

APPENDIX C: NPIAS CANDIDATE AIRPORT ANALYSIS

This appendix details the analysis to determine eligibility of Arizona system airports for NPIAS inclusion. If the airport system grows as projected in the SASP, there may be a future need for improved facilities that may benefit from inclusion in the NPIAS. Three airports are analyzed for their ability to meet NPIAS candidacy: Rolle Airfield in San Luis, and proposed airports at Superior and Maricopa. It is important to note that the state should continue to monitor activity at non-NPIAS system airports to see if other airports should be considered in the future as well.

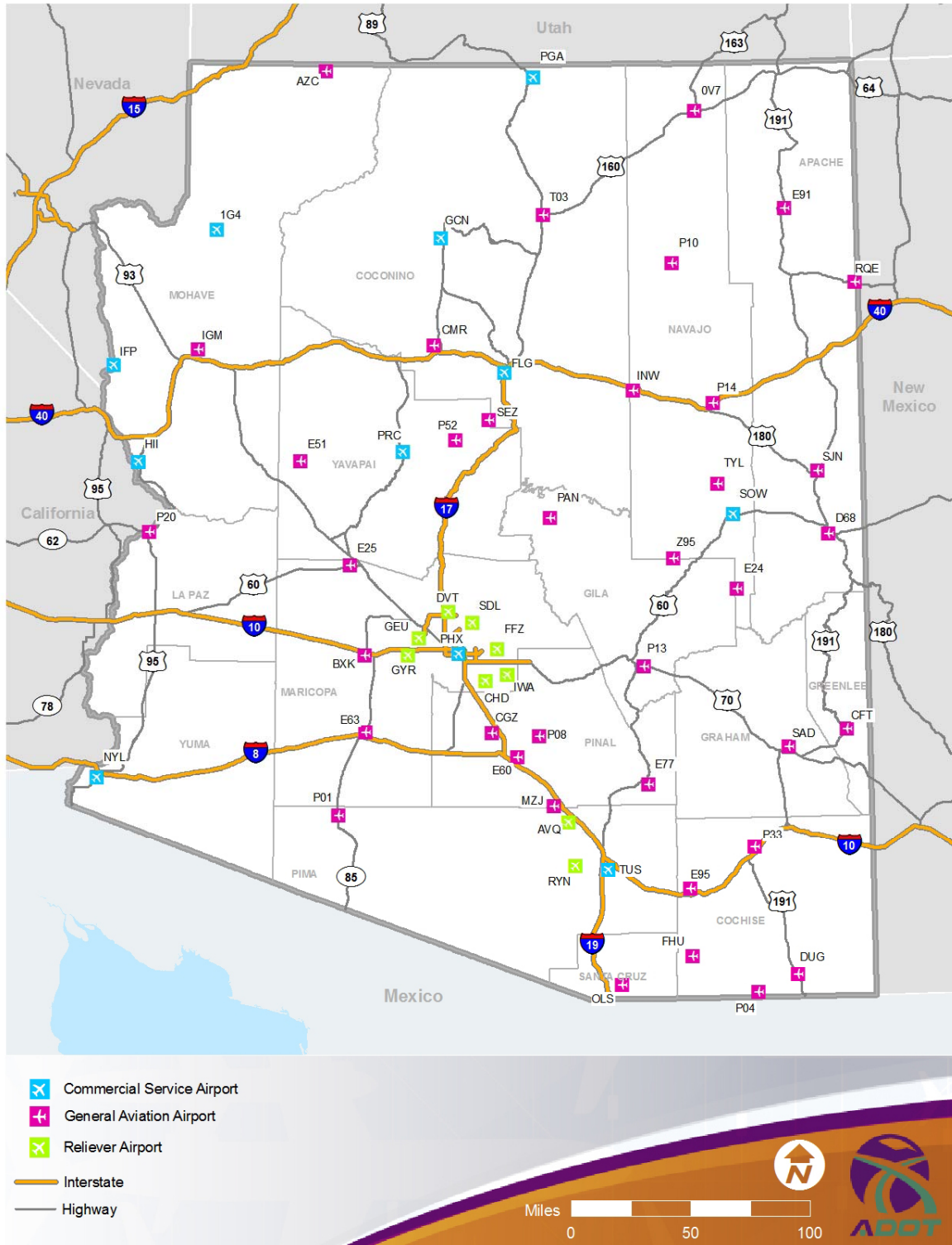
NPIAS AIRPORTS IN ARIZONA

The National Plan of Integrated Airport Systems (NPIAS) is the Federal Aviation Administration's (FAA's) national airport plan. The NPIAS includes nearly 3,500 existing and proposed airports in the United States which are of significance to the national air transportation system. Fifty-nine of Arizona's 83 public-use airports are included in the National Plan of Integrated Airport Systems for Fiscal Years (FYs) 2009-2013. Airports included in the NPIAS are eligible to compete for federal funding from the FAA's Airport Improvement Program (AIP). As noted in Chapter Two of the SASP, the FAA classifies airports in the NPIAS into categories such as primary commercial service, non-primary commercial service, or general aviation. **Figure C-1** depicts the location of Arizona's NPIAS airports in the 2009-2013 publication. Currently, there are 11 commercial service airports and 48 general aviation airports in Arizona that are included in the 2009-2013 NPIAS.¹

