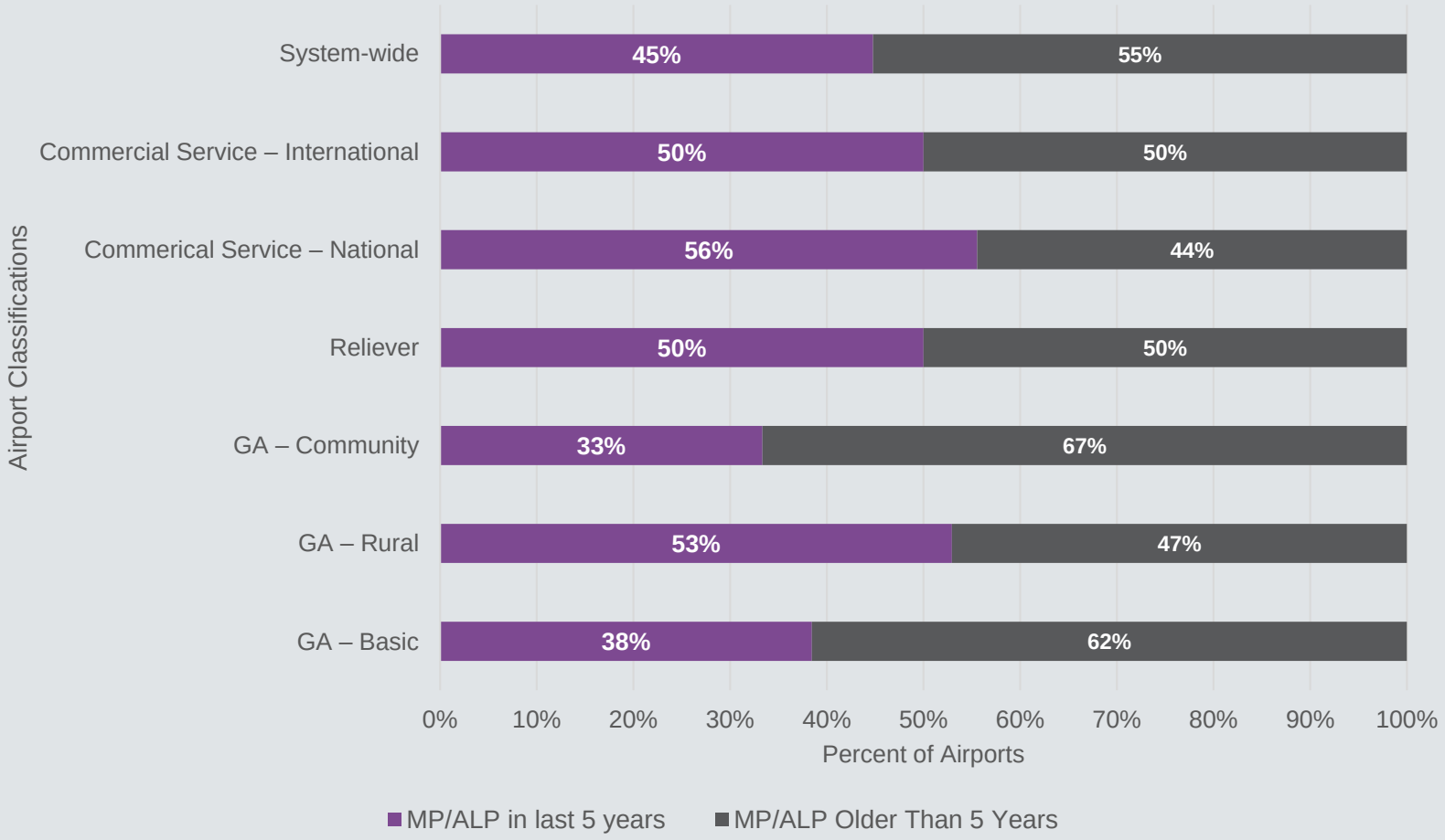
Future Targets

- 100% of applicable airports should have an overall PCI of 70 or greater

Policy Recommendation

- The 2008 SASP noted that the cost of existing pavement would account for 50% of costs over the next 20 years, indicating the importance of continuing the statewide pavement program