As noted, inclusion of an airport in the NPIAS makes it eligible to compete for project funding from the AIP. Funds for AIP come from the Aviation Trust Fund which is 100 percent user funded. For airports to be eligible for funding from the FAA, they must be included in the NPIAS. FAA Order 5090.3C, *Field Formulation of the National Plan of Integrated Airport Systems* dated December 4, 2000 provides guidelines for qualifying airports for entrance into the NPIAS.

¹It should be noted that while the most recent FAA NPIAS (2009-2013) still shows Phoenix-Mesa Gateway as a reliever, that the airport should be classified as a Primary Commercial Service Airport. This airport has maintained commercial airline service and has surpassed the 10,000 annual enplanement mark.

Figure C-1: Arizona FAA Airport Classification



Sources: FAA National Plan of Integrated Airport Systems (NPIAS) 2009-2011 and AZ SASP Records. Prepared: January 2009.

NPIAS ELIGIBILITY CRITERIA

Based on the FAA's order, there are airports which could be considered for inclusion in the NPIAS since the previous State Aviation Needs Study was completed in 2000. Airport economics and significant changes in Arizona with regards to energy, tourism, and agriculture have lead to the need for an evaluation of potential NPIAS eligibility. The FAA's criteria for an airport's inclusion in the NPIAS are based on a variety of factors such as airport demand, geographic location, airport sponsorship, as well as other criteria. The following sections discuss FAA's criteria considered for inclusion in the NPIAS:

- **Airports formerly in the NPIAS** – Airports that have been included at one time in the NPIAS but have been eliminated from the program are eligible for inclusion. These airports must meet other NPIAS criteria, however, such as a minimum level of based aircraft. An exception to this criterion includes airports not included in a SASP or airports where there is clearly no longer a continuing national interest in the airport.
- **Airport's location in relation to the nearest NPIAS airport** – An airport that is included in a SASP may be included in the NPIAS if it has 10 or more based aircraft and serves a community located at least 20 miles or a 30-minute drive from the nearest existing or proposed NPIAS airport.
- **Reliever Airport** – An existing or proposed airport may be included in the NPIAS if it relieves airport congestion in a metropolitan area by providing general aviation users with an alternative landing location. The purpose of the reliever airport is to provide substantial capacity or instrument training relief. Currently, there are nine airports in the Arizona system that have been given reliever status.
- **Airports receiving U.S. Mail Service** – Any public airport where a scheduled air carrier transports mail to an airport or where an independent carrier, freight forwarder, FBO, etc. is under contract with the U.S. Postal Service (USPS) to carry mail may be included in the NPIAS. The airport must be adequate to satisfy the needs of the USPS.
- **Airports with a National Defense Role** – Any public-use airport where a unit of the Air National Guard or of a reserve component of the Armed Forces of the United States is permanently based or is adjacent to and who operates permanently assigned aircraft directly related to its mission is included in the NPIAS.

An existing or proposed airport not meeting the criteria above may be included in the NPIAS if it meets all of the following:

- It is included in the SASP
- It serves a community more than 30 minutes from the nearest NPIAS airport
- It is forecast to have 10 or more based aircraft within the short-term planning period (5 years)
- There is an eligible public sponsor willing to undertake the ownership and development of the airport

Airports that do not meet any of the previously discussed entry criteria may be considered for inclusion in the NPIAS on the basis of a special justification. This justification must show that there is a significant national interest in the airport. Such special justifications include:

- A determination that the benefits of the airport will exceed its development costs
- Written documentation describing isolation
- Airports serving the needs of Native American communities

- Airports needed to support recreation areas
- Airports needed to develop or protect important national resources

Benefit/Cost Analysis

If an airport is included in a SASP, but the community it serves is within 20 miles or a 30-minute drive of an existing or proposed NPIAS airport, or if it is forecasted to have less than 10 based aircraft in the short-term planning period, a benefit analysis may be conducted to determine if the benefits of the airport exceed its cost.