Number of airports with a current (past five years) master plan



2008 Results

Performance Assessment

- 55% of airports had completed a master plan within the previous five years

Future Targets

- 100% of airports should have a current master plan

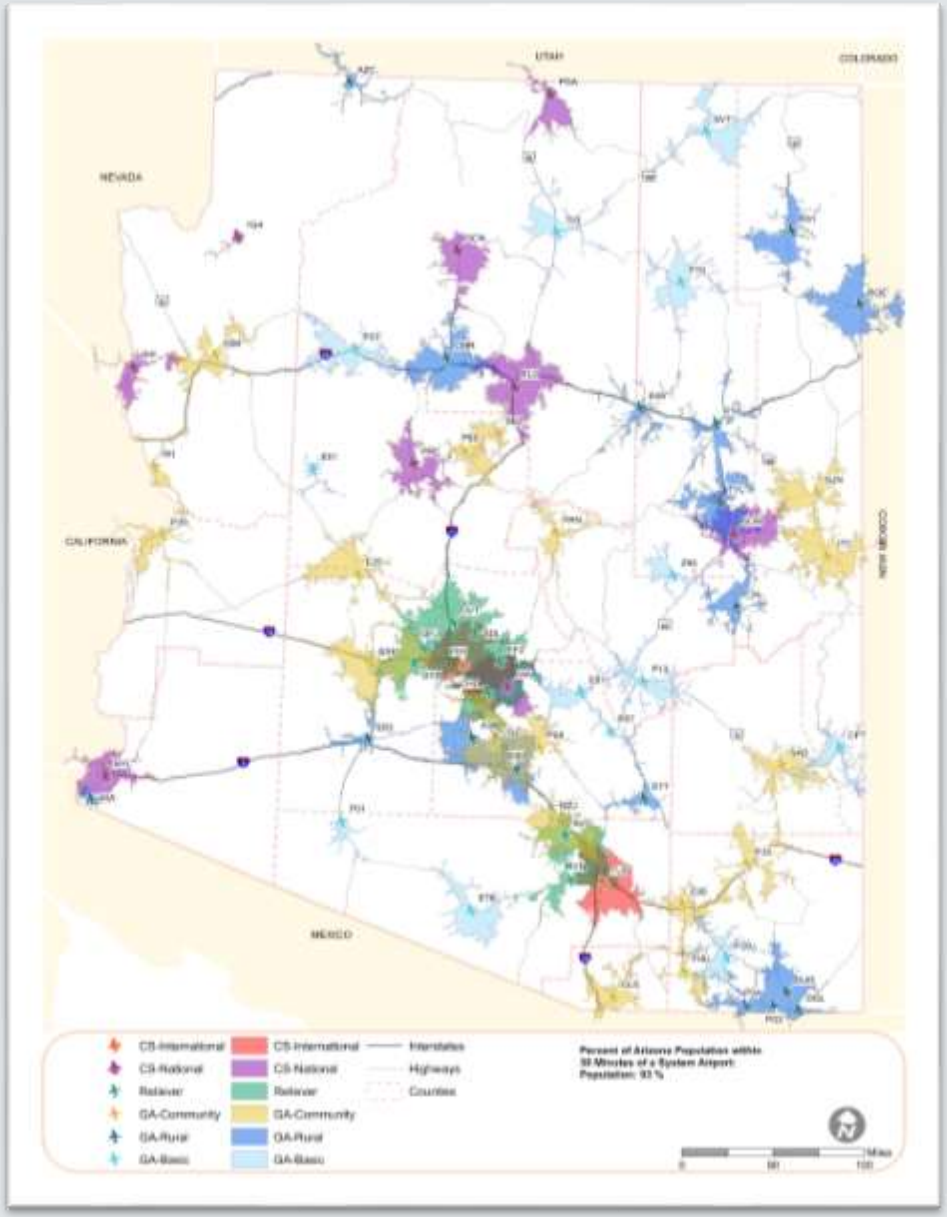
Policy Recommendation

- System airports should update their master plans/airport layout plans (ALPs) every five to seven years

Access to a system airport

93 percent

of the population is within 30 minutes of a system airport

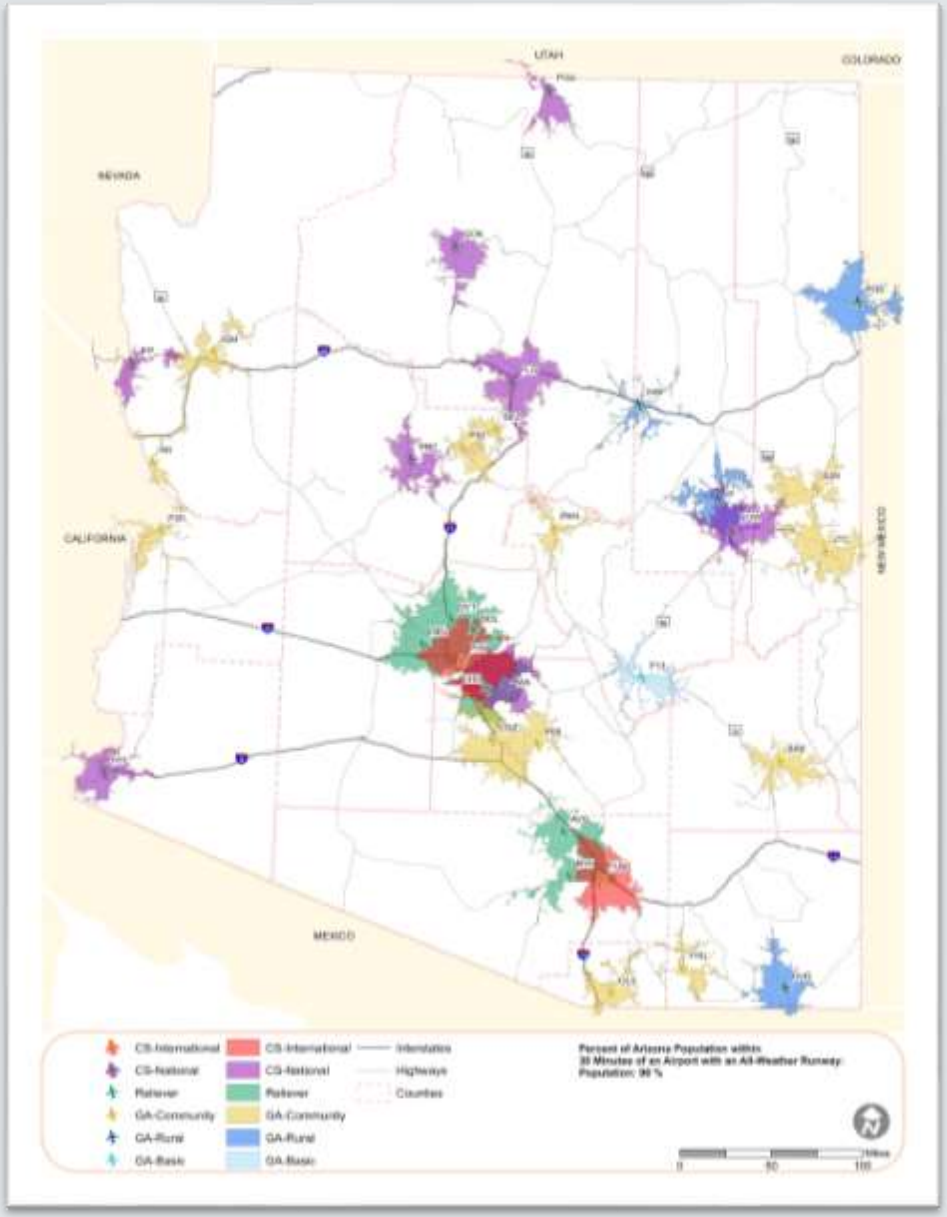


2008 Recommendation:
Inclusion of Tribal airports in the airport system

All-weather runway

90 percent

of the population is within 30 minutes of an all-weather runway