The FAA defines the benefits accruing to airport users as the time saved by using an airport and the net costs of such use relative to travel to the next best alternative airport. The rationale is that time saved can be devoted to other endeavors, resulting in a net increase in the production of goods and services in the national economy. In the FAA's 1992 report *Estimating the Regional Economic Significance of Airports*, the FAA established a methodology that estimates the measure of importance of airports on their surrounding communities. In such an analysis, the FAA considers both the transportation benefits and the economic benefits of candidate airports. The guidelines estimate that when the distance saved by general aviation users is 20 miles, the annual benefit per based aircraft is \$12,330. When the 1992 estimated annual benefit per based aircraft is adjusted for inflation over the last 17 years, the annual benefit becomes \$18,740 per based aircraft.

However, it is believed that the true economic benefit of Arizona airports is much greater than that calculated by the FAA report. ADOT Aeronautics sponsored a much more recent economic impact study that determined the economic output derived from airports in Arizona. According to the study, completed in 2004, each based aircraft at a general aviation airport equates to approximately \$275,000 in annual economic benefit. For the purpose of this analysis, this figure, which is more recent and Arizona-specific compared to the FAA benefit calculation, will be used to determine if the benefits of an airport joining the NPIAS outweigh the cost of upgrading the airport to FAA standards.

To determine the cost of an airport, it was assumed that the average cost for upgrading a non-standard general aviation airport's runway to FAA standards is approximately \$1.5 to \$2.0 million. This figure is based on actual historical experience in Arizona within the last five years.

Within the context of establishing whether or not an airport is eligible for NPIAS inclusion, FAA methodology generally considers based aircraft because the number is more verifiable than operations or passengers. The FAA methodology then relates based aircraft to annual passenger trips by using an average number of itinerant operations per based aircraft. The resulting number of based aircraft required for an airport being considered for NPIAS inclusion is dependant on upon the time required to drive to the nearest alternate NPIAS airport and the NPIAS cost of the candidate airport. The lower the development and operating costs for the candidate airport, the fewer the number of based aircraft required to justify the airport's inclusion in the NPIAS.

It is important to note that the FAA's entry equation for NPIAS inclusion is most sensitive to three factors. These factors are:

- Based aircraft
- Access time and distance to other NPIAS airports
- Airport costs

ARIZONA NPIAS-CANDIDATE AIRPORTS

This section discusses three possible candidate airports to be considered for NPIAS inclusion: Rolle, Maricopa, and Superior. The potential airports at Maricopa and Superior are presently in the planning stages. They are included to assess the potential for becoming a NPIAS airport if they are constructed.

Rolle Airfield

The existing Rolle Airfield is located in southwest Arizona, approximately 15 miles south of Yuma. The airfield has one paved runway, Runway 17/35. The airport's existing runway is 2,800 feet long and 60 feet wide. The airport has visual approaches to both runway ends. The 2008 Arizona SASP effort shows that the airport had no based aircraft in 2007 and experienced approximately 2,900 total operations in 2007. The airport's based aircraft are forecast as part of the SASP to increase to 1 by 2013 with operations increasing to 3,285.

Figure C-2 identifies the criteria used to determine whether the airport is eligible for inclusion in the NPIAS. When following FAA's guidelines and methodologies, Rolle Airfield fulfills the requirements concerning geographic location, but not for airport demand. It is at least 15 miles or 30 minutes from the nearest NPIAS airport, however it does not currently have nor is it projected to have more than 10 based aircraft. Local general aviation traffic and military operations are currently the primary aviation activities at Rolle Airfield.

The distance to the nearest existing NPIAS airport, Yuma International, is 37 minutes driving time. Despite the fact that this does meet the FAA requirement, the lack of current and projected based aircraft results in very little benefit to offset cost of upgrading the airport's non-standard general aviation runway to FAA standards. Rolle Airfield does not meet minimum requirements for inclusion in the NPIAS at this time, but activity should continue to be monitored through the SASP forecast period.

Figure C-2: NPIAS Candidate Airport Data and Entry Criteria – Rolle Airfield

<i>Facility Data</i>			
<i>Primary Runway Length:</i>	2,800 feet	<i>Runway Surface:</i>	Asphalt
<i>Runway Width:</i>	60 feet	<i>Approach Type:</i>	Visual
<i>Activity Data</i>			
	<u>2007</u>	<u>2008 Estimate</u>	<u>2013 Projection</u>
<i>Based Aircraft:</i>	0	1	1
<i>Operations:</i>	2,900	2,961	3,285
<i>NPIAS Entry Criteria</i>			
<i>If any of the following questions are answered positively, then the airport is eligible.</i>			
	<u>Yes</u>	<u>No</u>	
Was the airport formerly included in the NPIAS?		X	
Is the airport more than 30 minutes from the nearest NPIAS airport?	X		
-What is the closest NPIAS airport?			Yuma International
-What is the driving distance in miles?			15 miles
-What is the driving distance in minutes?			37 minutes
Is the airport a reliever airport?			X
Does the airport receive U.S. mail?			X
Does the airport have a national defense role?			X
<i>If all of the following questions are answered positively, then the airport is eligible.</i>			
	<u>Yes</u>	<u>No</u>	
Is the airport included in the SASP?	X		
Does the airport serve a community more than 30 minutes from the nearest NPIAS airport?	X		
Is the airport forecast to have 10 or more based aircraft?			X
Does the airport have a willing sponsor?	X		
<i>If any of the following questions are answered positively, then the airport is eligible.</i>			
	<u>Yes</u>	<u>No</u>	
Do the airport's benefits outweigh its costs?			X
Does the airport serve the needs of the following:			
-Remote/isolated communities?			X
-Native American communities?			X
-Support recreational areas?			X
-Promote development or protect important national resources			X