Access to a commercial service airport

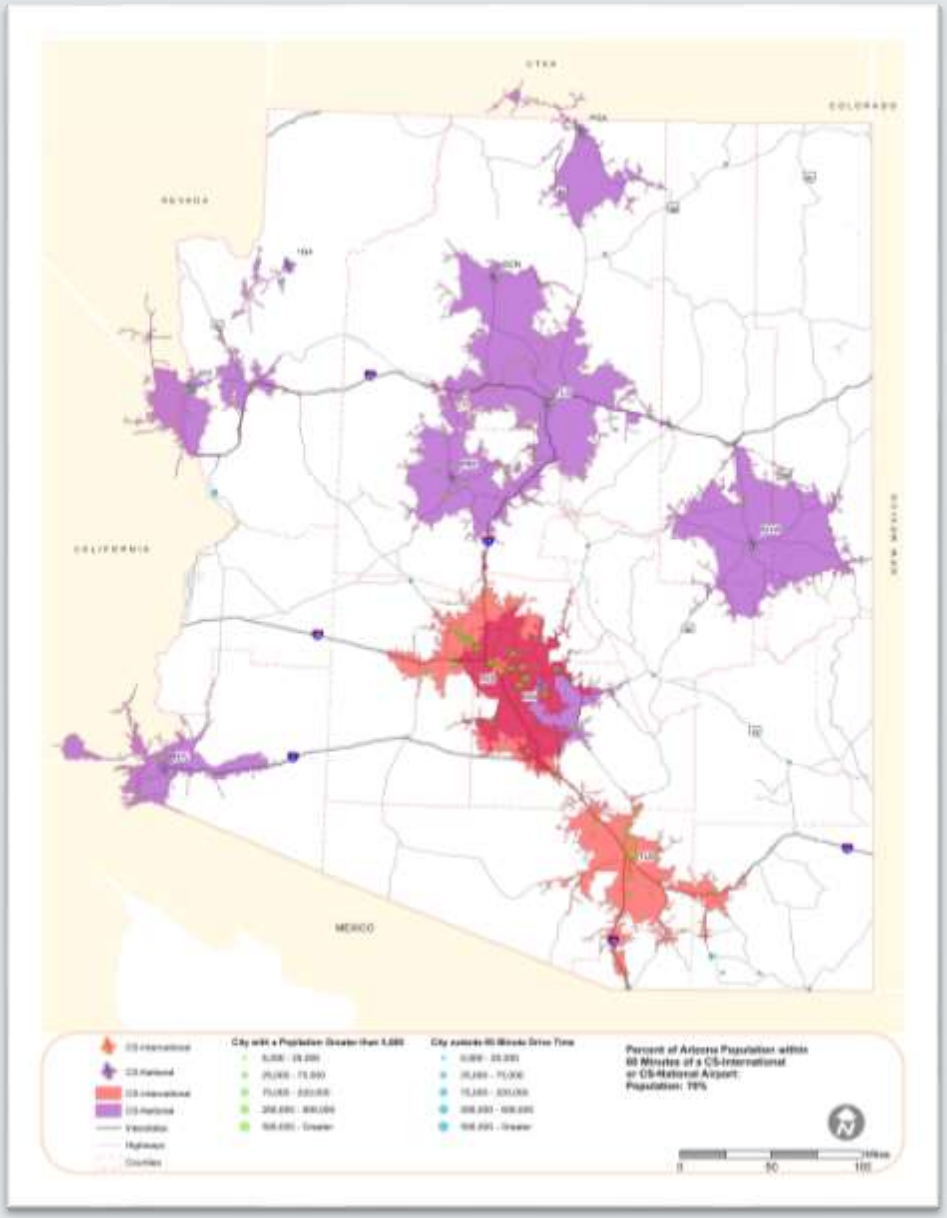
70 percent

of Arizona's population is within 60 minutes of a commercial service airport

88% percent of communities with a population of 5,000 or greater are within a 60-minute drive time of a commercial service airport.

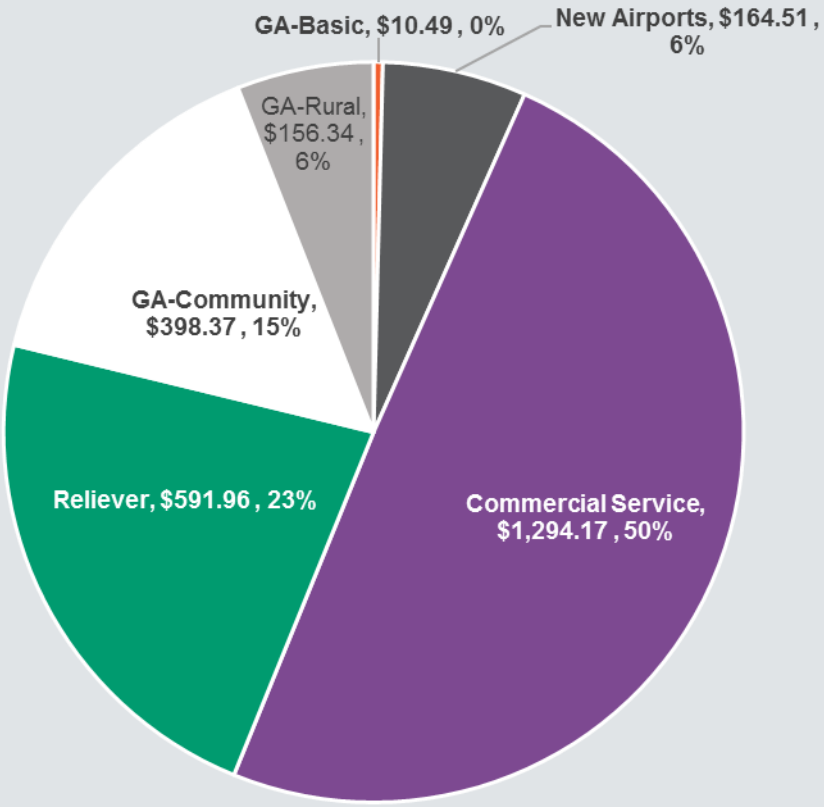
Examples of communities outside of this threshold include:

- Douglas
- Globe
- Kayenta
- Lake Havasu City
- Nogales
- Payson
- Safford
- Sierra Vista
- Wickenburg



2008 SASP Summary of Needs

2008 Total System Needs through 2030 by Airport Role ($Million)



All System Needs through 2030 ($Million)

	Short-Term (2009-2013)	Mid-Term (2014-2018)	Long-Term (2018-2030)	Total
SASP	$933.79	$542.38	$975.17	**$2,451.34**
ADOT CIP	$504.35	$0.00	$0.00	**$504.35**
Airport Master Plans/CIPs	$1,241.22	$1,847.36	$3,506.47	**$6,595.04**
Other*	$87.90	$24.72	$57.55	**$170.17**
Total	**$2,767.27**	**$2,414.45**	**$4,539.19**	**$9,720.91**

**Includes costs developed for the construction and maintenance of new airports, the development and maintenance of an AWOS Network Center, and future system planning needs.*