Source: Arizona State Parks, Arizona Game and Fish Department, and Wilbur Smith Associates
 Prepared: January 2009

Proposed Maricopa Airport

A new airport is proposed for the City of Maricopa, to be located in south central Arizona, approximately 35 miles south of Phoenix and 20 miles northwest of Casa Grande. Projections for the City of Maricopa are sizeable; the population growth rate is over 50 percent per year for at least the next five years, and employment is projected to grow at an even faster rate. If growth rates are sustained, Maricopa could be on pace to become a metropolitan center between Phoenix and Tucson.

In 2006, the City of Maricopa and the Arizona Department of Transportation commissioned an airport feasibility study² to assess the potential for a general aviation airport in the city. Estimates of based aircraft at the new Maricopa airport were made based on proximity to the Maricopa planning area and from registered aircraft per capita growth rates in Pinal County. In zip codes located within the primary service area, two of three registered aircraft were assigned to the new airport; while in zip codes on the fringe of the primary service area, 10 percent of the registered aircraft were assigned to the new airport. The result was a potential for an initial basing of 54 aircraft if the airport were to open in 2006, and an increase to 80 aircraft by 2010. The feasibility study was completed prior to the recent economic downturn and estimates of based aircraft and operations may now be lower than suggested in the study. It is important to note that this study may need to be revisited in order for the proposed airport to be considered for NPIAS candidacy. However, this NPIAS candidate analysis is a cursory examination and does not provide new estimates.

Determining potential operations at Maricopa Airport was estimated based on ratios of operations per based aircraft at existing area towered airports. The study estimated 32,400 annual operations in 2006, and 48,000 by 2010; 40 percent of which would be itinerant operations. As noted above, these estimates are based on good economic conditions that would be sustained through the completion of a new Maricopa airport.

When following FAA's guidelines and methodologies, the proposed Maricopa Airport, based on 2006 activity and based aircraft projections, appears to meet the criteria concerning airport demand and geographic location. The driving time to the nearest NPIAS airport, Casa Grande, is 40 minutes. This distance meets FAA criteria. In addition, the City of Maricopa is a willing sponsor of the airport. The airport would also help to promote and enhance the state's recreational and national resources being very close in proximity to the Gila River Indian Reservation and Sonoran Desert National Monument.

Using the benefit/cost analysis guidelines and data from the 2006 study, Maricopa Airport could qualify for the NPIAS soon after its development as the benefit would outweigh the cost of constructing the airport in 30 years. Using ADOT estimates of annual per aircraft benefit of \$275,000, and study projections to have between 50 and 80 based aircraft when the airport is developed, the cost of constructing the new \$44,000,000 airport could be paid for in less than five years. As business and corporate activity increases, the length of time for paying off the costs of construction would decrease.

If the airport were constructed, it appears that demand for the facility and the current proposed location would make the airport eligible for NPIAS consideration. Activity related to the airport's development should be monitored for future NPIAS consideration.

² Coffman Associates: *City of Maricopa Airport Feasibility Study*. <www.coffmanassociates.com/public/Maricopa/>. Prepared 2006>.

Superior Airport

The existing Superior Municipal Airport is located in southern Arizona, approximately 65 miles east of Phoenix. The airport has one gravel runway, 04/22, that is 3,250 feet long and 75 feet wide with visual approaches to both runway ends. In addition, there are no based aircraft, making the current Superior Municipal ineligible for NPIAS candidacy.

The Town of Superior purchased the airport property from Pinal County in 1999. The town is seeking to acquire another 181 acres of contiguous land. This acquisition would provide an opportunity for future expansion of the airport and economic diversification. The need for a new airport is also being driven by one local business, Resolution Copper, a mining company that has invested recently in the town and who would like to use the Superior Airport for its business needs. Resolution Copper cannot safely fly its aircraft into the current airport. A feasibility study for the relocation and expansion of the airport is planned but currently on hold. The timeframe on the development of a new airport is unknown, but may occur within the SASP forecast period. The activity at the airport should be monitored and candidacy for NPIAS inclusion should be evaluated as plans for the new airport are developed.