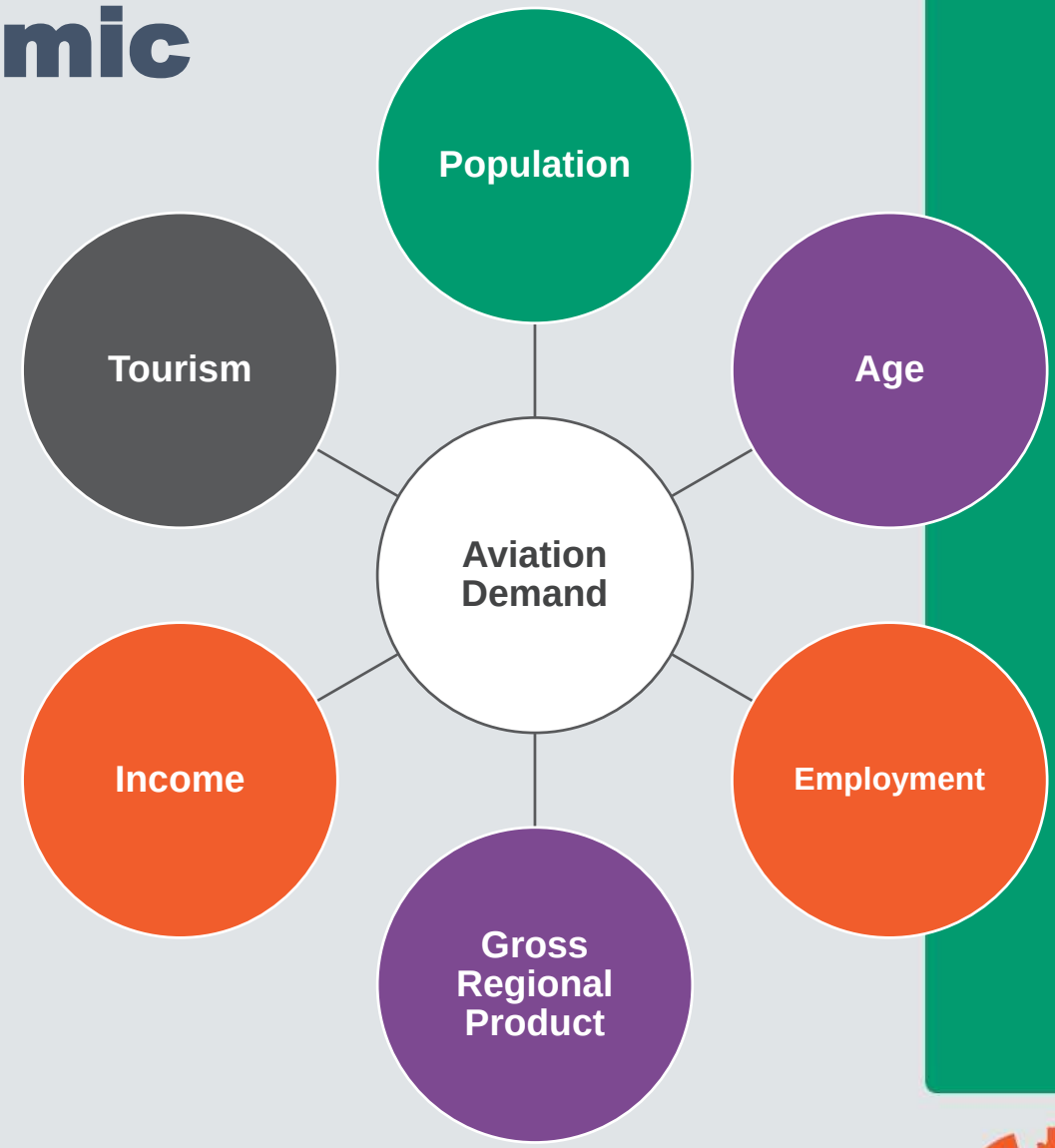
Forecasts of Aviation Demand

Elements of Forecasts Task

- Review of industry trends
- Forecast indicators:
  - Based aircraft
  - General aviation ops
- Comparison of GA activity indicators to Terminal Area Forecast (TAF) for NPIAS airports
- Utilize TAF for enplanements and commercial activity
- Identify design aircraft and operational activity by turbo jet and prop aircraft over 12,500 pounds

Socioeconomic Factors

Assuming the nation does not experience another significant recession, ***projected population and economic levels should create positive ripple effects in both commercial service and general aviation activity in the state through the planning horizon.***



Commercial Aviation Trends

Industry consolidation and restructuring

Major Trends

Proliferation of ancillary revenues

Capacity discipline

Other Issues Affecting Commercial Service

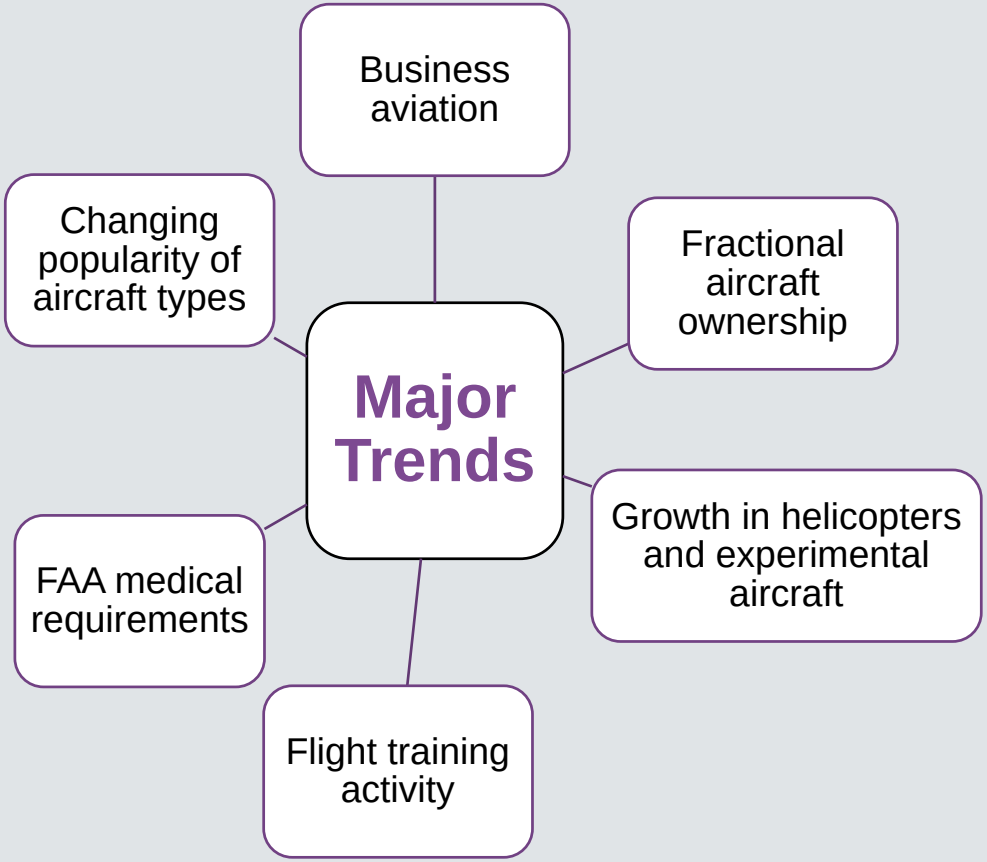
- Oil prices
- Regulatory changes
- U.S. pilot population
- NextGen
- Air traffic control

Key Take-aways

- Commercial enplanements (passengers boarding a commercial flight) will annually increase 1.97% to reach 35,023,816.
- Operations at commercial service airports will increase by 1.28% to reach 1,071,479. Growth is moderate, as airlines are up-gauging their fleets, which increases seat capacity and reduces operations.
- Most commercial service airports will experience limited growth in terms of based general aviation aircraft. Some exceptions are apparent in the northern and southern portions of the state.
- Commercial service airports are projected to experience an increase in total operations from 1,642,999 in 2016 to 1,915,836 in 2036
- Phoenix Sky Harbor International, Grand Canyon National Park, and Tucson International are forecast to experience the greatest increases in total operations.
- Growth in commercial aviation in Arizona follows trends witnessed at the national level using all indicators of aviation activity.

By 2036...

General Aviation Trends



Other Issues Affecting Arizona Aviation

- Oil prices
- Regulatory changes
- NextGen
- Air tourism
- Aviation/aerospace-related education
- Exceptional flying conditions
- Maintenance, repair, and overhaul facilities
- Agricultural spraying

Key Take-aways

- Modest growth for general aviation across the country over the next 20 years
- General aviation **growth in Arizona is anticipated to outpace the national average**
- General aviation forecasts project increases of 1.59% in based aircraft and 2.53% in general aviation operations by 2036

By 2036…

Next Steps

Upcoming Tasks

- Identify future performance targets with Project Advisory Committee (PAC) and ADOT Aeronautics
- Assess airports against these established targets
- Develop cost estimates for individual airport improvement projects and summarize to determine statewide needs
- Develop policy recommendations in collaboration with PAC and ADOT Aeronautics

Get Involved!

- Provide feedback on the current issues and opportunities with the airport system
- Promote the economic and qualitative benefits of aviation to the community and others in leadership positions
- Support airport compatible land use planning, zoning ordinances, and community planning efforts
- Participate in airport-specific planning efforts, including the development of airport master plans

Thoughts?

Thank You!

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